CITY OF EASTVALE
CITY COUNCIL REGULAR MEETING AGENDA

Rosa Parks Elementary School
13830 Whispering Hills Drive, Eastvale, CA 92880
Wednesday, July 13, 2016, at 6:30 P.M.

City Council
Ike Bootsma, Mayor
Joseph Tessari, Mayor Pro Tem

Councilmembers
Clint Lorimore; Adam Rush; Richard Simmons

Michele Nissen, City Manager
John Cavanaugh, City Attorney
Marc Donohue, City Clerk

1. CALL TO ORDER

2. ROLL CALL/INVOCATION/PLEDGE OF ALLEGIANCE

Invocation led by Associate Pastor David Coronado with Vantage Point Church

3. PRESENTATIONS/ANNOUNCEMENTS

At this time, the City Council may recognize citizens and organizations that have made significant contributions to the community and it may accept awards on behalf of the City.

3.1 Erin Sasse, League of California Cities – Legislative Update

3.2 WRCOG – Streetlight Presentation

3.3 Certificates of Appreciation – City Volunteers

3.4 Public Safety Commission Update

4. STUDENT LIAISON REPORT

4.1 Update by Desiree Diaz, Student Liaison

5. PUBLIC COMMENT

This is the time when any member of the public may bring a matter to the attention of the Mayor and the City Council that is within the jurisdiction of the City Council. The Ralph M. Brown act limits the Mayor's, City Council's and staff's ability to respond to comments on non-agendized matters at the time such comments are made. Thus, your comments may be agendized for a future meeting or referred to staff. The City Council may discuss or ask questions for clarification, if desired, at this time. Although voluntary, we ask that you fill out a "Speaker Request Form", available at the side table. The completed form is to be submitted to the City Clerk prior to being heard. Public comment is limited to two (2) minutes each with a maximum of six (6) minutes.

6. CONSENT CALENDAR

Consent Calendar items are normally enacted in one motion. The Mayor or City Council may remove a Consent Calendar item for separate action. Public comment is limited to two (2) minutes each with a maximum of (6) minutes.

6.1 City Council Meeting Minutes

RECOMMENDATION: Approve the minutes from the regular meeting held on June 22, 2016.

6.2 Eastvale Connection

RECOMMENDATION: Receive and file.

7. PUBLIC HEARINGS

The public is encouraged to express your views on any matter set for public hearing. It is our procedure to first receive the staff report, then to ask for public testimony, first from those in favor of the project followed by testimony from those in opposition to it, and if there is opposition, to allow those in favor, rebuttal testimony only as to the points brought up in opposition. To testify on the matter, you need to simply come forward to the speaker's podium at the appropriate time, give your name and address and make your statement. After a hearing is closed, you may not further speak on the matter unless requested to do so or are asked questions by the Mayor or a Member of the City Council. Public comment is limited to two (2) minutes each with a maximum of six (6) minutes.

7.1 Project No. 15-1662 – Minor Development Review for the Installation of a New 50-Foot-High Wireless Telecommunications Tower, Disguised as a Monopalm, with Ancillary Equipment in a 17-Foot by 19-Foot Lease Area at 8306 Grapewin (Appeal of Planning Commission's Denial)

RECOMMENDATION: Staff recommends that the City Council:

1. Open the Public Hearing, Receive Staff's and the Applicant's Presentations;

2. Close the Public Hearing and hold City Council deliberations;

3. Vote to approve or deny the project.

8. CITY COUNCIL BUSINESS

8.1 Agreement for Law Enforcement Services Between the City of Eastvale and the County of Riverside on Behalf of the Riverside County Sheriff's Department

RECOMMENDATION: Approve the agreement with the County of Riverside through the Sheriff's Department to provide law enforcement services to the City of Eastvale.

8.2 Selection of Service Provider for Annual Traffic Signal Maintenance – Aegis ITS, Inc.

RECOMMENDATIONS:

1. Approve the professional services agreement with Aegis ITS, Inc. for annual traffic signal maintenance services; and

2. Authorize the City Manager to execute the necessary documents.

8.3 Selection of Service Provider for Annual On-Call Asphalt and Concrete Maintenance – G.M. Sager Construction Company, Inc.

RECOMMENDATIONS:

1. Approve the professional services agreement with G.M. Sager for annual on-call asphalt and concrete maintenance services; and

2. Authorize the City Manager to execute the necessary documents.

8.4 Selection of Service Provider for Annual On-Call Miscellaneous Maintenance Services – MCE Corporation

RECOMMENDATIONS:

1. Approve the professional services agreement with MCE Corporation for annual on-call miscellaneous maintenance services; and

2. Authorize the City Manager to execute the necessary documents.

8.5 Revise the Order of Items on the City Council Agenda

RECOMMENDATION: Discuss and provide direction to staff.

9. CITY MANAGER/CITY STAFF REPORT

10. CITY COUNCIL COMMUNICATIONS

11. COMMITTEE REPORTS

11.1 League of California Cities
- Executive Committee
- Public Safety Committee

11.2 Southern California Association of Governments

11.3 Western Riverside Council of Governments

11.4 Riverside Transit Agency

11.5 Northwest Mosquito and Vector Control District

11.6 Riverside County Transportation Commission

11.7 Western Riverside County Regional Conversation Agency

11.8 Special Events

12. CLOSED SESSION - None

13. ADJOURNMENT

The next regular meeting of the Eastvale City Council will be held on July 27, 2016 at 6:30 p.m. at Rosa Parks Elementary School, 13830 Whispering Hills Drive, Eastvale, CA 92880.

In compliance with the Americans with Disabilities Act, if you need special assistance to participate in this meeting, please contact the City of Eastvale. Notification 48 hours prior to the meeting will enable the City to make reasonable arrangements to ensure accessibility to this meeting.

Regular meetings are recorded and made available on the City's website at www.eastvaleca.gov. Meeting recordings are uploaded to the City website within 24 hours after the completion of the meeting and are kept on the website for 30 days.

I, Marc Donohue, City Clerk or my designee, hereby certify that a true and correct, accurate copy of the foregoing agenda was posted seventy-two (72) hours prior to the meeting, per Government Code 54954.2, at the following locations: City Hall, 12363 Limonite Ave. Suite 910; Rosa Parks Elementary School, 13830 Whispering Hills Drive; Eastvale Library, 7447 Scholar Way; and on the City's website (www.eastvaleca.gov)

ITEM 6.1

MINUTES

REGULAR MEETING OF THE CITY COUNCIL
OF THE CITY OF EASTVALE
Wednesday, June 22, 2016
6:30 P.M.
Rosa Parks Elementary School
13830 Whispering Hills Drive, Eastvale, CA 92880

1. CALL TO ORDER – 6:32 p.m.

2. ROLL CALL/PLEDGE OF ALLEGIANCE/INVOCATION

Councilmembers present: Lorimore, Rush, Simmons, Tessari, Bootsma
Councilmembers absent:

Staff present: City Manager Nissen, City Attorney Cavanaugh, City Engineer Indrawan, Deputy Finance Director Montoya, Police Chief Horton and City Clerk Donohue

The invocation was led by Pastor Garret Frazier with Faith Life Center.

The Pledge of Allegiance was led by Councilmember Simmons.

3. PRESENTATIONS/ANNOUNCEMENTS

3.1 Eastvale Community Foundation Update

Dawn Hook, Executive Director of the Eastvale Community Foundation, provided an update.

3.2 Certificate of Recognition – Sandra Stokley, Press Enterprise

Mayor Bootsma presented a certificate of recognition to Sandra Stokley, Press Enterprise. She made brief remarks.

3.3 Certificate of Recognition – George Alvarez, Manager of Public Works

Mayor Bootsma presented a certificate of recognition to George Alvarez, Manager of Public Works. He made brief remarks.

4. STUDENT LIAISON REPORT

4.1 Natalie Diaz, Student Liaison, provided a report.

Mayor Bootsma requested that item 8.5 be heard after item 8.2. There were no objections.

5. PUBLIC COMMENT

Chad Blais, City of Norco, thanked Eastvale's City Council and staff for their assistance on the Balboa project in the City of Norco.

6. CONSENT CALENDAR

Councilmember Rush requested that item 6.9 be pulled for separate discussion.

6.1 City Council Meeting Minutes

RECOMMENDATION: Approve the minutes from the regular meeting held on June 8, 2016.

6.2 Warrant Register

RECOMMENDATION: Approve the payment of warrants as submitted by the Finance Department.

6.3 Eastvale Connection

RECOMMENDATION: Receive and file.

6.4 Planning Department Update

RECOMMENDATION: Receive and file.

6.5 Update on Public Works Department Projects

RECOMMENDATION: Receive and file.

6.6 Resolutions Associated with the November 8, 2016 General Municipal Election (District 2 and 5) and Special Election (District 1)

RECOMMENDATION: Adopt the resolutions entitled:

1. A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EASTVALE, CALIFORNIA, CALLING AND GIVING NOTICE OF A GENERAL MUNICIPAL ELECTION AND A SPECIAL ELECTION TO BE HELD ON TUESDAY, NOVEMBER 8, 2016, AND REQUESTING THE BOARD OF SUPERVISORS OF THE COUNTY OF RIVERSIDE TO CONSOLIDATE THE GENERAL MUNICIPAL ELECTION AND THE SPECIAL ELECTION WITH THE STATE WIDE ELECTION BE HELD ON TUESDAY, NOVEMBER 8, 2016, FOR THE ELECTION OF CERTAIN OFFICERS AS REQUIRED BY THE PROVISIONS OF THE LAWS OF THE STATE OF CALIFORNIA RELATING TO GENERAL LAW CITIES PURSUANT TO SECTION 10403 OF THE ELECTIONS CODE

AND

2. A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EASTVALE, CALIFORNIA, ADOPTING REGULATIONS FOR CANDIDATES FOR ELECTIVE OFFICE PERTAINING TO CANDIDATE'S STATEMENTS SUBMITTED TO THE VOTERS AT A GENERAL MUNICIPAL ELECTION AND SPECIAL ELECTION TO BE HELD TUESDAY, NOVEMBER 8, 2016

6.7 2016 Biennial Notice for City Staff to Review the Conflict of Interest Code Pursuant to the Political Reform Act

RECOMMENDATION: Adopt a resolution requiring City staff to review the conflict of interest code entitled:

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EASTVALE, CALIFORNIA, REQUESTING CITY STAFF TO REVIEW THE CONFLICT OF INTEREST CODE AND SUBMIT THE 2016 BIENNIAL NOTICE AS REQUIRED UNDER THE POLITICAL REFORM ACT

6.8 Proclamation – Immigrant Heritage Month, June 2016

RECOMMENDATION: Approve the proclamation for Immigrant Heritage Month, June 2016.

Motion: Moved by Councilmember Rush, seconded by Mayor Pro Tem Tessari to move consent calendar items 6.1 – 6.8.

Motion carried 5-0 with Councilmember Lorimore, Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye.

6.9 Animal Control Fees Adjustment

RECOMMENDATION: Authorize staff to implement the animal control fees adjustment.

Councilmembers discussed the item and staff answered related questions.

Motion: Moved by Councilmember Lorimore, seconded by Councilmember Simmons to move consent calendar item 6.9.

Motion carried 4-1 with Councilmember Lorimore, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye and Councilmember Rush voting no.

7. PUBLIC HEARINGS

7.1 Landscape & Lighting Maintenance Districts & Benefit Assessment District No. 2014-2

RECOMMENDATION: Adopt the resolutions entitled:

1. A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EASTVALE, CALIFORNIA, CONFIRMING THE DIAGRAM AND ASSESSMENT AND ORDERING THE LEVY FOR FISCAL YEAR 2016/17 FOR THE FOLLOWING DISTRICTS: LANDSCAPING AND LIGHTING MAINTENANCE DISTRICT NO. 89-1 CONSOLIDATED, LANDSCAPE AND LIGHTING MAINTENANCE DISTRICT NO. 2014-1 (TRACT 36382), LANDSCAPE AND LIGHTING MAINTENANCE DISTRICT NO. 2014-3 (TRACT 36423), LANDSCAPE AND LIGHTING MAINTENANCE DISTRICT NO. 2014-4 (PARCEL MAP 35865)

AND

2. A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EASTVALE, CALIFORNIA, CONFIRMING THE DIAGRAM AND ASSESSMENT AND ORDERING THE LEVY FOR FISCAL YEAR 2016/17 FOR THE FOLLOWING DISTRICT: BENEFIT ASSESSMENT DISTRICT NO. 2014-2 (TRACT 32821 & 32821-1)

Deputy Finance Director Montoya summarized the staff report.

Mayor Bootsma opened the public hearing.

With no requests to speak, the public hearing was closed.

Councilmembers discussed the item and staff & Adina McCargo, NBS, answered related questions.

Motion: Moved by Mayor Pro Tem Tessari, seconded by Councilmember Simmons to approve the recommended action.

Motion carried 5-0 with Councilmembers Lorimore, Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye.

8. CITY COUNCIL BUSINESS

8.1 Adoption of the Annual Operations and Capital Improvement Budget – Fiscal Year 2016-2017

RECOMMENDATION: APPROVE THE FOLLOWING RESOLUTIONS FOR FISCAL YEAR 2016-2017:

1. A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EASTVALE, CALIFORNIA, ADOPTING AN OPERATING BUDGET AND CAPITAL BUDGET FOR THE FISCAL YEAR COMMENCING JULY 1, 2016 AND ENDING JUNE 30, 2017, AND APPROPRIATING FUNDS FOR PURPOSES THEREIN SET FORTH

2. A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EASTVALE, CALIFORNIA PROPOSING A PERMANENT APPROPRIATIONS LIMIT OF $20,108,202 PURSUANT TO ARTICLE XIII (B) OF THE CALIFORNIA CONSTITUTION FOR FISCAL YEAR 2016-2017

3. A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EASTVALE, CALIFORNIA, ESTABLISHING THE AUTHORIZED POSITIONS FOR THE FISCAL YEAR 2016-2017, EFFECTIVE, JULY 1, 2016

4. A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EASTVALE, CALIFORNIA, APPROVING THE COMMITMENT OF FUND BALANCES IN ACCORDANCE WITH GOVERNMENTAL ACCOUNTING STANDARDS BOARD STATEMENT NO. 54

Deputy Finance Director Montoya summarized the staff report.

Councilmembers discussed the item and staff answered related questions.

Motion: Moved by Mayor Bootsma, seconded by Councilmember Rush to approve recommended action #1.

Motion carried 5-0 with Councilmembers Lorimore, Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye.

Motion: Moved by Councilmember Simmons, seconded by Councilmember Rush to approve recommended action #2.

Motion carried 5-0 with Councilmembers Lorimore, Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye.

Motion: Moved by Mayor Bootsma, seconded by Councilmember Rush to approve recommended action #3 as amended by City staff.

Motion carried 5-0 with Councilmembers Lorimore, Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye.

Motion: Moved by Mayor Bootsma, seconded by Councilmember Simmons to approve recommended action #4.

Motion carried 5-0 with Councilmembers Lorimore, Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye.

8.2 Selection of League of California Cities 2016 Annual Conference Delegate and Alternate(s)

RECOMMENDATION: Appoint members of the City Council to serve as the City's delegate and alternate(s) at the League of California Cities' 2016 Annual Conference.

City Clerk Donohue summarized the staff report.

Motion: Moved by Mayor Pro Tem Tessari, seconded by Councilmember Rush to appoint Councilmember Lorimore as the City's delegate at the League of California Cities' 2016 Annual Conference.

Motion carried 5-0 with Councilmembers Lorimore, Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye.

Motion: Moved by Mayor Bootsma, seconded by Councilmember Rush to appoint Mayor Pro Tem Tessari as the City's alternate at the League of California Cities' 2016 Annual Conference.

Motion carried 5-0 with Councilmembers Lorimore, Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye.

8.5 Pole-Mounted Observation Camera System Policy Adoption and Approval of Professional Services Agreement

RECOMMENDATIONS:

1. Adopt a policy for pole-mounted observation camera system; and

2. Amend the Fiscal Year 15/16 budget in the amount of $27,500 allocated from the gas tax fund; and

3. Approve the professional services agreement for purchase and installation of three (3) pole-mounted cameras with Security Lines US; and

4. Authorize the City Manager to execute all necessary documents.

City Engineer Indrawan summarized the staff report.

Councilmembers discussed the item and staff & Marcel Corby, US Security Lines, answered related questions.

Motion: Moved by Councilmember Rush, seconded by Mayor Pro Tem Tessari to approve the recommended actions.

Motion carried 4-1 with Councilmembers Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye and Councilmember Lorimore voting no.

8.3 Contract Extension for Comprehensive Planning Services

RECOMMENDATION: Approve a contract extension with Michael Baker International (formerly PMC) to provide contract planning services:

1. Approve a 2-year contract extension and 10% rate increase for developer-funded work with a ninety (90) day termination clause.

OR

2. Approve an open-ended contract extension and 10% rate increase for developer-funded work with a ninety (90) day termination clause.

Councilmember Rush requested that item 8.3 and 8.4 be discussed concurrently. There were no objections.

City Manager Nissen summarized the staff report. She noted that recommended action #1 for item 8.4 should read a 2-year contract extension instead of a 1-year contract extension.

Councilmembers discussed the item and staff answered related questions.

Motion: Moved by Councilmember Simmons, seconded by Mayor Pro Tem Tessari to approve a 2-year contract extension and a rate increase of 10% with a ninety (90) day termination clause.

Motion carried 5-0 with Councilmembers Lorimore, Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye.

8.4 Contract Extension for Interwest Consulting Group to Provide Engineering, Public Works, and Building and Safety Services

RECOMMENDATION: Approve a contract extension with Interwest Consulting Group to provide engineering, public works, and building and safety services:

1. Approve a 1-year contract extension and rate increase as proposed.

OR

2. Approve an open-ended contract extension with a 90-day termination clause and the proposed rate increase.

Motion: Moved by Councilmember Rush, seconded by Mayor Pro Tem Tessari to approve a 2-year contract extension and a rate increase of 7.5% with a ninety (90) day termination clause.

Motion carried 5-0 with Councilmembers Lorimore, Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye.

8.6 Renewal of Contract with HdL Coren & Cone for Property Tax Services

RECOMMENDATION: Renew property tax services agreement with HdL Coren & Cone.

City Manager Nissen summarized the staff report.

Councilmembers discussed the item and staff answered related questions.

Motion: Moved by Councilmember Rush, seconded by Councilmember Simmons to approve the recommended action.

Motion carried 5-0 with Councilmembers Lorimore, Rush, Simmons, Mayor Pro Tem Tessari and Mayor Bootsma voting aye.

9. CITY MANAGER/CITY STAFF REPORT

City Manager Nissen stated that Patrick O'Neal is the new reporter for the Press Enterprise. She noted that the Picnic at the Park event is this coming weekend and the Silverlakes property is offering parking for a fee. Shen noted that the sidewalks, curbs and gutters have been installed on Hamner Ave at the Goodman Commerce Center and streetlights will be installed in the near future. She discussed a recent tour with Southern California Edison. She noted that on July 11th, the City will be hosting its first League of California Cities Riverside Division meeting at the Eastvale Community Center. She noted that WRCOG will be providing the city with a "Fellow" from their internship program. She noted that she was recently appointed to the WRCOG Regional Funds Ad-Hoc Committee. She shared the City Council brochure that was created by Public Information Officer McClister that details how a City Council meeting is conducted.

City department heads provided an update on current projects in their departments.

10. CITY COUNCIL COMMUNICATIONS

Councilmember Lorimore discussed a recent Eastvale Parks Commission meeting. He suggested moving City Council Communications and Committee Reports near the beginning of the agenda for future meetings.

Councilmember Rush requested that a map be included on future Landscape and Lighting Maintenance District items.

Mayor Bootsma noted that Picnic at the Parks is this weekend. He stated that he has a WRCOG meeting this coming Friday. He noted that he has a luncheon meeting at the Ontario Airport on July 12th.

Councilmember Simmons discussed the potential extension of Pine Avenue to the 71 freeway. City Manager Nissen noted that the funding for that project had been transferred to the Central Avenue/60 freeway project.

11. COMMITTEE REPORTS

11.1 League of California Cities
- Executive Committee
- Public Safety Committee

Councilmember Lorimore provided a report on the executive committee.

11.2 Southern California Association of Governments

Councilmember Lorimore provided a report.

11.3 Western Riverside Council of Governments

No report was given.

11.4 Riverside Transit Agency

No report was given.

11.5 Northwest Mosquito and Vector Control District

Mayor Pro Tem Tessari provided a report.

11.6 Riverside County Transportation Commission

Councilmember Rush provided a report.

11.7 Western Riverside County Regional Conversation Agency

Councilmember Lorimore provided a report.

11.8 Special Events

12. CLOSED SESSION - None

13. ADJOURNMENT

There being no further business, the meeting was adjourned at 8:33 p.m.

Submitted by Marc Donohue, City Clerk
Reviewed and edited by Michele Nissen, City Manager

Respectfully submitted,

_____
Marc Donohue, City Clerk

EASTVALE CONNECTION

July 7, 2016

MEETING SCHEDULE:

Eastvale City Council Meeting

- ➔ **Wednesday, July 13 @ 6:30 p.m.**
- ➔ **Wednesday, July 27 @ 6:30 p.m.**

Eastvale Planning Commission Meeting

- ➔ **Wednesday, August 17 @ 6:00 p.m.**

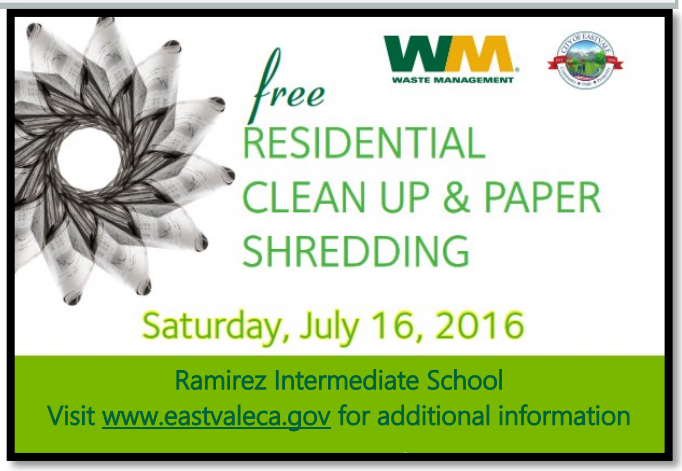
Eastvale Public Safety Commission Meeting

- ➔ **Tuesday, July 26 @ 6:00 p.m.**

Eastvale Community Foundation Meeting*

- ➔ **Monday, July 25 @ 5:30 p.m.**

Meetings held at: **Rosa Parks Elementary School**
13830 Whispering Hills Dr. Eastvale, CA 92880
*Foundation meetings held at: **Eastvale City Hall**
12363 Limonite Ave. Ste. 910, Eastvale, CA 91752



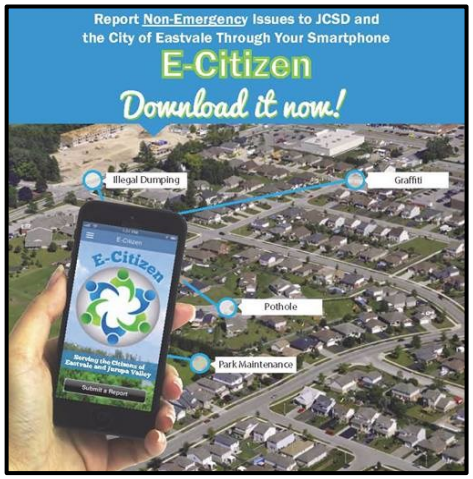
UPCOMING EVENTS:

- **July 1st-31st –** July is Parks Month- Events every Wednesday at the Eastvale Community Center
- **July 8th-August 26th –** JCSD's Concerts in the Park, 65th Street Live!, at Harada Heritage Park every Friday night from 7:30 p.m. – 9:00 p.m.
- **July 9th –** Make Your Own Worm Bin Class at Riverside County Waste Management Department from 9:00 a.m. – 12:00 p.m. or 1:00 p.m. – 4:00 p.m.
- **July 9th –** Moonlight Cinema: "Goosebumps" at Orchard Park beginning at Dusk
- **July 13th –** SBDC Workshop: Win the Battle of the Inbox at New Day Church from 9:00 a.m. – 11:00 a.m.
- **July 16th –** Free Residential Clean Up & Paper Shredding at Ramirez Intermediate School from 8:00 a.m. – 12:00 p.m.
- **July 19th –** Eastvale Chamber of Commerce Installation Dinner and Awards Banquet at the Eastvale Community Center at 5:30 p.m.

Visit the city's website for additional information regarding these and future events.

Stay Informed

Sign up for **E-Notify** to receive the latest information about community events, press releases, city council meetings and more directly to your inbox!



12363 Limonite Ave. Ste. 910, Eastvale, CA 91752
City Hall is open Monday – Thursday from 7:30 a.m. – 5:30 p.m. City Hall is closed on Fridays.
T: (951) 361-0900 **F:** (951) 361-0888 **E:** info@eastvaleca.gov **W:** www.eastvaleca.gov

CITY OF EASTVALE
CITY COUNCIL STAFF REPORT

ITEM 7.1

DATE: **JULY 13, 2016**

TO: **HONORABLE MAYOR AND COUNCILMEMBERS**

FROM: **KANIKA KITH, SENIOR PLANNER**

SUBJECT: **PROJECT NO. 15-1662 – MINOR DEVELOPMENT REVIEW FOR THE INSTALLATION OF A NEW 50-FOOT-HIGH WIRELESS TELECOMMUNICATIONS TOWER, DISGUISED AS A MONOPALM, WITH ANCILLARY EQUIPMENT IN A 17-FOOT BY 19-FOOT LEASE AREA AT 8306 GRAPEWIN (APPEAL OF PLANNING COMMISSION'S DENIAL)**

RECOMMENDATION: STAFF RECOMMENDS THAT THE CITY COUNCIL:

1. **OPEN THE PUBLIC HEARING, RECEIVE STAFF'S AND THE APPLICANT'S PRESENTATIONS;**
2. **CLOSE THE PUBLIC HEARING AND HOLD COUNCIL DELIBERATIONS; AND**
3. **VOTE TO APPROVE OR DENY THE PROJECT.**

BACKGROUND

This item is being presented to the City Council as an appeal of the Planning Commission's decision to deny a Minor Development Review application for the construction of a new 50-foot high wireless telecommunication tower, disguised as a palm tree, behind a single-family home located at 8306 Grapewin Street. The Planning Commission's resolution for denying the project is included as Attachment 2.

- On May 18, 2015, the Planning Commission considered the project and voted 3-0 to continue the project to June 15 meeting so that the entire Commission could be present to hear testimony and take part in the decision-making process (Commissioners Oblea and Patel were absent from the May 18 meeting).

- On June 15, 2016, the Planning Commission considered the project and voted 3-1 to deny the project.

All of the information presented to the Commission for the May and June meetings is included as Attachments 7 to 10.

Also attached to this staff report is the applicant's appeal letter (Attachment 1).

APPLICANT'S APPEAL

The applicant has appealed the Planning Commission's denial of the proposed project. The process for an appeal is to bring the proposed project to the City Council as a "de novo" item, which means that the Council is being asked to review all of the information as if this were a new application and make a decision to approve or deny based on this information provided and testimony received during the public hearing.

The Council is **not** being asked to render judgment on the Commission's decision.

The applicant's letter raised several issues which are not responded to in this report which relate to federal law and legal precedents which are not addressed in this report. The City Attorney will respond to these items separately should it be necessary.

DISCUSSION

The applicant, Verizon Wireless, applied for a Minor Development Review for the installation of a new 50-foot-high wireless telecommunications tower disguised as a "monopalm" (artificial palm tree) with ancillary equipment in a lease area of 17 feet by 19 feet behind an existing single-family residence located at 8306 Grapewin Street (Assessor's Parcel Number 380-070-018). Service access to the facility would be via an easement on an adjacent lot to the north (Assessor's Parcel Number 380-070-019). Both parcels are owned by the same owner (See Figure 1).

The proposed monopalm would be equipped with 12 panel antennas and one microwave dish. Ground-mounted equipment at the base of the monopalm would consist of two equipment cabinets, one generator, and associated apparatus surrounded by a 6-foot-high block wall.

The tower and the attached antennas will be designed to look like a palm tree (see Figure 2). All ground-level equipment will be installed within the boundary of the lease area and screened behind a 6-foot-high split-face block wall (see Figure 3).

The proposed wireless facility would be located at the rear of the subject site adjacent to the Santa Ana River. An enlarged view of the proposed equipment facility is shown in Figure 6 and elevations of the proposed facility are shown in Figure 7. Complete set of plans are included as Attachment 5 to this report.

Maintenance personnel will visit the site every four to six weeks to ensure the equipment is functioning properly and to perform regular and emergency maintenance via the access easement on the adjacent parcel to the north (see Figure 3). Maintenance could occur at any time of the day or night.

Figure 1 – Aerial Photo

Figure 2 – Verizon Access and Utility Easement

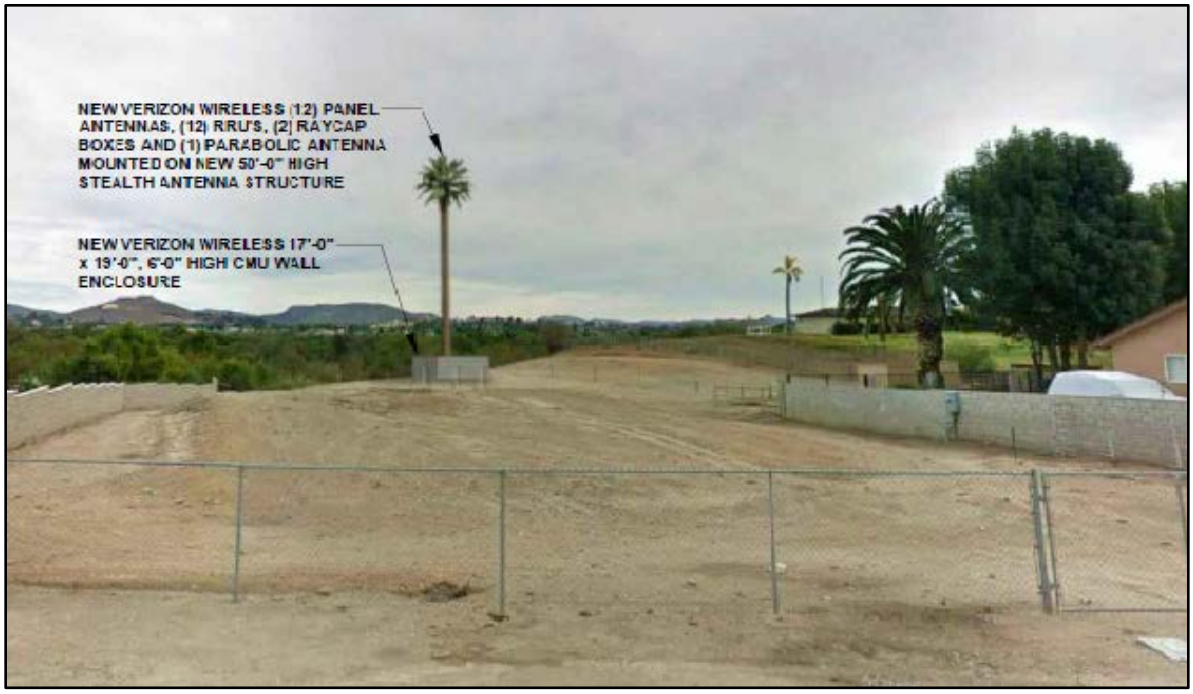
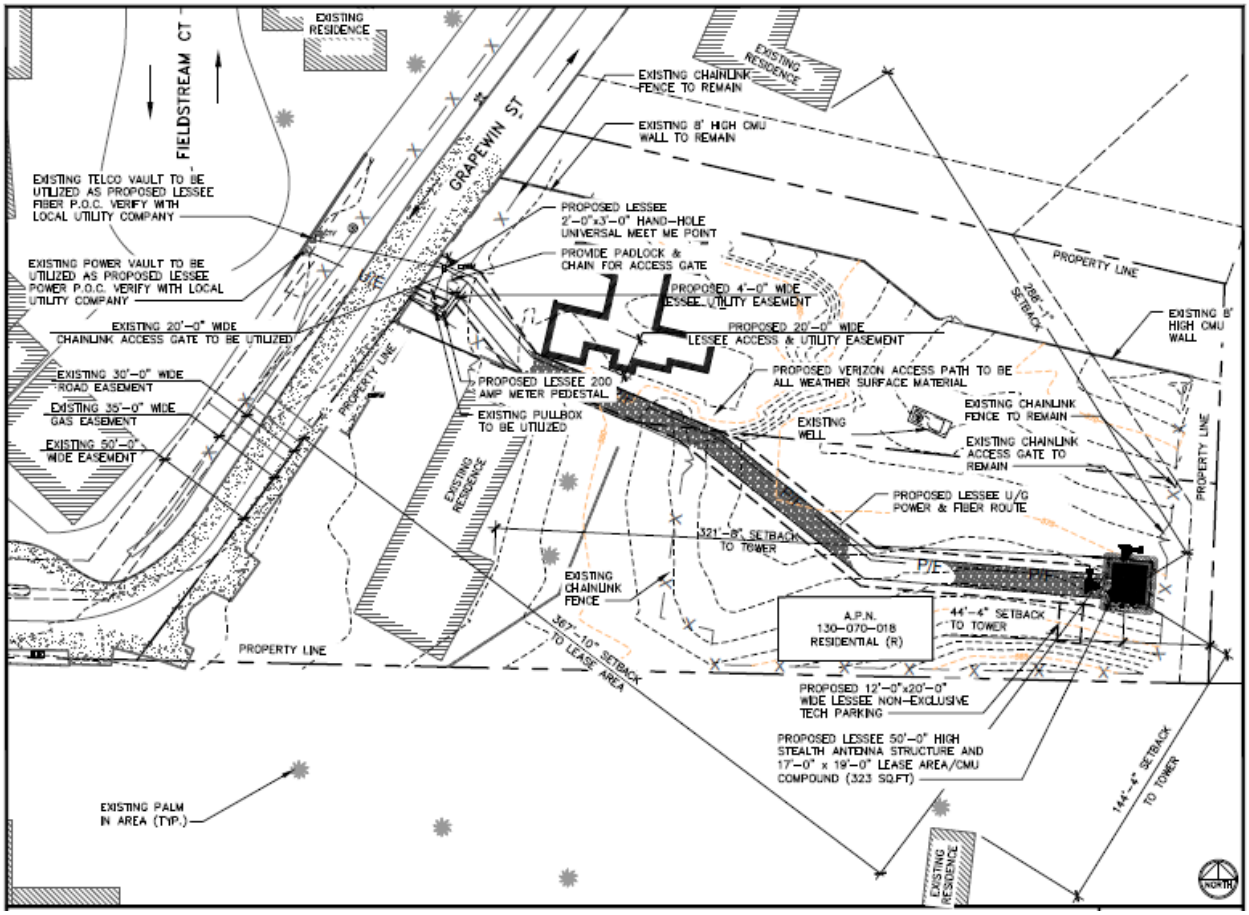


Figure 3 – Site Plan



Project Analysis

According to the applicant, the site for the proposed wireless facility was chosen because the general area in this location has insufficient coverage, which causes dropped calls and poor reception. The applicant indicated that the proposed site best meets its need to provide better reception and service to customers.

The applicant has prepared coverage maps (Figures 5 and 6) showing signal strength in the area with and without the proposed wireless facility. According to the applicant, an existing coverage gap would be closed by the new cell tower, providing improved coverage for Verizon customers.[1]

[1] Because the proposed facility would be built by Verizon, it would not affect coverage for customers of other cell service providers, such as AT&T.

Figure 4 – Existing Coverage

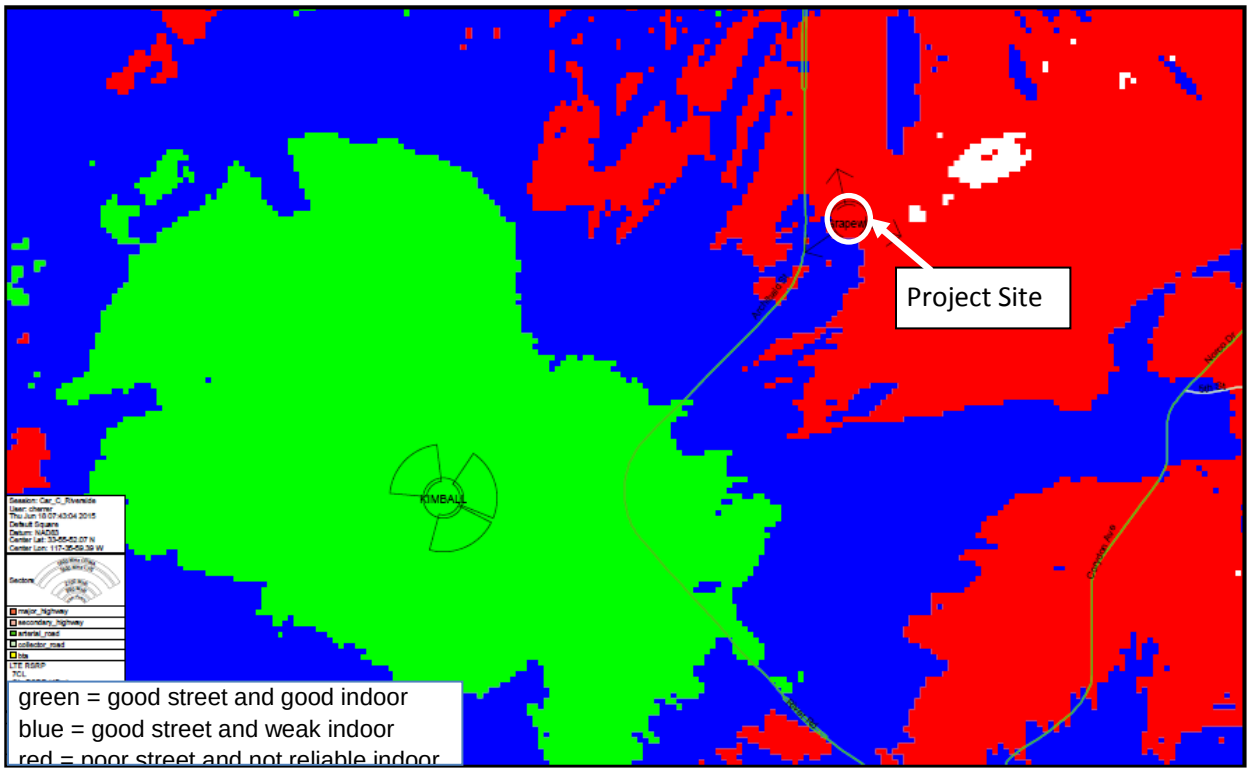
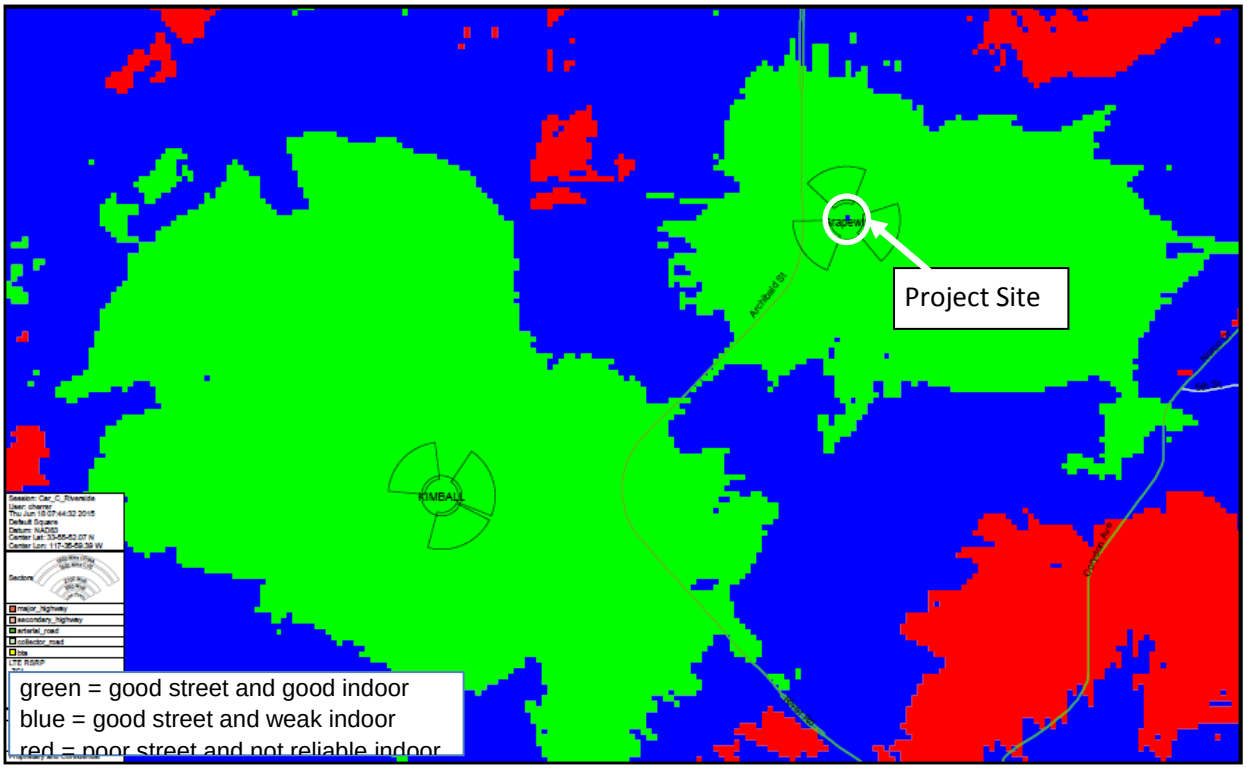


Figure 5 – Coverage with New Facility



General Plan Consistency

The General Plan land use designation for the project site is Low Density Residential (LDR), which provides for the development of detached single-family residential dwelling units and ancillary structures on large parcels. The site is currently developed with a single-family home.

Zoning Code Consistency

The zoning designation of the site is Light Agriculture (A-1). Section 4.14 of the Eastvale Zoning Code permits a wireless telecommunications facility use in the A-1 zoning district, subject to the approval of a Minor Development Review application.

Figure 6 – Equipment Site Plan

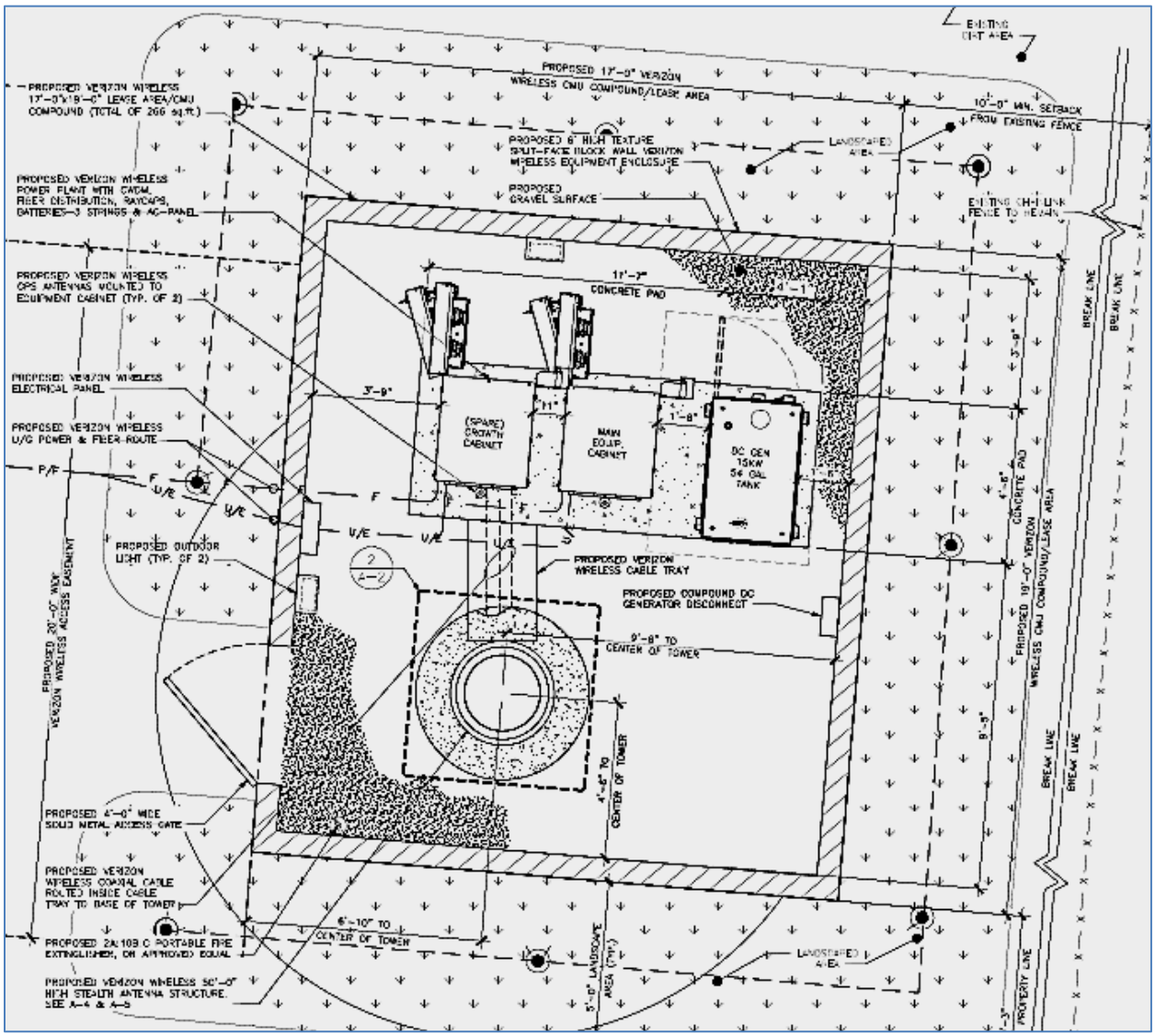
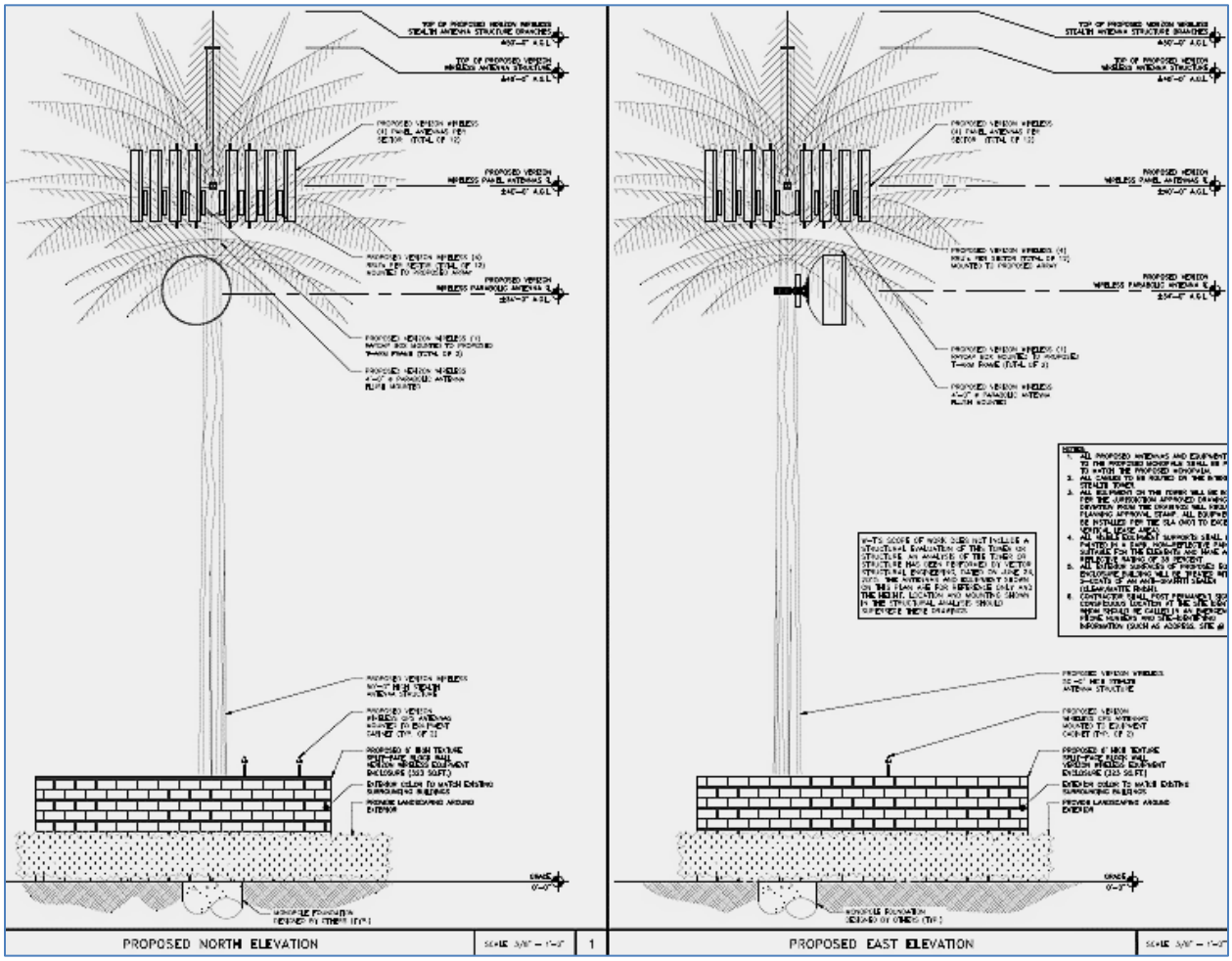


Figure 7 – Elevations



Based on staff's analysis, the proposed facility, including the proposed monopalm and the associated ground-mounted equipment, complies with all applicable Zoning Code requirements as described below:

- **Area Disturbance.** The proposed project is located on an existing graded single-family lot minimizing disturbance to the site.

- **Fencing and Walls.** All proposed ground-mounted equipment will be enclosed behind a 6-foot decorative block wall.

- **Height.** The proposed monopalm is 50 feet in height, which is the maximum height for a wireless facility in the A-1 zone.[2]

- **Setbacks.** The telecommunication facility is set back approximately 144 feet from the nearest residence, which is located on the adjacent lot to the south.[3] This proposed

[2] This information has been corrected from the staff report provided to the Planning Commission on May 18, 2016, which included an incorrect maximum allowable height of 70 feet.

setback exceeds the minimum setback of 200 percent (100 feet) of the facility height to the nearest habitable dwelling units.

- **Paved Access.** An easement via an adjacent well site to the north to the telecommunication facility will be paved.

- **Communication and Power Lines.** There will be no overhead communication or power lines to the facility.

- **Lighting.** Per request from the police department, the facility has been conditioned to install motion-sensor lighting so that it would not be on all night, but will be on when someone goes by.

Design and Aesthetics

All new wireless communications facilities are required to have the least possible visual impacts on the surrounding area. The proposed monopalm is considered a "disguised" wireless facility, designed to look like a palm tree.

The equipment cabinets and all related equipment will be located within a decorative block structure that will not visible to the public.

Staff is recommending a condition to require the applicant to plant three (3) new palm trees near the proposed monopalm. The additional "real" palms will help reduce the visual impact of the tower, which would blend with the new trees. Thus, the proposed monopalm antenna will have low visual impact on the surrounding environment as shown in Figure 8.

In order to approve a disguised wireless facility, one of the findings is that the facility must be "minimally visually intrusive." This term is not specifically defined, and the Council is free to define what is visually appropriate. Historically, in Eastvale, facilities such as monopines and monopalms and field lights have been found to meet the standard.

The City Council is free to interpret this finding as it deems appropriate. The Council can choose to accept the applicant's proposal <u>or</u> the Council can direct the applicant to seek other alternatives.

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[3] This information has been revised from the staff report provided to the Planning Commission on May 18, 2016.

Figure 8: Photosimulation of New Wireless Facility as Viewed from Grapewin Street

Public Health and Safety

As cell phone use expanded during the 1990s, concerns grew that the use of cell phones and cell towers, in particular, posed a public health and safety threat resulting from electromagnetic fields, or EMFs. The Federal Communications Commission researched the issue and in the late 1990s determined that the use of cell phones and cell towers did not create a public health and safety problem, provided that the equipment is built and operated according to federal standards.

While the issue of placing cell phone towers in residential areas is often controversial, the City Council should recognize that federal law prohibits local agencies from denying land use entitlements for cell phone providers like Verizon based solely on health risk issues. As noted above, cellular equipment (including the cell phones themselves) must be designed and operated according to federal standards, which have been designed to limit exposure to cellular signals to safe levels. If the antenna and equipment do not meet federal standards, federal permits will not be issued.

Environmental Analysis

The project qualifies for a Categorical Exemption pursuant to Section 15303, New Construction or Conversion of Small Structures, to be exempt from further environmental review requirements contained in the California Environmental Quality Act (CEQA). The proposed project is for the installation of a 50-foot tall telecommunications tower disguised as a monopalm and ancillary ground mounted equipment within a 17-foot by 19-foot lease area on a previous graded single family residential lot.

Public Notification and Comments

Public notification was sent to surrounding property owners within a 600-foot radius of the subject site. One correspondence in support of the project and one correspondence in opposition to the project were received. A site justification report was also received from the applicant. Correspondences received for this meeting are included as Attachment 6.

For Planning Commission meetings, six people provided correspondences in opposition to the project, three people provided correspondences in support of the project, and one person requested a public hearing. Correspondences received from nearby residents for the Planning Commission meetings are included as Attachment 7.

At both Planning Commission meetings, 17 people spoke in opposition to the project and 3 people spoke in support of the project. A copy of the minutes for May 18th meeting is included as Attachment 9.

In addition, a petition by the community opposing the proposed project and a text campaign by the applicant are also included as attachments in this staff report with the correspondences.

FISCAL IMPACT

The cost for processing the application up to the denial by the Planning Commission has been fully paid for by the applicant. The cost for processing the appeal application will be partially paid for by the City because the appeal is a fixed-fee application.

STRATEGIC PLAN IMPACT

This item does not directly affect the Strategic Plan.

ATTACHMENTS

1. Letter of Appeal
2. Planning Commission Resolution for Denial
3. CC Denial Resolution
4. CC Approval Resolution and Conditions of Approval
5. Development Plans
6. Public Comments Received for CC meeting
7. Public Comments Presented at PC meetings
8. Information from Applicant Presented at PC Meetings
9. Planning Commission Minutes from May 18, 2016
10. Planning Commission Agenda Packets for June 15, 2016 and May 18, 2016

Prepared by: Kanika Kith, Senior Planner
Reviewed by: Eric Norris, Planning Director
Reviewed by: John Cavanaugh, City Attorney
Reviewed by: Michele Nissen, City Manager

June 18, 2016

Eric Norris
Planning Director
City of Eastvale
12363 Limonite Ave., Suite 910
Eastvale, CA 91752

Dear Eric,

Verizon Wireless wish to appeal the Planning Commission denial of Project 15-1662 – Minor Development Review for a new wireless telecommunication facility. The elements for the appeal of the basis for denial include:

- Verizon demonstrated, with substantial evidence, that its proposed facility will address and alleviate a significant gap in coverage and capacity demands in the area. No substantial evidence supports the alleged City finding that the proposed facility "fails to meet the intent" of City Zoning Code Section 4.14.A.3. Both federal and State policies recognize that the timely deployment of integrated wireless telecommunications facility networks has a significant beneficial economic impact in communities, California, and the nation. Further, the City may not regulate Verizon's business and technical determination about the significant gap in coverage and capacity in the area.

- Also regarding the alleged finding on City Zoning Code Section 4.14.A.3, Verizon demonstrated, with substantial evidence, that its proposed facility will be sited and located in the least intrusive means within the coverage gap area, and that no reasonable alternative sites, including co-location options, for the facility exist.

- The Planning Commission did not make a verbal finding at the June 15 meeting that the Verizon facility did not meet the requirements of City Zoning Code Section 2.1(B)(7)(b). Further no substantial evidence supports the alleged belated written finding that the proposed facility did not meet the requirements of that City Zoning Code Section. Rather, substantial evidence in the record demonstrates that the Verizon facility was well designed and aesthetically compatible with the surrounding area. Further, case authority does not support "community character" arguments under CEQA related to this second belated written finding.

- The claimed bases of the Planning Commission's verbal and written decisions to deny Minor Development Plan No. 15-1662 lacked substantial evidence as discussed above. That denial also violates federal law including, without limitation, constituting a prohibition of service in violation of 47 U.S.C.§332 (c)(7)(B)(i)(II), and constituting discrimination between carriers under 47 U.S.C.§332(c)(7)(B)(i)(I).

- No substantial evidence supports the Planning Commissions' failure to adopt the Categorical Exemption under CEQA that was issued by City Staff for Verizon's proposed facility. The proposed Categorical Exemption prepared by City Staff necessarily determined and found that there are no potentially significant environmental impacts from the facility. Substantial evidence in the record supports that determination related to the Categorical Exemption.

- Further, the City's processing of Verizon's application for the facility has exceeded the time limits established in the Federal Communications Commission's Declaratory Ruling, 24 FCC Rcd 13994 (2009), upheld in City of Arlington v. Federal Communications Commission, 668 F.3d 229 (5th Cir. 2012). As such, the City's processing effort for this facility violates California Government Code section 65964.1.

Please note, additional supporting documentation will be provided prior to the appeal hearing.

Thank you,

Courtney Standridge

Courtney Standridge
SAC Wireless for Verizon Wireless

RESOLUTION NO. 16-06

A RESOLUTION OF THE PLANNING COMMISSION OF THE CITY OF EASTVALE, CALIFORNIA, MAKING FINDINGS FOR DENYING MINOR DEVELOPMENT REVIEW NO. 15-1662 FOR THE INSTALLATION OF A NEW WIRELESS TELECOMMUNICATIONS FACILITY DISGUISED AS A 50-FOOT-TALL MONOPALM AND ANCILLARY EQUIPMENT LOCATED AT 8306 GRAPEWIN STREET (ASSESSOR'S PARCEL NUMBER 130-070-018) AND ACCESS VIA AN ADJACENT PARCEL TO THE NORTH (ASSESSOR'S PARCEL NUMBER 130-070-019)

WHEREAS, an application for a Minor Development Review (15-1662) for the installation of a new 50-foot-high wireless telecommunications pole disguised as a monopalm and ancillary equipment in an 17-foot by 19-foot lease area behind an existing single-family home located at 8306 Grapewin Street in Eastvale, Assessor's Parcel Number 130-070-018, and access to service the proposed facility via adjacent parcel to the north, Assessor's Parcel Number 130-070-019, had been filed by Verizon Wireless; and

WHEREAS, the City of Eastvale Planning Department on May 8, 2016, published a legal notice in the *Press Enterprise*, a local paper of general circulation, indicating the date and time of the public hearing in compliance with state law concerning Minor Development Review No. 15-1662, and mailed said public hearing notice to each property owner within a 600-foot radius of the project site in accordance with state law; and

WHEREAS, the City of Eastvale Planning Commission conducted a duly noticed public hearing on May 18, 2016, at which time it received public testimony concerning Minor Development Review No. 15-1662, considered the proposed project and the proposed Minor Development Review for the Verizon wireless telecommunications facility and moved to continue the public hearing to the next Planning Commission meeting on June 15, 2016; and

WHEREAS, the City of Eastvale Planning Commission again conducted a duly noticed public hearing on June 15, 2016, at which time it received public testimony concerning Minor Development Review No. 15-1662 and considered the proposed project and the proposed Minor Development Review for the Verizon wireless telecommunications facility.

NOW, THEREFORE, the Planning Commission of the City of Eastvale does hereby resolve, determine, and order as follows:

SECTION 1. LACK OF ALL MANDATORY FINDINGS FOR MINOR DEVELOPMENT REVIEW

The Planning Commission determined that the proposed project does not meet the requirements for approval set forth in Section 2.1 of the Eastvale Zoning Code. The Planning Commission was not able to make a finding for approval pursuant to Section 2.1(B)(7)(b), which requires the Planning Commission to make a finding that "[t]he proposed architecture, site design, and landscape are suitable for the purposes of the building and the site and will enhance the character of the neighborhood and community."

Evidence: The Planning Commission finds that the proposed coverage map submitted by the applicant, shows a substantial portion of the proposed "new" coverage area to be located in the Santa Ana River where there are no residents. Consequently, the proposed facility at the proposed location would not enhance wireless service to the community for which it is being proposed.

SECTION 2. LACK OF ALL MANDATORY FINDINGS FOR DISGUISED WIRELESS FACILITIES

The Planning Commission determined that the proposed project does not meet the intent of the Zoning Code, Section 4.14 Wireless Communication Facilities.

Evidence: The Planning Commission finds the proposed wireless facility is not suitable for the proposed location because it does not comply with Section 4.14(A)(3) of the Zoning Code. Section 4.14(A)(3) encourages the "use of existing and approved wireless facilities, buildings, and other structures while taking into account the use of concealment technology in order to reduce the number of facilities needed to serve businesses and residents." As shown on the proposed coverage map, the location of the proposed wireless facility would not serve Eastvale businesses and residents well, and therefore, would likely require additional facilities within the City in the future to better provide additional coverage to the community.

SECTION 3. PLANNING COMMISSION ACTION

Based on the Commission's determination that all of the required findings identified in Sections 1 and 2 above cannot be made, the Planning Commission of the City of Eastvale hereby denies Minor Development Review No. 15-1662 for the installation of a new 50-foot-high wireless telecommunications facility disguised as a monopalm and associated equipment in a 17-foot by 19-foot lease area located at 8306 Grapewin Street (Assessor's Parcel Number 130-070-018) with an access easement on the adjacent parcel to the north (Assessor's Parcel Number 130-070-019) to service the facility.

PASSED, APPROVED, AND ADOPTED this 15th day of June, 2016.

Larry Oblea, Chair

APPROVED AS TO FORM:

John E. Cavanaugh, City Attorney

ATTEST:

Marc Donohue, Secretary

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) §
CITY OF EASTVALE)

I, Marc Donohue, Secretary of the Planning Commission of the City of Eastvale, California, do hereby certify that the foregoing Planning Commission Resolution, No. 16-06, was duly adopted by the Planning Commission of the City of Eastvale, California, at a regular meeting thereof held on the 15th day of June, 2016, by the following vote, to wit:

AYES: Commissioner Van Leeuwen, Vice Chair Feng, Chair Oblea

NOES: Commissioner Patel

ABSENT: Commissioner Charlson

ABSTAIN:

Marc Donohue, Secretary

RESOLUTION NO. 16-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EASTVALE, CALIFORNIA, MAKING FINDINGS FOR DENYING MINOR DEVELOPMENT REVIEW NO. 15-1662 FOR THE INSTALLATION OF A NEW WIRELESS TELECOMMUNICATIONS FACILITY DISGUISED AS A 50-FOOT-TALL MONOPALM AND ANCILLARY EQUIPMENT LOCATED AT 8306 GRAPEWIN STREET (ASSESSOR'S PARCEL NUMBER 130-070-018) AND ACCESS VIA AN ADJACENT PARCEL TO THE NORTH (ASSESSOR'S PARCEL NUMBER 130-070-019)

WHEREAS, an application for a Minor Development Review (15-1662) for the installation of a new 50-foot-high wireless telecommunications pole disguised as a monopalm and ancillary equipment in an 17-foot by 19-foot lease area behind an existing single-family home located at 8306 Grapewin Street in Eastvale, Assessor's Parcel Number 130-070-018, and access to service the proposed facility via adjacent parcel to the north, Assessor's Parcel Number 130-070-019, had been filed by Verizon Wireless; and

WHEREAS, the City of Eastvale Planning Department on May 8, 2016, published a legal notice in the *Press Enterprise*, a local paper of general circulation, indicating the date and time of the public hearing in compliance with state law concerning Minor Development Review No. 15-1662, and mailed said public hearing notice to each property owner within a 600-foot radius of the project site in accordance with state law; and

WHEREAS, the City of Eastvale Planning Commission conducted a duly noticed public hearing on May 18, 2016, at which time it received public testimony concerning Minor Development Review No. 15-1662, considered the proposed project and moved to continue the public hearing to the next Planning Commission meeting on June 15, 2016; and

WHEREAS, there were no objections raised by Verizon Wireless to continue the public hearing; and

WHEREAS, the City of Eastvale Planning Commission again conducted a duly noticed public hearing on June 15, 2016, at which time it received public testimony concerning Minor Development Review No. 15-1662, considered the proposed project, and denied the proposed Minor Development Review for the Verizon wireless telecommunications facility; and

WHEREAS, on June 22, 2016 an application appealing the Planning Commission's decision of denial had been filed by Verizon Wireless; and

WHEREAS, the City of Eastvale City Clerk Office on July 3, 2016, published a legal notice in the Press Enterprise, a local paper of general circulation, indicating the date and time of the public hearing on July 13, 2016 in compliance with state law concerning Minor Development Review No. 15 1662, and mailed said public hearing notice to each property owner within a 600-foot radius of the project site in accordance with state law; and

WHEREAS, the City of Eastvale City Council conducted a duly noticed public hearing on July 13, 2016, at which time it received public testimony concerning Minor Development Review No. 15-1662, and considered the proposed Minor Development Review for the Verizon wireless telecommunications facility.

NOW, THEREFORE, the City Council of the City of Eastvale does hereby resolve, determine, and order as follows:

SECTION 1. LACK OF ALL MANDATORY FINDINGS FOR MINOR DEVELOPMENT REVIEW

The City Council determined that the proposed project does not meet the requirements for approval set forth in Section 2.1 of the Eastvale Zoning Code. The City Council was not able to make a finding for approval pursuant to Section 2.1(B)(7)(b), which requires the City Council to make a finding that "[t]he proposed architecture, site design, and landscape are suitable for the purposes of the building and the site and will enhance the character of the neighborhood and community."

Evidence: The City Council finds that the proposed coverage map submitted by the applicant, shows a substantial portion of the proposed "new" coverage area to be located in the Santa Ana River where there are no residents. Consequently, the proposed facility at the proposed location would not enhance wireless service to the community for which it is being proposed.

SECTION 2. LACK OF ALL MANDATORY FINDINGS FOR DISGUISED WIRELESS FACILITIES

The City Council determined that the proposed project does not meet the intent of the Zoning Code, Section 4.14 Wireless Communication Facilities.

Evidence: The City Council finds the proposed wireless facility is not suitable for the proposed location because it does not comply with Section 4.14(A)(3) of the Zoning Code. Section 4.14(A)(3) encourages the "use of existing and approved wireless facilities, buildings, and other structures while taking into account the use of concealment technology in order to reduce the number of facilities needed to serve businesses and residents." As shown on the proposed coverage map, the location of the proposed wireless facility would not serve Eastvale businesses and residents well, and therefore, would likely require additional facilities within the City in the future to better provide additional coverage to the community.

SECTION 3. CITY COUNCIL ACTION

Based on the City Council's determination that all of the required findings identified in Sections 1 and 2 above cannot be made, the City Council of the City of Eastvale hereby denies Minor Development Review No. 15-1662 for the installation of a new 50-foot-high wireless telecommunications facility disguised as a monopalm and associated equipment in a 17-foot by 19-foot lease area located at 8306 Grapewin Street (Assessor's Parcel Number 130-070-018)

with an access easement on the adjacent parcel to the north (Assessor's Parcel Number 130-070-019) to service the facility.

PASSED, APPROVED AND ADOPTED ON this 13th day of July 2016.

_____
Ike Bootsma, Mayor

APPROVED AS TO FORM:

ATTEST:

_____
John E. Cavanaugh, City Attorney

_____
Marc Donohue, City Clerk

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF EASTVALE)

I, MARC DONOHUE, City Clerk of the City of Eastvale, do HEREBY CERTIFY that the foregoing Resolution No. 16-XX was duly adopted by the City Council of the City of Eastvale at a regular meeting thereof, held on the 13th day of July 2016, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____
Marc Donohue, City Clerk

RESOLUTION NO. 16-XX

A RESOLUTION OF THE CITY COUNCIL OF THE CITY OF EASTVALE, CALIFORNIA, APPROVING MINOR DEVELOPMENT REVIEW NO. 15-1662 FOR THE INSTALLATION OF A NEW WIRELESS TELECOMMUNICATIONS FACILITY DISGUISED AS A 50-FOOT-TALL MONOPALM AND ANCILLARY EQUIPMENT LOCATED AT 8306 GRAPEWIN STREET (ASSESSOR'S PARCEL NUMBER 130-070-018) AND ACCESS VIA AN ADJACENT PARCEL TO THE NORTH (ASSESSOR'S PARCEL NUMBER 130-070-019)

WHEREAS, an application for a Minor Development Review (15-1662) for the installation of a new 50-foot-high wireless telecommunications pole disguised as a monopalm and ancillary equipment in an 17-foot by 19-foot lease area behind an existing single-family home located at 8306 Grapewin Street in Eastvale, Assessor's Parcel Number 130-070-018, and access to service the proposed facility via adjacent parcel to the north, Assessor's Parcel Number 130-070-019, had been filed by Verizon Wireless; and

WHEREAS, the proposed Minor Development Review is considered a project as defined by the California Environmental Quality Act (CEQA), Public Resources Code Section 21000 et seq.; and

WHEREAS, the Planning Director determined that the project qualifies for a Categorical Exemption from the provisions of CEQA per Section 15303(d), New Construction, of the CEQA Guidelines; and

WHEREAS, the City of Eastvale Planning Department on May 8, 2016, published a legal notice in the *Press Enterprise*, a local paper of general circulation, indicating the date and time of the public hearing in compliance with state law concerning Minor Development Review No. 15-1662, and mailed said public hearing notice to each property owner within a 600-foot radius of the project site in accordance with state law; and

WHEREAS, the City of Eastvale Planning Commission conducted a duly noticed public hearing on May 18, 2016, at which time it received public testimony concerning Minor Development Review No. 15-1662, considered the proposed project and moved to continue the public hearing to the next Planning Commission meeting on June 15, 2016; and

WHEREAS, there were no objections raised by Verizon Wireless to continue the public hearing; and

WHEREAS, the City of Eastvale Planning Commission again conducted a duly noticed public hearing on June 15, 2016, at which time it received public testimony concerning Minor Development Review No. 15-1662, considered the proposed project, and denied the proposed Minor Development Review for the Verizon wireless telecommunications facility; and

WHEREAS, on June 22, 2016 an application appealing the Planning Commission's decision of denial had been filed by Verizon Wireless; and

WHEREAS, the City of Eastvale City Clerk Office on July 3, 2016, published a legal notice in the Press Enterprise, a local paper of general circulation, indicating the date and time of the public hearing on July 13, 2016 in compliance with state law concerning Minor Development Review No. 15 1662, and mailed said public hearing notice to each property owner within a 600-foot radius of the project site in accordance with state law; and

WHEREAS, the City of Eastvale City Council conducted a duly noticed public hearing on July 13, 2016, at which time it received public testimony concerning Minor Development Review No. 15-1662, and considered a CEQA Categorical Exemption for the proposed project and the proposed Minor Development Review for the Verizon wireless telecommunications facility.

NOW, THEREFORE, the City Council of the City of Eastvale does hereby resolve, determine, and order as follows:

SECTION 1. ENVIRONMENTAL FINDINGS

Pursuant to CEQA, within the meaning of Public Resources Code Sections 21080(e) and 21082.2 within the record and/or provided at the public hearing, the City Council hereby finds and determines that the project was adequately analyzed according to the CEQA Guidelines and qualified for an Exemption under Section 15303(d), New Construction, as supported by the following findings and evidence:

Finding: The proposed project is exempt from further environmental review requirements contained in CEQA pursuant to Section 15303(d), New Construction.

Evidence: The proposed project will extend wireless telecommunication utilities. The proposed project will not result in damage to scenic resources including but not limited to trees, historic buildings, rock outcroppings, or similar resources within a highway officially designated as a state scenic highway. The proposed project is not located on a site that is included on any list compiled pursuant to Section 65962.5 of the Government Code, and the project will not cause a substantial change in the significance of a historical resource. In consideration of this, staff has determined that the project satisfies the requirements of a Categorical Exemption pursuant to CEQA Section 15303(d), New Construction, and is determined to be exempt from further environmental review requirements contained in CEQA.

SECTION 2. MULTIPLE SPECIES HABITAT CONSERVATION PLAN (MSHCP)

The project is found to be consistent with the MSHCP. The project is located outside of any MSHCP criteria area, and mitigation is provided through payment of the MSHCP Mitigation Fee.

SECTION 3. MINOR DEVELOPMENT REVIEW FINDINGS

Pursuant to Eastvale Zoning Code Section 2.1, the City Council hereby finds and determines as follows:

Finding 1: The proposed project is consistent with the General Plan and complies with applicable zoning regulations, specific plan provisions, and other applicable provisions adopted by the City.

Evidence: The zoning of the site is Light Agriculture (A-1), which is consistent with the site's land use designation of Low Density Residential (LDR). The proposed wireless facility is permitted in the A-1 zoning district subject to approval of a Minor Development Review. The proposed wireless antenna will also provide Eastvale residents with improved Verizon cellular service. The project is consistent with the requirements of the Zoning Code as outlined in Sections 2.1 and 4.14. It has been determined that the project conforms to City standards and requirements.

Finding 2: The proposed architecture, site design, and landscape are suitable for the purposes of the building and the site and will enhance the character of the neighborhood and community.

Evidence: The design of the facility is intended to simulate a palm tree to be harmonious with the existing environment along the Santa Ana River where several palm trees are present and in order to be consistent with the definition of a disguised facility. All mechanical equipment will be screened from view by an enclosed building constructed of decorative split-face block. Furthermore, new palm trees and landscaping will be planted around the proposed facility to help blend the disguised facility and to improve the site's existing (mostly unplanted dirt) character.

Finding 3: The architecture, including the character, scale, and quality of the design, relationship with the site and other buildings, building materials, colors, screening of exterior appurtenances, exterior lighting, and signing and similar elements, establishes a clear design concept and is compatible with the character of buildings on adjoining and nearby properties.

Evidence: The facility is designed and sited so that it is minimally intrusive to the surrounding area. All mechanical equipment will be screened from view by an enclosed building constructed of decorative split-face block; the tower will be designed to look like a palm tree. Thus, the proposed facility will not impact the character of the community.

Finding 4: The proposed project will not create conflicts with vehicular, bicycle, or pedestrian transportation modes of circulation.

Evidence: The wireless facility has been placed at approximately 144 feet from the nearest habitable structure and located in the back (east) portion of the property so as not to impede future development of the site. Access to the site is via an access easement on the adjacent parcel to the north of the property, which will provide on-site access for monthly maintenance visits and not result in parking on the street. Therefore, the proposed facility will not create conflicts with existing vehicular, bicycle, or pedestrian circulation.

Finding 5: If the project is located within the Chino Airport Influence Area, the proposed project is consistent with the most recently adopted version of the Chino Airport Land Use Compatibility Plan.

Evidence: The project is not located within the Chino Airport Influence Area; thus, it is not subject to the Chino Airport Land Use Compatibility Plan.

SECTION 4. DISGUISED WIRELESS FACILITY FINDINGS

Pursuant to Eastvale Zoning Code Section 4.14, the City Council hereby finds and determines as follows:

Finding 1: The facility is designed and sited so as to be minimally visually intrusive.

Evidence: The proposed wireless facility, consisting of a 50-foot-high monopalm and ancillary ground-mounted equipment, is located at the rear of a large residential lot enclosed behind a 6-foot decorative block wall adjacent to the Santa Ana River. The proposed 17-foot by 19-foot enclosed equipment area is not visible from the street. Photosimulations provided by the applicant show that the top of the disguised monopalm will be only partially visible from the street because the monopalm will be screened by the existing residence and the tower will blend in with similar palm trees nearby.

Finding 2: Supporting equipment is located entirely within an equipment enclosure that is architecturally compatible with the surrounding area or is screened from view.

Evidence: All mechanical equipment will be screened from view by an enclosed building constructed of decorative split-face block. The enclosure will be located at the rear of the subject existing single-family residence, screening all equipment from public view. New palm trees and landscaping will be planted around the equipment enclosure to soften the enclosure wall and to help disguise the monopalm.

Finding 3: The application has met the processing requirements set forth in this article.

Evidence: The application has been reviewed for compliance with the requirements of Zoning Code Section 4.14 for processing of a disguised wireless facility. A notice was sent to property owners within a 600-foot radius of the project site.

Finding 4: The application has met the location and development standards set forth in this article.

Evidence: The facility will be 50 feet high, which is within the allowable height for a disguised wireless facility in the A-1 zone. The facility will be located 144 feet from the closest home on the adjacent lot, which exceeds the minimum setback requirement of 100 feet.

Finding 5: The application has met the requirements for approval set forth in Section 2.1 of this code.

Evidence: The application meets the requirements of Section 2.1 subsection B of the Zoning Code, which outlines the process and requirements for approval of a Minor Development Review. The findings of approval for the Minor Development Review for this project are listed above.

Finding 6: The Planning Director or approving body has either: (1) determined that notice to the Federal Aviation Administration is not required; or (2) received a determination of No Hazard to Air Navigation for the project issued by the Federal Aviation Administration.

Evidence: A letter provided by the applicant from the Federal Aviation Administration shows that the proposed monopalm is not located within the flight pattern of any nearby airports or private landing strips. Furthermore, the project is not subject to any additional Airport Land Use Commission reviews or determinations, as the property is not located within any airport influence areas.

SECTION 5. CITY COUNCIL ACTION

Based on the findings outlined in Sections 1 through 4 above, the City Council of the City of Eastvale hereby takes the following actions:

1. Adopt Resolution No. 16-XX to approve a Categorical Exemption pursuant to Section 15303(d), New Consrtuction, of the California Environmental Quality Act for Minor Development Plan No. 15-1662; and

2. Adopt Resolution 16-XX to approve Minor Development Review No. 15-1662 for the installation of a new 50-foot-high wireless telecommunications facility disguised as a monopalm and associated equipment in a 17-foot by 19-foot lease area located at 8306 Grapewin Street (Assessor's Parcel Number 130-070-018) with an access easement on the adjacent parcel to the north (Assessor's Parcel Number 130-070-019) to service the facility, subject to conditions of approval attached hereto as Exhibit A.

PASSED, APPROVED AND ADOPTED ON this 13th day of July 2016.

_____
Ike Bootsma, Mayor

APPROVED AS TO FORM:

_____
John E. Cavanaugh, City Attorney

ATTEST:

_____
Marc Donohue, City Clerk

STATE OF CALIFORNIA)
COUNTY OF RIVERSIDE) ss.
CITY OF EASTVALE)

I, MARC DONOHUE, City Clerk of the City of Eastvale, do HEREBY CERTIFY that the foregoing Resolution No. 16-XX was duly adopted by the City Council of the City of Eastvale at a regular meeting thereof, held on the 13th day of July 2016, by the following vote:

AYES:

NOES:

ABSENT:

ABSTAIN:

_____

Marc Donohue, City Clerk

EXHIBIT A

Conditions of Approval

CONDITIONS OF APPROVAL	
Project No. 15-1662 – Minor Development Review for the development of a new wireless telecommunication facility disguised as a monopalm with ancillary equipment to be located in a 17-foot by 19-foot lease area at the rear of an existing 2.55-acre residential property located at 8306 Grapewin Street with an access easement on the adjacent parcel to the north to service and maintain the facility.	
Assessor's Parcel Number: 130-070-018 and -019	
Approval Date:	

	Conditions of Approval	Timing/ Implementation	Enforcement/ Monitoring	Verification (Date and Signature)
General Conditions/Ongoing				
1.	In compliance with Section 15062 of the CEQA Guidelines, a Notice of Exemption (NOE) shall be filed with the Riverside County Clerk no later than five (5) days of project approval. The applicant shall submit to the Planning Department a check or money order made payable to the Riverside County Clerk in the amount of **$50.00** no later than **one day after approval.**		Planning Department	
2.	The applicant shall review and sign below verifying acceptance of these Conditions of Approval. This approval is not valid until signed and returned to the City. _____ Applicant Signature Date	Ongoing	Planning Department	
3.	The applicant shall indemnify, protect, defend, and hold harmless the City, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, from any and all claims, demands, lawsuits, writs of mandamus, and other actions and proceedings (whether legal, equitable, declaratory, administrative, or adjudicatory in nature), and alternative dispute resolution procedures (including, but not limited to, arbitrations, mediations, and other such procedures)	Ongoing	Planning Department	

	Conditions of Approval	Timing/ Implementation	Enforcement/ Monitoring	Verification (Date and Signature)
	(collectively "Actions"), brought against the City, and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof, that challenge, attack, or seek to modify, set aside, void, or annul any action of, or any permit or approval issued by, the City and/or any of its officials, officers, employees, agents, departments, agencies, and instrumentalities thereof (including actions approved by the voters of the City), for or concerning the project, whether such Actions are brought under the California Environmental Quality Act, the Planning and Zoning Law, the Subdivisions Map Act, Code of Civil Procedure Section 1085 or 1094.5, or any other state, federal, or local statute, law, ordinance, rule, regulation, or any decision of a court of competent jurisdiction. It is expressly agreed that the City shall have the right to approve, which approval will not be unreasonably withheld, the legal counsel providing the City's defense, and that applicant shall reimburse City for any costs and expenses directly and necessarily incurred by the City in the course of the defense. City shall promptly notify the applicant of any action brought and City shall cooperate with applicant in the defense of the action.			
4.	The subject properties shall be developed in a manner consistent with the Minor Development Plan 15-1662 as approved by the City Council on July 13, 2016, as conditioned in these conditions of approval and as illustrated in the stamped, approved plans. Any modifications to the approved project shall be reviewed and approved pursuant to the Eastvale Zoning Code.	Ongoing	Planning Department	
5.	Any approval granted by the City Council shall not be final until and unless the applicant's deposit account to cover the costs of application processing is made current and a positive	Ongoing	Planning Department and Building Department	

	Conditions of Approval	Timing/ Implementation	Enforcement/ Monitoring	Verification (Date and Signature)
	balance of at least $2,000.00 is on hand to cover the costs of staff review and follow-up during the construction process.			
6.	Applicant understands and agrees that failure to comply with all conditions of approval may result in the City Council taking action resulting in modification of conditions of approval and/or suspension or revocation of any entitlement permits.	Ongoing	Code Enforcement	
7.	Applicant understands and agrees that the applicant is responsible for compliance with all federal, state and local laws regarding construction and environmental protection regardless of whether they are listed herein as conditions of approval.	Ongoing	Code Enforcement	
Prior to Issuance of Building Permit				
8.	The construction plan shall require that the block wall be coated with anti-graffiti treatment.	Prior to issuance of Building Permit	Planning Department and Building Department	
9.	The applicant shall provide revised elevation drawings, showing and noting that the microwave dish and all antennas on the monopalm shall be painted the same color as the monopalm pole. The elevation drawings shall also show that the palm fronds will fully screen all antennas.	Prior to issuance of Building Permit	Planning Department and Building Department	
10.	The applicant shall provide a landscape and irrigation plan showing planting of a minimum of three (3) new Date Palm trees with a minimum height of16 feet of brown trunk surrounding the facility and additional landscape of shrubs and vines surrounding the wall enclosures to the satisfaction of the Planning Director. All landscape and irrigation shall be installed per the approved landscape and irrigation plan prior to final Building Permit sign-off.	Prior to issuance of Building Permit	Planning Department and Building Department	

	Conditions of Approval	Timing/ Implementation	Enforcement/ Monitoring	Verification (Date and Signature)
11.	The applicant shall provide revised site plan showing a minimum of 50 feet (100% of facility height) setback to all property lines or a minimum of 100 feet (200% of facility height) to all existing homes nearby the facility, whichever is greater.	Prior to issuance of Building Permit	Planning Department and Building Department	
12.	The applicant shall provide a construction plan showing the installation of motion-sensor lighting on the facility to the satisfaction of the City. The lighting shall be shielded and directed downward so as to not impact nearby properties and wildlife in the Santa Ana River.	Prior to issuance of Building Permit	Police, Planning, and Building Departments	
Prior to Issuance of Grading Permit				
13.	Construction activities should be initiated outside of the primary nesting season for birds (April 1 - August 15). If construction must occur during the nesting season, a nesting bird survey shall be conducted within 3 days prior to commencing activities. If nesting birds are found in the Project footprint or adjacent areas if 500 feet from the project's footprint, project activities including manual clearing or heavy equipment use should not occur within a buffer zone established by a qualified biologist (150 feet standard, 250 feet in riparian areas, and 500 feet of raptor nests) until it is verified by the biologist that young have fledged or otherwise the nesting has completed.	Prior to issuance of Grading Permit	Public Works and Planning Departments	
14.	If construction commencement is scheduled to occur during the known avian breeding season for *Vireo belli pusillus* (April 10 – August 31), a pre-construction survey for nesting birds shall be performed and submitted to the City for review and approval.	Prior to issuance of Grading Permit	Public Works and Planning Departments	
Fire Department				

Conditions of Approval	Timing/ Implementation	Enforcement/ Monitoring	Verification (Date and Signature)
Prior to the issuance of Building Permit, the applicant shall comply with all Fire Department standards requirements and conditions. 1. Provide a Knox box or padlock at the access gate. 2. Contractor shall post permanent signage in a conspicuous location at the site identifying whom should be called in an emergency, with phone numbers and site-identifying information (such as address, site#). 3. Provide a 2A-10BC fire extinguisher or equivalent. 4. Call for fire department inspection. 5. Provide specific fire department conditions on plans for building permit submittal.			

General Compliance Items

The following items are noted for the applicant's information. These items are required by the City, other local agencies, or state or federal agencies and are not conditions of approval of the project.

1. Certification of continued use of the wireless communications facility shall be submitted to the Planning Director on a yearly basis at the time of business license renewal for as long as the facility remains in operation. The certification shall indicate that the facility is operating as approved and that the facility complies with the most current Federal Communications Commission (FCC) safety standards. If the wireless communications facility is no longer in operation, it shall be removed within 90 days of discontinuance.

2. The applicant shall comply with all provisions and procedures of the Eastvale Building Department related to the plan check review process. (Please contact Tim Steenson, Chief Building Official, at 951-703-4451.)

3. The applicant shall pay all applicable Development Impact Fees and City Mitigation Fees as determined by the Building and Engineering Departments.

4. Every person conducting a business in the City of Eastvale shall obtain a business license. For more information regarding business registration, please visit the Business Registration information provided the City website (http://www.eastvalecity.org).

5. If human remains are encountered, State Health and Safety Code Section 7050.5 states that no further disturbance shall occur until the Riverside County Coroner has made the necessary findings as to origin. Further, pursuant to Public Resource Code Section 5097.98(b), remains shall be left in place and free from disturbance until a final decision as to the treatment and disposition has been made. If the Riverside County Coroner determines the remains to be Native American, the Native American Heritage Commission shall be contacted within a reasonable time frame. Subsequently, the Native American Heritage Commission shall identify the most likely descendant. The most likely descendant shall then make recommendations and engage in consultation concerning the treatment of the remains as provided in Public Resources Code Section 5097.98.

6. No obstruction shall be placed on any existing easement, unless an approval document from easement holder(s) is provided to the City.

7. No obstruction/improvement shall be made that blocks the existing drainage pattern. Any revision may require a grading plan.

GRAPEWIN

8306 GRAPEWIN STREET
EASTVALE, CA 92880
RIVERSIDE COUNTY

verizon wireless

STEALTH ANTENNA STRUCTURE

CODES

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE FOLLOWING CODES.

- 2013 CALIFORNIA BUILDING CODE, TITLE 24 PART 2
- 2013 CALIFORNIA ADMINISTRATIVE CODE, TITLE 24 PART 1
- 2013 CALIFORNIA ELECTRICAL CODE, TITLE 24 PART 3
- 2013 CALIFORNIA MECHANICAL CODE, TITLE 24 PART 4
- 2013 CALIFORNIA PLUMBING CODE, TITLE 24 PART 5
- 2013 CALIFORNIA ENERGY CODE, TITLE 24 PART 6
- 2013 CALIFORNIA FIRE CODE, TITLE 24 PART 9
- ANSI/TIA-222-G
- 2013 NFPA 72, NATIONAL FIRE ALARM CODE
- 2013 NFPA 13, SPRINKLER CODE
- CITY/ COUNTY ORDINANCES

PROJECT DESCRIPTION

CONSTRUCTION OF AN UNMANNED WIRELESS CELL SITE FOR VERIZON WIRELESS. PROJECT CONSISTS OF:

- (1) PROPOSED 50'-0" HIGH STEALTH ANTENNA STRUCTURE
- PROPOSED 17'-0"X 19'-0" VERIZON WIRELESS LEASE AREA/ TEXTURE SPLIT-FACE BLOCK WALL COMPOUND (323 sq.ft.)
- (2) PROPOSED MCE EQUIPMENT CABINETS ON PROPOSED CONCRETE PAD
- (12) PROPOSED PANEL ANTENNAS ON PROPOSED SECTOR FRAMES
- (12) PROPOSED RRU's ON PROPOSED SECTOR FRAMES
- (2) PROPOSED RAYCAP BOXES ON PROPOSED SECTOR FRAMES
- (1) PROPOSED 4' MICROWAVE DISH ON PROPOSED TOWER
- (2) PROPOSED GPS ANTENNAS MOUNTED ON CABINETS
- (1) PROPOSED STANDBY GENERATOR
- PROPOSED 2'x3' PULL BOX FOR POWER (EVERY 300')
- PROPOSED 17"x30" PULL BOX FOR FIBER (EVERY 300')
- PROPOSED 200AMP VERIZON WIRELESS POWER SERVICE
- DC & FIBER CABLES ROUTED ON INSIDE OF TOWER
- CONNECTION AS REQUIRED FOR POWER AND FIBER SERVICES

SITE INFORMATION

PROPERTY OWNER:	GERALD J. OSTERCAMP, KAREN L. OSTERCAMP, JOSEPH S. OSTERCAMP CONTACT NAME: JOE OSTERCAMP CONTACT NUMBER: (951) 737-2319
TOWER OWNER:	VERIZON WIRELESS 15505 SAND CANYON AVE. BLDG. 'D' 1st FL. IRVINE, CA 92618
SITE CONTACT:	VERIZON WIRELESS 15505 SAND CANYON AVE. BLDG. 'D' 1st FL. IRVINE, CA 92618 CONTACT: PROPERTY MANAGEMENT CONTACT NUMBER: (949) 286-7000
COUNTY:	RIVERSIDE COUNTY
ZONING JURISDICTION:	CITY OF EASTVALE
ZONING DISTRICT:	LIGHT AGRICULTURAL (A1)
PARCEL #:	130-070-018
OCCUPANCY GROUP:	U (UTILITY)
CONSTRUCTION TYPE:	2-B
POWER COMPANY:	SOUTHERN CALIFORNIA EDISON CONTACT NUMBER: (800) 990-7788
FIBER COMPANY:	T.B.D. CONTACT NUMBER: T.B.D.
SITE ACQUISITION MANAGER:	SAC WIRELESS 5865 AVENIDA ENCINAS, STE. 142B CARLSBAD, CA 92008 CONTACT NAME: JENNIFER CHESNEY CONTACT NUMBER: (949) 235-6262
SITE ACQUISITION CONTACT:	SAC WIRELESS 5865 AVENIDA ENCINAS, STE. 142B CARLSBAD, CA 92008 CONTACT NAME: JENNIFER CHESNEY CONTACT NUMBER: (949) 235-6262
ENGINEERING COMPANY:	W-T COMMUNICATIONS DESIGN GROUP, LLC 8560 S. EASTERN AVE. LAS VEGAS, NV 89123 COMPANY NUMBER: (702) 998-1000
SURVEYOR:	DIAMONDBACK LAND SURVEYING LLC. CONTACT NUMBER: (702) 823-3257

CONTACT INFORMATION

SITE CONTACT:	SAC WIRELESS 5865 AVENIDA ENCINAS, STE. 142B CARLSBAD, CA 92008
ZONING CONTACT:	DAIL RICHARD (858) 200-6541
LEASING CONTACT:	BRIANNA NOLER (760) 900-6034

LEGAL DESCRIPTION

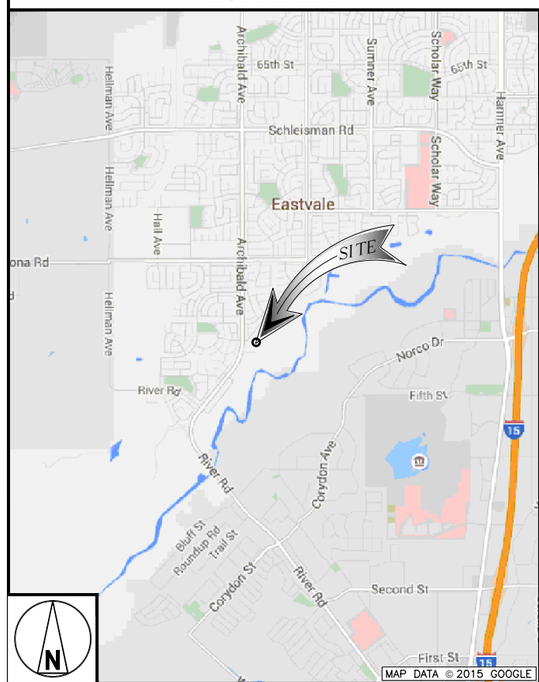
THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS: PARCEL 1 OF PARCEL MAP 33534, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY PARCEL MAP ON FILE IN BOOK 220, PAGES 74 AND 75, RECORDS OF SAID RIVERSIDE COUNTY.
APN: 130-070-018

OVERALL HEIGHT
50'-0"

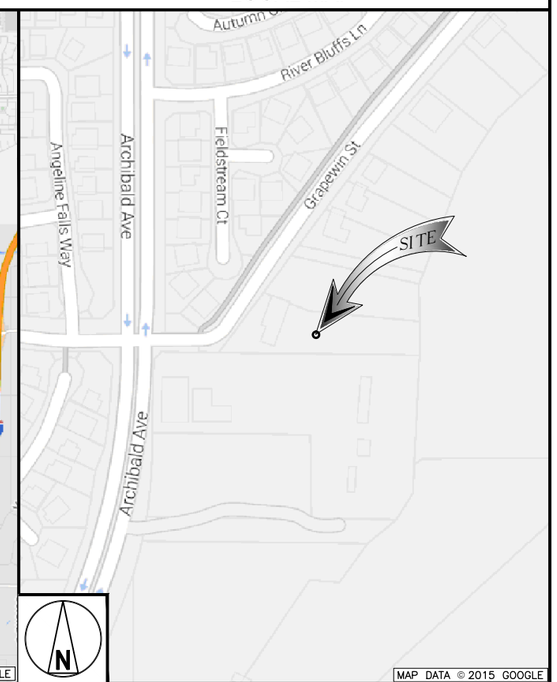
11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME

VICINITY MAP



LOCAL MAP



NO SCALE

DRIVING DIRECTIONS FROM VZW IRVINE OFFICE

DEPART: 15505 SAND CANYON AVE, IRVINE, CA 92618.

HEAD SOUTHEAST TOWARD SAND CANYON SIDE PATH/SAND CANYON TRAIL. TURN RIGHT ONTO SAND CANYON AVE. TURN LEFT AT THE 1ST CROSS STREET ONTO BARRANCA PKWY. TURN RIGHT ONTO PACIFICA. TURN RIGHT ONTO THE STATE HIGHWAY 133 N RAMP THEN MERGE ONTO CA-133 N. KEEP RIGHT AT THE FORK TO STAY ON CA-133 N. MERGE ONTO CA-241 N. TAKE THE EXIT ONTO CA-91 E TOWARD RIVERSIDE. TAKE THE LINCOLN AVENUE EXIT. TURN RIGHT ONTO S LINCOLN AVE. TURN LEFT ONTO RIVER RD THEN CONTINUE ONTO ARCHIBALD AVE. TURN RIGHT ONTO GRAPEWIN ST. DESTINATION WILL BE ON THE RIGHT.

ARRIVE AT: 8306 GRAPEWIN STREET EASTVALE, CA 92880.

STRUCTURAL NOTE

NOTE:
W-T'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS TOWER OR STRUCTURE. NEW ANTENNAS SHOWN ON THIS PLAN HAVE NOT BEEN EVALUATED TO VERIFY THE TOWER OR STRUCTURE HAS THE CAPACITY TO ADEQUATELY SUPPORT THESE ANTENNAS. PRIOR TO ANY ANTENNA INSTALLATION, A STRUCTURAL EVALUATION OF THE TOWER OR STRUCTURE, INCLUDING ALL ANTENNA MOUNTING SYSTEMS AND HARDWARE, SHOULD BE PERFORMED.

GENERAL NOTES

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

APPROVALS

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS & AUTHORIZE THE SUBCONTRACTOR TO PROCEED WITH CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT & MAY IMPOSE CHANGES OR MODIFICATIONS.

DISCIPLINE:	SIGNATURE:	DATE:
LANDLORD:		
PROJECT MANAGER:		
CONSTRUCTION MANAGER:		
RF ENGINEER:		
SITE ACQUISITION:		
ZONING MANAGER:		
UTILITY COORDINATOR:		
NETWORK OPERATIONS:		

DRAWING INDEX

SHEET NO	SHEET TITLE
T-1	TITLE SHEET & PROJECT DATA
LS-1	LAND SURVEY
A-1	OVERALL SITE PLAN
A-2	ENLARGED SITE & ANTENNA PLAN
A-3	LANDSCAPING
A-4	ELEVATIONS
A-5	ELEVATIONS
A-6	CROSS SECTION

811
NOTE:
48 HOURS PRIOR TO DIGGING, CONTRACTOR TO NOTIFY ALL UTILITY COMPANIES TO LOCATE ALL UNDERGROUND UTILITIES.

Know what's **below.**
Call before you dig.

W-T Communication Design Group's Commitment to Quality

Please take a few moments to fill out our online survey.

verizon wireless
15505 SAND CANYON AVE.
BUILDING 'D' 1st FL.
IRVINE, CA 92618

W-T
W-T COMMUNICATION DESIGN GROUP, LLC.
WIRELESS INFRASTRUCTURE
8650 S. Eastern Ave. Suite 220
Las Vegas, NV 89123
PH: (702) 998-1000 FAX: (702) 998-1010
www.wtengineering.com

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SAC WIRELESS
5865 AVENIDA ENCINAS, STE. 142B
CARLSBAD, CA 92008

PROJECT NO:	T143451
DRAWN BY:	RD
CHECKED BY:	MMR

REV	DATE	DESCRIPTION
G	07/06/16	JURISDICTION COMMENTS
F	06/20/16	CITY COMMENTS
E	06/03/16	PER COMMENTS
D	08/24/15	CITY COMMENTS
C	08/21/15	LEGAL DISCRIPTION REVISION
B	07/07/15	100% ZONING DRAWINGS

NOT TO BE USED FOR CONSTRUCTION

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

GRAPEWIN
8306 GRAPEWIN STREET
EASTVALE, CA 92880
RIVERSIDE COUNTY

SHEET TITLE
TITLE SHEET & PROJECT DATA

SHEET NUMBER
T-1

(5) EASEMENT(S) IN FAVOR OF THE PUBLIC OVER ANY EXISTING ROADS LYING WITHIN SAID LAND.
(AFFECTS PARCEL – NOT DEFINED – NOT PLOTTABLE)

(6) MUTUAL RIGHTS OF WAY RESERVED TO THE STEARNS RANCHO COMPANY AND JURUPA LAND AND WATER COMPANY, THEIR SUCCESSORS OR ASSIGNS, FOR DITCHES, CANALS OR PIPE LINES THAT MAY BE DEEMED NECESSARY OR PROPERTY BY SAID PARTIES FOR THE PROPERTY IRRIGATION OF ANY OTHER LANDS IN THE JURUPA RANCHO, OR FOR THE SUPPLYING OF THE MAIN CANALS WITH WATER, PROVIDED, HOWEVER, THAT SUCH DITCHES SHALL PRACTICABLE FOLLOW THE LINE OF THE SURVEYED SUBDIVISION OF THE JURUPA RANCHO, RECORDED IN BOOK 16 PAGES 94 THROUGH 97, OF MAPS.
(AFFECTS PARCEL – NOT DEFINED – NOT PLOTTABLE)

(7) COVENANTS, CONDITIONS AND RESTRICTIONS BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, SOURCE OF INCOME, GENDER, GENDER IDENTITY, GENDER EXPRESSION, MEDICAL CONDITION OR GENETIC INFORMATION, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH IN THE DOCUMENT

RECORDING DATE: JUNE 3, 1939
RECORDING NO: BOOK 415 PAGE 581, OF OFFICIAL RECORDS

AND RECORDING DATE: JUNE 20, 1939
AND RECORDING NO: BOOK 420 PAGE 342, OF OFFICIAL RECORDS

SAID COVENANTS, CONDITIONS AND RESTRICTIONS PROVIDE THAT A VIOLATION THEREOF SHALL NOT DEFEAT THE LIEN OF ANY MORTGAGE OR DEED OF TRUST MADE IN GOOD FAITH AND FOR VALUE.
(AFFECTS PARCEL – BLANKET IN NATURE – NOT PLOTTABLE)

(8) EASEMENT(S) IN FAVOR OF THE PUBLIC OVER ANY EXISTING ROADS LYING WITHIN SAID LAND.
(AFFECTS PARCEL –
COVENANTS, CONDITIONS AND RESTRICTIONS BUT OMITTING ANY COVENANTS OR RESTRICTIONS, IF ANY, INCLUDING BUT NOT LIMITED TO THOSE BASED UPON RACE, COLOR, RELIGION, SEX, SEXUAL ORIENTATION, FAMILIAL STATUS, MARITAL STATUS, DISABILITY, HANDICAP, NATIONAL ORIGIN, ANCESTRY, SOURCE OF INCOME, GENDER, GENDER IDENTITY, GENDER EXPRESSION, MEDICAL CONDITION OR GENETIC INFORMATION, AS SET FORTH IN APPLICABLE STATE OR FEDERAL LAWS, EXCEPT TO THE EXTENT THAT SAID COVENANT OR RESTRICTION IS PERMITTED BY APPLICABLE LAW, AS SET FORTH IN THE DOCUMENT

RECORDING DATE: JANUARY 10, 1969
RECORDING NO: 57429, OF OFFICIAL RECORDS

SAID COVENANTS, CONDITIONS AND RESTRICTIONS PROVIDE THAT A VIOLATION THEREOF SHALL NOT DEFEAT THE LIEN OF ANY MORTGAGE OR DEED OF TRUST MADE IN GOOD FAITH AND FOR VALUE.
(AFFECTS PARCEL – BLANKET IN NATURE – NOT PLOTTABLE)

(9) DISCREPANCIES, CONFLICTS IN BOUNDARY LINES, SHORTAGE IN AREA, ENCROACHMENTS, OR ANY OTHER MATTERS SHOWN ON

MAP: BOOK 93 PAGES 83 THROUGH 93
RECORDING NO: RECORDS OF SURVEY
(AFFECTS PARCEL – PLOTTED)

(10) EASEMENT(S) FOR THE PURPOSE(S) SHOWN BELOW AND RIGHTS INCIDENTAL THERETO, AS GRANTED IN A DOCUMENT: GRANTED TO: STANDARD PACIFIC CORP., A DELAWARE CORPORATION
PURPOSE: A PERPETUAL EXCLUSIVE EASEMENT IN GROSS AND RIGHT OF WAY
RECORDING DATE: DECEMBER 11, 2003
RECORDING NO: 2003-970461, OF OFFICIAL RECORDS
AFFECTS: SAID LAND MORE PARTICULARLY DESCRIBED THEREIN

(11) AND THEREAFTER THE INTEREST IN SAID EASEMENT WAS ASSIGNED TO THE RIVERSIDE FLOOD CONTROL AND WATER CONSERVATION DISTRICT BY ASSIGNMENT OF EASEMENT RECORDED JULY 3, 2007 AS INSTRUMENT NO. 2007-435198, OF OFFICIAL RECORDS.
(AFFECTS PARCEL – PLOTTED)

VARIOUS MATTERS INCLUDING, BUT NOT LIMITED TO, REQUIREMENTS FOR DEVELOPING OR IMPROVING THE LAND, PROPOSED EASEMENTS, COVENANTS, CONDITIONS, RESTRICTIONS AND PROVISIONS SET FORTH ON PARCEL MAP NO. 33534.
(AFFECTS PARCEL – PLOTTED)

LEGAL DESCRIPTIONS: BASED UPON THE PRELIMINARY TITLE REPORT FROM TICOR TITLE COMPANY, ORDER NO. 00325478-990-GG4 WITH AN EFFECTIVE DATE OF MAY 19, 2015 AT 7:30 A.M.

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 1 OF PARCEL MAP 33534, IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS SHOWN BY PARCEL MAP ON FILE IN BOOK 220, PAGES 74 AND 75, RECORDS OF SAID RIVERSIDE COUNTY.

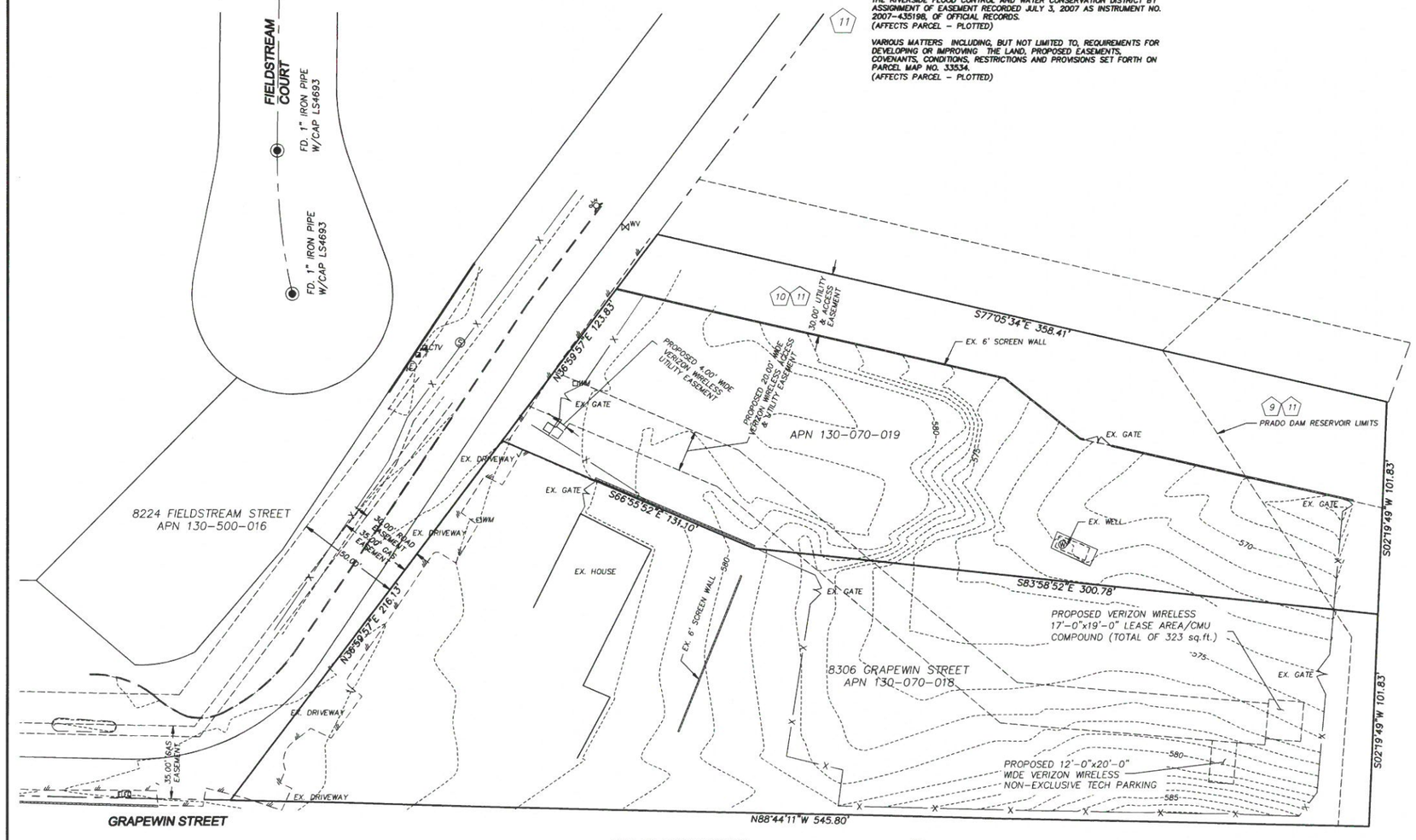
APN: 130-070-018

LEGAL DESCRIPTIONS: BASED UPON THE PRELIMINARY TITLE REPORT FROM TICOR TITLE COMPANY, ORDER NO. 00345276-990-GG4 WITH AN EFFECTIVE DATE OF AUGUST 13, 2015 AT 7:30 A.M.

THE LAND REFERRED TO HEREIN BELOW IS SITUATED IN THE COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AND IS DESCRIBED AS FOLLOWS:

PARCEL 2 OF PARCEL MAP 33534, IN THE CITY OF EASTVALE, COUNTY OF RIVERSIDE, STATE OF CALIFORNIA, AS PER MAP RECORDED IN BOOK 220 PAGES 74 AND 75, OF PARCEL MAPS, IN THE OFFICE OF THE COUNTY RECORDER OF SAID COUNTY.

APN 130-070-019



SCALE 1" = 30'
0 15 30 60

Diamondback Land Surveying
5506 S. FORT APACHE ROAD, SUITE 110
LAS VEGAS, NEVADA 89148
(o) 702.823.DBLS (f) 702.933.9030
www.diamondbacklandsurveying.com

PLOTTED 9-9-2015

SITE NAME/ NUMBER:	WT GRAPEWIN
SITE ADDRESS:	8306 GRAPEWIN STREET CORONA, CA. 92880
OWNER'S NAME/ ADDRESS:	KAREN OSTERKAMP, TRUSTEE OF THE KAREN OSTERKAMP TRUST ESTABLISHED OCTOBER 26, 2010
PRESENT USE:	RESIDENTIAL
ASSESSOR PARCEL NO.(S):	130-070-018 AND -019
NET AREA OF PARCEL(S):	2.55± ACRES

BASIS OF BEARINGS:

NORTH 00°37'37" EAST, BEING THE CENTERLINE OF FIELDSTREAM COURT AS SHOWN BY TRACT NO. 30735 IN BOOK 366 OF TRACT MAPS, PAGE 42-57, OFFICIAL RECORDS RIVERSIDE COUNTY, CA. SITUATED IN SECTION 2, TOWNSHIP 3 SOUTH, RANGE 7 WEST, S.B.B. & M.

BENCHMARK:

NATIONAL GEODETIC SURVEY DESIGNATION; 601 40 69, PID; DX2869
BEING A SURVEY DISK SET IN TOP OF CONCRETE MONUMENT STAMPED 601-40-69 AND DESCRIBED BY NATIONAL GEODETIC SURVEY 1988 AS BEING 2.5 KM (1.55MI) WEST ALONG THE ATCHISON TOPEKA AND SANTA FE RAILROAD FROM THE MAIN STREET CROSSING IN CORONA, AT THE NORTHWEST CORNER OF A CHAIN LINK FENCE, 102 M (334.6 FT) EAST OF THE CENTERLINE OF SMITH ROAD, 16.4 M (53.8 FT) SOUTH OF THE SOUTH RAIL, 2.1 M (6.9 FT) SOUTHEAST OF A POWER POLE NUMBERED 1571163-E, 1.2 M (3.9 FT) NORTHEAST OF THE FENCE CORNER.
THE MARK IS 0.6 METERS E FROM A WITNESS POST
THE MARK IS 0.9 M ABOVE THE RAILROAD.

ELEVATION: 608.40 FEET (NAVD 1988)
185.44 METERS (NAVD 1988)

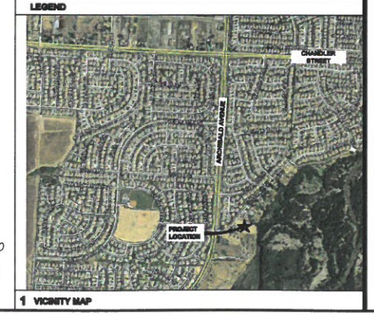
NOTE: A FIELD SURVEY WAS PERFORMED ON MAY 8, 2015.

FLOOD NOTE: AS SCALED FROM FLOOD INSURANCE RATE MAP NO. 06065C0687G AND 06065C0679, DATED AUGUST 28, 2008 AND PER SAID MAP: LOCATED IN UNSHADED ZONE X, AREA DETERMINED TO BE INSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN AND ZONE AE, AREA WITHIN THE 1% ANNUAL FLOOD (100-YEAR FLOOD)

PARCEL INFORMATION

	PROPERTY LINE
	FLOW LINE
TEL	TELEPHONE LINE
E	ELECTRIC LINE
E&T	ELECTRIC AND TELEPHONE LINES
×	FENCE
	FIRE HYDRANT
	GUY WIRE
	STREET SIGN
	STREET LIGHT
WV	WATER VALVE
FS	FINISH SURFACE
FL	FLOW LINE
FSR	FINISH SURFACE ROOF
TC	TOP OF CURB
BFC	BOTTOM FACE OF CURB
TW	TOP OF WALL
BW	BOTTOM OF WALL
TBW	TOP BACK OF WALK
G	GROUND WELL
D	ROOF DRAIN
	BOLLARD
V	VENT
	FOUND MONUMENT AS NOTED
7	EXCEPTION NUMBER PER TITLE REPORT

LEGEND



1 VICINITY MAP

verizon wireless
15505 SAND CANYON AVE.
BUILDING 'D' 1st FL.
IRVINE, CA 92618

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PROJECT NO:	150405
DRAWN BY:	RDC
CHECKED BY:	–

REV	DATE	DESCRIPTION

LICENSED PROFESSIONAL SURVEYOR
TRENT J. KEENAN
Exp. 3/31/2016
8396
STATE OF CALIFORNIA
9/29/15

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GRAPEWIN

8306 GRAPEWIN STREET
CORONA, CA 92880

SHEET TITLE
SITE SURVEY

SHEET NUMBER
LS-1

ABBREVIATIONS

A/C	AIR CONDITIONING
AGL	ABOVE GRADE LEVEL
APPROX	APPROXIMATELY
BLDG	BUILDING
BLK	BLOCKING
CLG	CEILING
CLR	CLEAR
CONC	CONCRETE
CONST	CONSTRUCTION
CONT	CONTINUOUS
DBL	DOUBLE
DIA	DIAMETER
DIAG	DIAGONAL
DN	DOWN
DET	DETAIL
DWG	DRAWING
EA	EACH
ELEV	ELEVATION
ELEC	ELECTRICAL
EQ	EQUAL
EQUIP	EQUIPMENT
EXT	EXTERIOR
FIN	FINISH
FLUOR	FLUORESCENT
FLR	FLOOR
FT	FOOT
GA	GAUGE
GALV	GALVANIZED
GC	GENERAL CONTRACTOR
GRND	GROUND
GYP BD	GYPSUM WALL BOARD
HORZ	HORIZONTAL
HR	HOUR
HT	HEIGHT
HVAC	HEATING VENTILATION AIR CONDITIONING
ID	INSIDE DIAMETER
IN	INCH
INFO	INFORMATION
INSUL	INSULATION
INT	INTERIOR
IBC	INTERNATIONAL BUILDING CODE
LBS	POUNDS
MAX	MAXIMUM
MECH	MECHANICAL
MTL	METAL
MFR	MANUFACTURER
MGR	MANAGER
MIN	MINIMUM
MISC	MISCELLANEOUS
NA	NOT APPLICABLE
NIC	NOT IN CONTRACT
NTS	NOT TO SCALE
OC	ON CENTER
OD	OUTSIDE DIAMETER
PLYWD	PLYWOOD
PROJ	PROJECT
PROP	PROPERTY
PT	PRESSURE TREATED
REQ	REQUIRED
RM	ROOM
RO	ROUGH OPENING
RRH	RADIO REMOTE HEAD
SHT	SHEET
SIM	SIMILAR
SPEC	SPECIFICATION
SF	SQUARE FOOT
SS	STAINLESS STEEL
STL	STEEL
STRUCT	STRUCTURAL
STD	STUD
SUSP	SUSPENDED
THRU	THROUGH
TMA	TOWER MOUNT AMPLIFIER
TNND	TINNED
TYP	TYPICAL
UNO	UNLESS NOTED OTHERWISE
VERT	VERTICAL
VIF	VERIFY IN FIELD
W/	WITH
W/O	WITHOUT
WP	WATER PROOF

LEGEND

- SUBJECT BOUNDARY LINE
- RIGHT-OF-WAY CENTERLINE
- RIGHT-OF-WAY LINE
- ADJACENT BOUNDARY LINE
- OHP — OHP — OVERHEAD POWER LINE
- U/E — U/E — UNDERGROUND ELECTRICAL LINE
- F — F — UNDERGROUND FIBER LINE
- G — G — BURIED GAS LINE
- OHT — OHT — OVERHEAD TELEPHONE LINE
- W — W — W — BURIED WATER LINE
- SS — SS — BURIED SANITARY SEWER
- SD — SD — BURIED STORM DRAIN
- X — X — X — CHAIN LINK FENCE
- WOOD FENCE
- TRANSFORMER
- LIGHT STANDARD
- POWER VAULT
- UTILITY BOX
- UTILITY POLE
- FIRE HYDRANT
- GATE VALVE
- WATER METER
- CATCH BASIN, TYPE I
- CATCH BASIN, TYPE II

NOTE:
CONTRACTOR TO INSTALL A 17"x30" PULL BOX FOR POWER & FIBER AFTER EVERY 300' OR AFTER EVERY TWO 90° BENDS

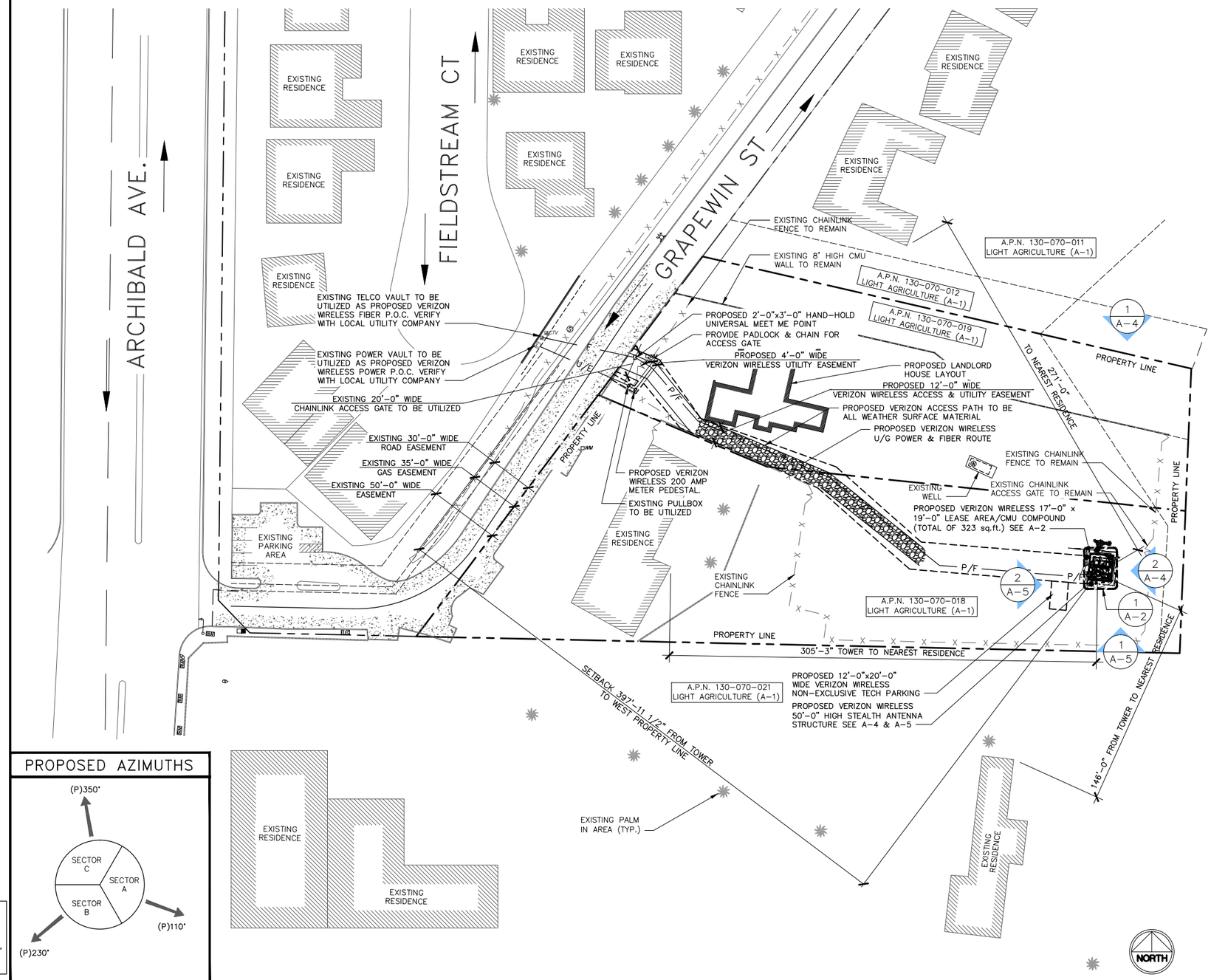
NOTE:
W-T'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS TOWER OR STRUCTURE. NEW ANTENNAS SHOWN ON THIS PLAN HAVE NOT BEEN EVALUATED TO VERIFY THE TOWER OR STRUCTURE HAS THE CAPACITY TO ADEQUATELY SUPPORT THESE ANTENNAS. PRIOR TO ANY ANTENNA INSTALLATION, A STRUCTURAL EVALUATION OF THE TOWER OR STRUCTURE, INCLUDING ALL ANTENNA MOUNTING SYSTEMS AND HARDWARE, SHOULD BE PERFORMED.

ABBREVIATIONS & SYMBOLS

DISTANCE TOWER & COMPOUND TO NEAREST RESIDENCED			
	NORTH	EAST	SOUTH
TOWER STRUCTURE	271'-0"	305'-3"	146'-0"
COMPOUND	255'-9"	298'-3"	145'-0"

NOTE:
REFERENCE SURVEY BY DIAMONDBACK LAND SURVEYING, LLC. DATED **05/08/15**. SURVEY FOR ALL PROPERTY LINES AND EXISTING EASEMENT INFORMATION.

NOTE:
THE EQUIPMENT ENCLOSURE SHOULD BE PAINTED TAN TO MATCH SURROUNDINGS.



PROPOSED AZIMUTHS

OVERALL SITE PLAN

SCALE: 1"=40'-0"

1

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5865 AVENIDA ENCINAS, STE. 142B
CARLSBAD, CA 92008

PROJECT NO:	T143451
DRAWN BY:	RD
CHECKED BY:	MMR

REV	DATE	DESCRIPTION
G	07/06/16	JURISDICTION COMMENTS
F	06/20/16	CITY COMMENTS
E	06/03/16	PER COMMENTS
D	08/24/15	CITY COMMENTS
C	08/21/15	LEGAL DISCRIPTION REVISION
B	07/07/15	100% ZONING DRAWINGS

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GRAPEWIN
8306 GRAPEWIN STREET
EASTVALE, CA 92880
RIVERSIDE COUNTY

SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
A-1

NOTE:
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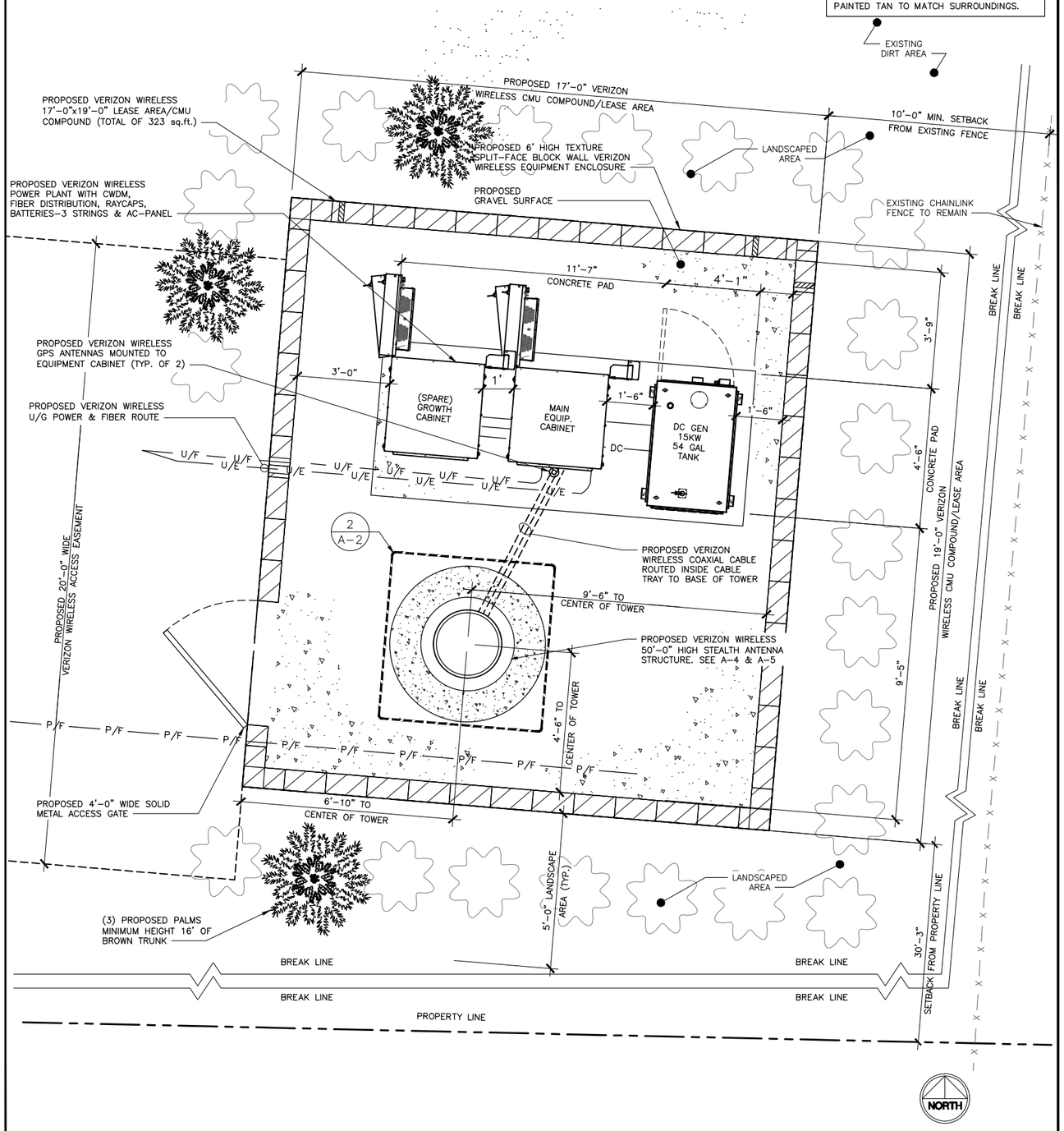

ENLARGED SITE PLAN | SCALE: 1/2" = 1'-0" | 1

NOTE:
ALL EQUIPMENT ON THE TOWER WILL BE INSTALLED PER THE JURISDICTION APPROVED DRAWINGS. ANY DEVIATION FROM THE DRAWINGS WILL REQUIRE A PLANNING APPROVAL STAMP. ALL EQUIPMENT MUST BE INSTALLED PER THE SLA (NOT TO EXCEED VERTICAL LEASE AREA).

NOTE:
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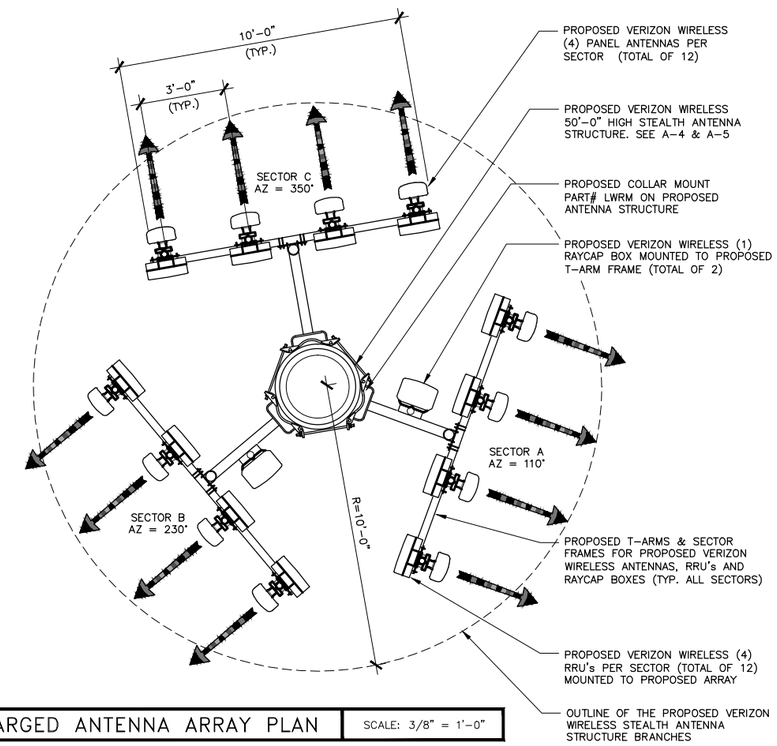
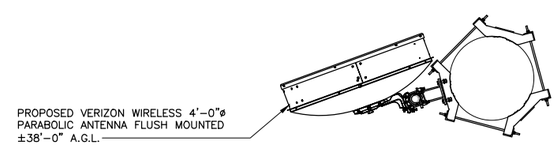
NOTE:
STEALTH ANTENNA STRUCTURE BRANCHES NOT SHOWN FOR CLARITY

NOTE:
ALL PROPOSED ANTENNAS AND EQUIPMENT MOUNTED TO PROPOSED ANTENNA STRUCTURE SHALL BE PAINTED TO MATCH THE PROPOSED STEALTH ANTENNA STRUCTURE BRANCHES. INSTALL PROPOSED COLLAR, T-ARMS & SECTOR FRAMES FOR PROPOSED TOWER EQUIPMENT



ENLARGED ANTENNA ARRAY PLAN | SCALE: 3/8" = 1'-0"



ENLARGED ANTENNA DISH PLAN | SCALE: 1/2" = 1'-0"

COAX/ANTENNA SCHEDULE

ANTENNA SECTOR	AZIMUTH	NUMBER OF ANTENNAS	NUMBER OF RRU's	COAX LENGTH	COAX SIZE
ALPHA	110°	4	4	60'±	7/8"
BETA	230°	4	4	60'±	7/8"
GAMMA	350°	4	4	60'±	7/8"
GPS	–	2		40'±	
MW DISH	–	1		55'±	7/8"

NOTE: CONSTRUCTION MANAGER TO FIELD VERIFY CABLE LENGTHS PRIOR TO OPENING, FABRICATION, OR INSTALLATION OF CABLES CHECK RF DATA SHEET.

NORTH

ENLARGED ANTENNA PLAN & COAX/ANTENNA SCHEDULE | SCALE: AS SHOWN | 2

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CARLSBAD, CA 92008

PROJECT NO:	T143451
DRAWN BY:	RD
CHECKED BY:	MMR

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GRAPEWIN
8306 GRAPEWIN STREET
EASTVALE, CA 92880
RIVERSIDE COUNTY

SHEET TITLE
ENLARGED SITE & ANTENNA PLAN

SHEET NUMBER
A-2

LANDSCAPING GENERAL NOTES:

ALL PLACEMENT OF LANDSCAPING SHALL MEET THE FOLLOWING CONDITIONS:

ALL PLANT MATERIAL SHALL BE PLANTED IN A MANNER WHICH IS NOT TO INTERFERE WITH OVERHEAD WIRES OR BE INTRUSIVE TO UTILITIES OR PAVEMENT.

NO TREES OR OTHER LANDSCAPING SHALL BE LOCATED CLOSER THAN 10 FEET TO A FIRE HYDRANT OR OTHER ABOVE GROUND UTILITIES.

NO LANDSCAPING SHALL INTERFERE WITH SITE REQUIREMENTS FOR SAFE INGRESS AND EGRESS.

NOTE:
- ANY AREA ALTERED FROM CONSTRUCTION TO BE RETURNED TO ITS ORIGINAL STATE. GRASS AREA SHALL BE SEEDED AND MAINTAINED UNTIL SEEDS HAVE GERMINATED.
- REFERENCE SURVEY BY DIAMONDBACK LAND SURVEYING DATED FEBRUARY 10, 2015 FOR ALL EASEMENT & LEASE DESCRIPTIONS

INSTALLATION STANDARDS:

1. PLANT MATERIAL SHALL CONFORM WITH THE CURRENT AMERICAN STANDARDS FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN FOR THAT TYPE OF TREE OR SHRUB AT THE TIME OF INSTALLATION.
2. ALL TREES SHALL BE GROWN IN A NURSERY LOCATED IN THE STATE OF CALIFORNIA.
3. ALL PLANT MATERIAL SHALL BE INSTALLED FREE OF DISEASE AND IN A MANNER THAT ENSURES THE AVAILABILITY OF SUFFICIENT SOIL AND WATER TO SUBSTAIN HEALTHY GROWTH.
4. ALL TAGS, WIRES, PLASTIC TIES AND ROPE SHALL BE CUT FROM EACH TREE TO PREVENT GIRDLING OF THE TREE. THE BURLAP SHALL BE PULLED BACK FROM THE UPPER THIRD OF THE ROOTBALL. IF A PLASTIC 'BURLAP' IS USED, IT SHALL BE REMOVED IN ITS ENTIRETY FROM THE ROOTBALL.
5. ALL PLANT MATERIAL SHALL BE PLANTED WITH A MINIMUM OF DEPTH OF THREE (3) INCHES OF MULCHED MATERIAL AND A DIAMETER OF THREE (3) AROUND THE BASE OF THE TREE.
6. TREES SHALL BE STAKED WITH POSTS AND NOT STAKES IN AREAS OF HIGH WIND FOR ONE TO THREE YEARS TO ALLOW THE GROWTH OF PROPOSED ROOTS TO STABILIZE. ALL ROPES SHALL BE COVERED TO PREVENT CUTTING INTO THE BARK.
7. ANY EXCESS SOIL, CLAY, OR CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE PLANTING SITE, PRIOR TO PLANTING OF INDIVIDUAL TREES AT FINAL GRADE.
8. THE JURISDICTION, AT ITS DISCRETION, HAS THE RIGHT TO RETAIN A PROFESSIONAL LANDSCAPE ARCHITECT OR ARBORIST TO REVIEW SUBMITTED LANDSCAPE PLAN AND THE PROFESSIONAL LANDSCAPE ARCHITECT OR ARBORIST WILL SUBMIT A WRITTEN REPORT TO THE PLANNING AND ZONING COMMISSION. ALL EXPENSES INCURRED BY THE JURISDICTION FOR THE USE OF THE LANDSCAPE ARCHITECT OR ARBORIST SHALL BE REIMBURSED BY THE DEVELOPER.

PLANTING SEASONS:

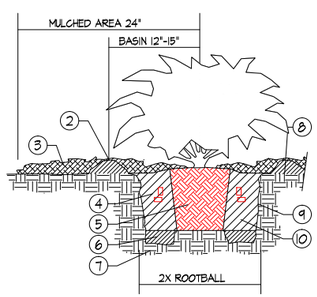
1. PLANTS MUST BE PLANTED DURING THE FOLLOWING DATES: APRIL 1ST TO MAY 15TH AND SEPTEMBER 1ST TO OCTOBER 1ST
2. THE PLANTING PERIODS INDICATED MAY BE EXTENDED DUE TO WEATHER CONDITIONS OR OTHER FACTORS, WHICH MUST BE APPROVED BY THE LANDSCAPE ARCHITECT/ENGINEER.
3. THE CONTRACTOR WILL BE RELIEVED OF HIS GUARANTEE RESPONSIBILITY SHOULD THE OWNER REQUIRE PLANT MATERIAL INSTALLATIONS TO BE COMPLETED DURING OTHER TIMES THAN THE PLANTING PERIODS INDICATED.

PLANTING:

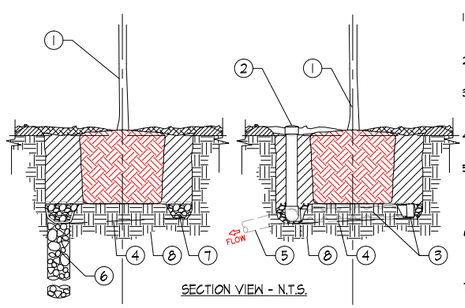
1. ALL SHADE TREES, ORNAMENTAL TREES, EVERGREEN TREES AND SHRUBS SHALL BE PLANTED IN HOLES EXCAVATED AT LEAST 3x THE WIDTH OF THE DIAMETER OF THE BALL OR CONTAINER AND DEEP ENOUGH SO THAT THE TOP OF THE BALL OR SOIL IN THE CONTAINER IS AT OR JUST ABOVE EXISTING GRADE.
2. ALL TWINE OR ROPE MUST BE CUT AND REMOVED AND THE BURLAP FOLDED AWAY FROM THE TOP OF THE BALL. THE EXCAVATION MUST BE BACKFILLED WITH THE PLANTING MIXTURE AND WATERED. ANY SETTLEMENT WILL BE FILLED WITH PLANTING MIXTURE.
3. A 4" DEEP SAUCER, SIMILAR TO THE DIAMETER OF THE PLANTING HOLE SHALL BE CREATED USING PLANTING MIX.
4. PLANTING MIX TO CONSIST OF 1/3 TOP SOIL, 1/3 SOIL FROM EXCAVATION, AND 1/3 MUSHROOM COMPOST (OR 1/3 PEAT MOSS).

CLEAN UP:

1. ALL DEBRIS GENERATED DURING THE INSTALLATION OF PLANT MATERIALS MUST BE REMOVED FROM THE SITE.
2. ALL PAVEMENTS AND WALKS MUST BE SWEPT AFTER EACH DAYS WORK. UPON COMPLETION OF THE WORK, ALL PAVEMENTS MUST BE WASHED TO REMOVAL MUD OR DIRT.



SECTION VIEW - N.T.S.



SECTION VIEW - N.T.S.

1. PLANT, SET TOP OF ROOTBALL 1-2" ABOVE FINISH GRADE- SEE PLANT PIT DETAIL
2. 4" OBSERVATION STANDPIPE WITH THREADED REMOVABLE CAP
3. 4" DIA. PERFORATED PVC PIPE 'U', DRAIN TOWARDS OUTLET, WRAP IN FILTER FABRIC
4. SLOPE PIT BOTTOM TO DRAIN TOWARDS OBS. STANDPIPE-SUMP
5. 4" DRAIN PIPE OUTLET TO LANDSCAPE DRAIN SYSTEM OR DAYLIGHT DOWNHILL INTO 1CU. FT. GRAVEL DISSIPATOR WRAPPED IN FILTER CLOTH- BURIED
6. AUGER 8" DIA. HOLE 6' DEEP OR BELOW HARDPAN LAYER. FILL WITH GRAVEL. VERIFY POSITIVE DRAINAGE BEFORE PLANTING.
7. GRAVEL LAYER AT BOTTOM COVERED WITH FILTER CLOTH
8. NATIVE GRADE

PERCOLATION TEST

DIG A HOLE 12 INCHES WIDE AND DEEP, SCARIFY SIDES AND BOTTOM. FILL THE HOLE WITH WATER TO PRE MOISTEN THE SOIL (IMPORTANT FOR ACCURATE TEST). THE NEXT DAY RE-FILL THE HOLE, MEASURE HOURLY-IF THE WATER TAKES FROM THREE TO 12 HOURS TO DRAIN, THEN THE DRAINAGE IS ADEQUATE FOR MOST LANDSCAPE PLANTS (ABOUT 1 INCH PER HOUR). IF IT TAKES MORE THAN 12 HOURS, THEN THE DRAINAGE IS POOR. BUT BEFORE CORRECTIVE ACTION IS TAKEN, DIG DEEPER TO SEE IF THERE IS AN IMPERMEABLE LAYER OF SOIL RESTRICTING WATER MOVEMENT, BREAK UP ANY IMPERMEABLE LAYER AND REPEAT THE TEST.

PLANTING DETAILS | SCALE: NTS | 1

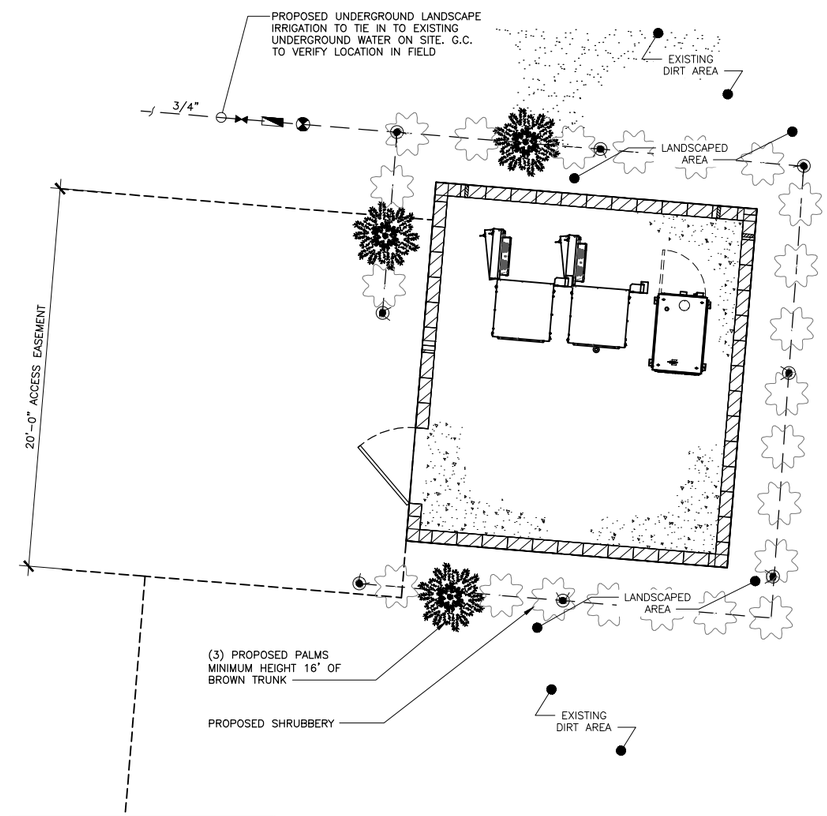
SPRINKLER HEADS

SYMBOL	DESCRIPTION	DISCHARGE- Q	T	H	TT	GPM TQ	F	PSI	RADIUS	PRECIP RATE	
	5 SERIES STREAM BUBBLER SPRINKLER										
	RAIN BIRD #1806-5H-B 6" POP-UP SPRAY ROOT WATERING SYSTEM		1.0					30	5 FT.	1.83 IN/HR	G
	RAIN BIRD RWS-1404					1.0		30		---	

ANTI-DRAIN CHECK VALVES (ADV) SHALL BE INSTALLED AT ANY WATER OUTLET SUFFERING LOW HEAD DRAINAGE-USE RAINBIRD SAM'S FOR POP-UPS - USE HUNTER HCV 50M-50F OR VALCON V5000 SERIES AT RISERS.

EQUIPMENT LEGEND

- M — NEW WATER METER AND SERVICE LINE (VERIFY SIZES AND FUNCTION IN THE FIELD)
- FEBCO MODEL 715 BRASS PRESSURE TYPE BACKFLOW PREVENTER, 12" ABOVE HIGHEST OUTLET. USE NEW BACKFLOW ONLY IF EXISTING SYSTEM HAS NONE OR IS INOPERABLE
- NIBCO T-113/T1580A GATE/BALL VALVE (LINE SIZE)
- Y — WILKENS YSBR WYE STRAINER (LINE SIZE) (30 MESH OR GREATER)
- P — WILKENS #500 PRESSURE REGULATOR (LINE SIZE). INSTALL ONLY IF EXISTING STATIC PRESSURE IS GREATER THAN 80 P.S.I.
- RAIN BIRD EFB-CP SERIES REMOTE CONTROL VALVE-INSTALL IN SHRUB BEDS WHEREVER POSSIBLE IN RECTANGULAR VALVE BOX AT RIGHT ANGLES TO HARDSCAPE
- C R — RAINBIRD ESP-SMT CONTROLLER (4 STATION) IN OUTDOOR LOCKING WALL MOUNT BOX INSTALL INCLUDED "WEATHER STATION" ON FASCIA BOARD OR CONTROLLER BOX/PEDESTAL, SENSOR TO HAVE CLEAR VIEW OF SKY
- — — — PVC WATER PIPE CL. 200 3/4"- 1 1/2" (LATERALS)
- — W — PVC PIPE/SLEEVE SCH. 40 - 2" MIN. OR2X DIA. OF PIPE OR WIRE BUNDLE. INSTALL UNDER ALL STREET OR DRIVE CROSSINGS



NOTE:
THE EQUIPMENT ENCLOSURE SHOULD BE PAINTED TAN TO MATCH SURROUNDINGS.

NORTH

LANDSCAPE AND IRRIGATION PLAN | SCALE: 1/4"=1' | 2

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15505 SAND CANYON AVE.
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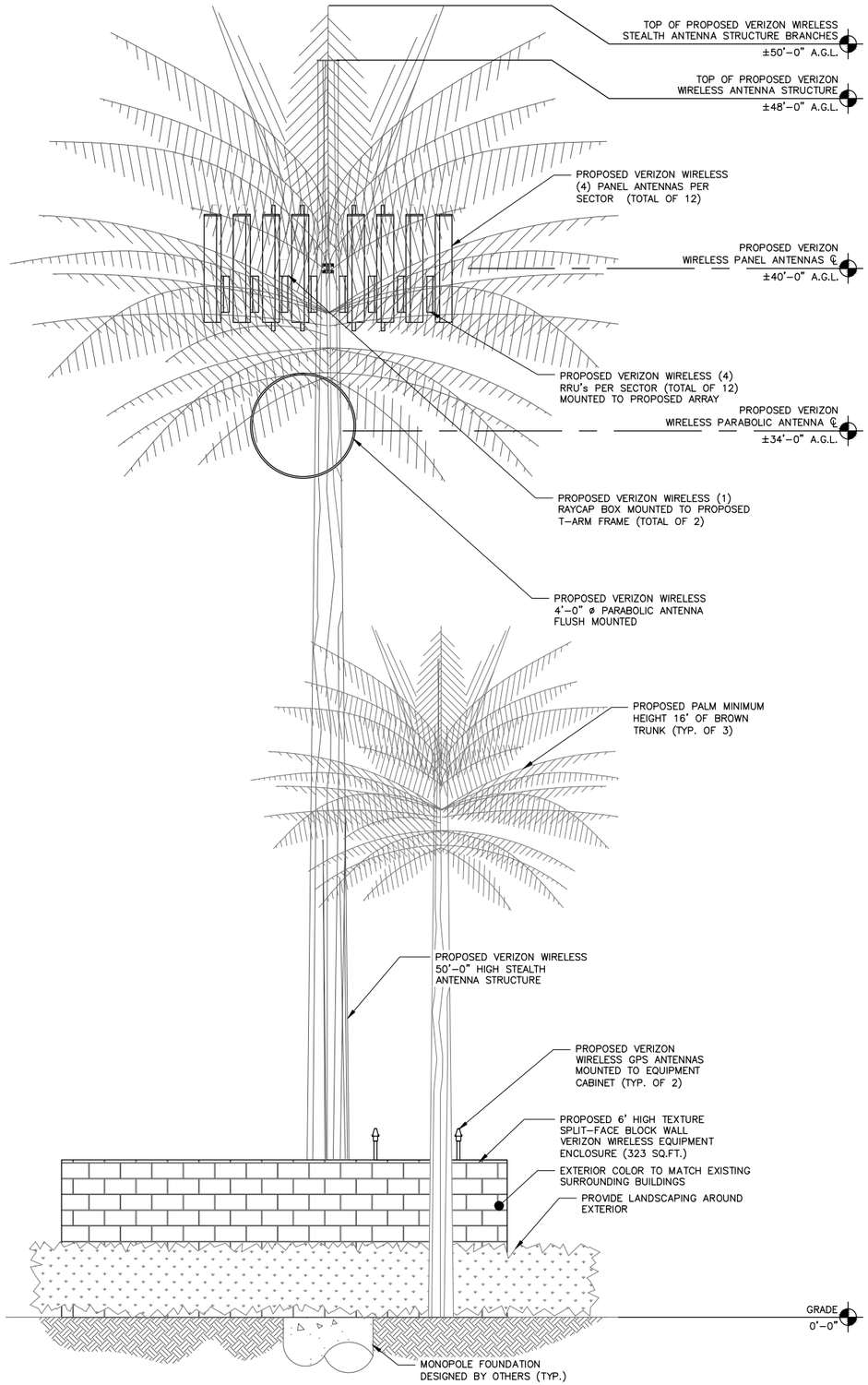
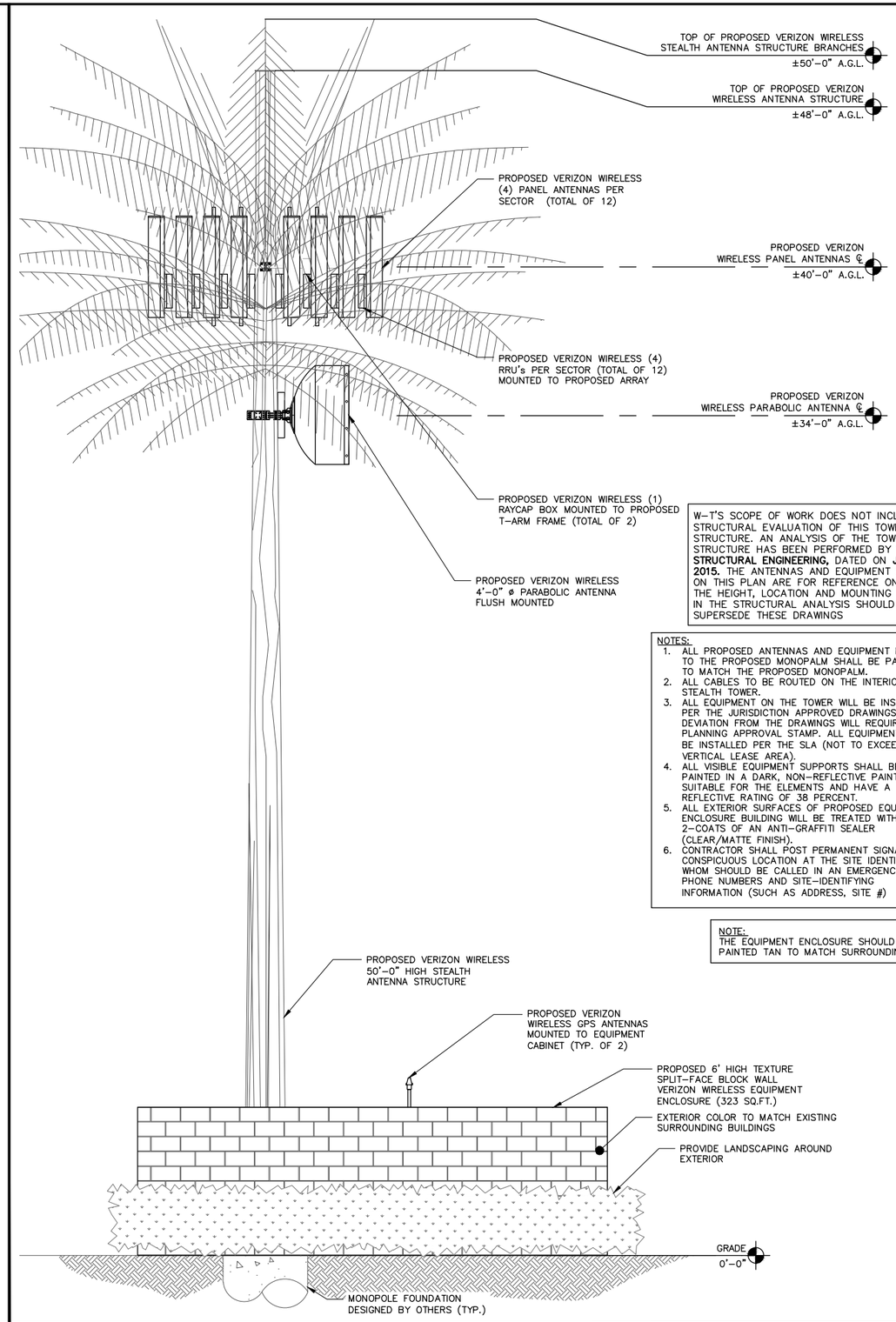
RIVERSIDE COUNTY

SHEET TITLE
LANDSCAPING

SHEET NUMBER
A-3



PROPOSED NORTH ELEVATION | SCALE: 3/8" = 1'-0" | 1



PROPOSED EAST ELEVATION | SCALE: 3/8" = 1'-0" | 2

W-T'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS TOWER OR STRUCTURE. AN ANALYSIS OF THE TOWER OR STRUCTURE HAS BEEN PERFORMED BY **VECTOR STRUCTURAL ENGINEERING,** DATED ON **JUNE 24, 2015.** THE ANTENNAS AND EQUIPMENT SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND THE HEIGHT, LOCATION AND MOUNTING SHOWN IN THE STRUCTURAL ANALYSIS SHOULD SUPERSEDE THESE DRAWINGS

NOTES:
1. ALL PROPOSED ANTENNAS AND EQUIPMENT MOUNTED TO THE PROPOSED MONOPALM SHALL BE PAINTED TO MATCH THE PROPOSED MONOPALM.
2. ALL CABLES TO BE ROUTED ON THE INTERIOR OF STEALTH TOWER.
3. ALL EQUIPMENT ON THE TOWER WILL BE INSTALLED PER THE JURISDICTION APPROVED DRAWINGS. ANY DEVIATION FROM THE DRAWINGS WILL REQUIRE A PLANNING APPROVAL STAMP. ALL EQUIPMENT MUST BE INSTALLED PER THE SLA (NOT TO EXCEED VERTICAL LEASE AREA).
4. ALL VISIBLE EQUIPMENT SUPPORTS SHALL BE PAINTED IN A DARK, NON-REFLECTIVE PAINT COLOR SUITABLE FOR THE ELEMENTS AND HAVE A REFLECTIVE RATING OF 38 PERCENT.
5. ALL EXTERIOR SURFACES OF PROPOSED EQUIPMENT ENCLOSURE BUILDING WILL BE TREATED WITH 2-COATS OF AN ANTI-GRAFFITI SEALER (CLEAR/MATTE FINISH).
6. CONTRACTOR SHALL POST PERMANENT SIGNAGE IN CONSPICUOUS LOCATION AT THE SITE IDENTIFYING WHOM SHOULD BE CALLED IN AN EMERGENCY, WITH PHONE NUMBERS AND SITE-IDENTIFYING INFORMATION (SUCH AS ADDRESS, SITE #)

NOTE:
THE EQUIPMENT ENCLOSURE SHOULD BE PAINTED TAN TO MATCH SURROUNDINGS.

verizon wireless
15505 SAND CANYON AVE.
BUILDING 'D' 1st FL.
IRVINE, CA 92618

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Las Vegas, NV 89123
PH: (702) 998-1000 FAX: (702) 998-1010
www.wtengineering.com
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SBC WIRELESS
5865 AVENIDA ENCINAS, STE. 142B
CARLSBAD, CA 92008

PROJECT NO:	T143451
DRAWN BY:	RD
CHECKED BY:	MMR

REV	DATE	DESCRIPTION
G	07/06/16	JURISDICTION COMMENTS
F	06/20/16	CITY COMMENTS
E	06/03/16	PER COMMENTS
D	08/24/15	CITY COMMENTS
C	08/21/15	LEGAL DISCRIPTION REVISION
B	07/07/15	100% ZONING DRAWINGS

NOT TO BE USED FOR CONSTRUCTION

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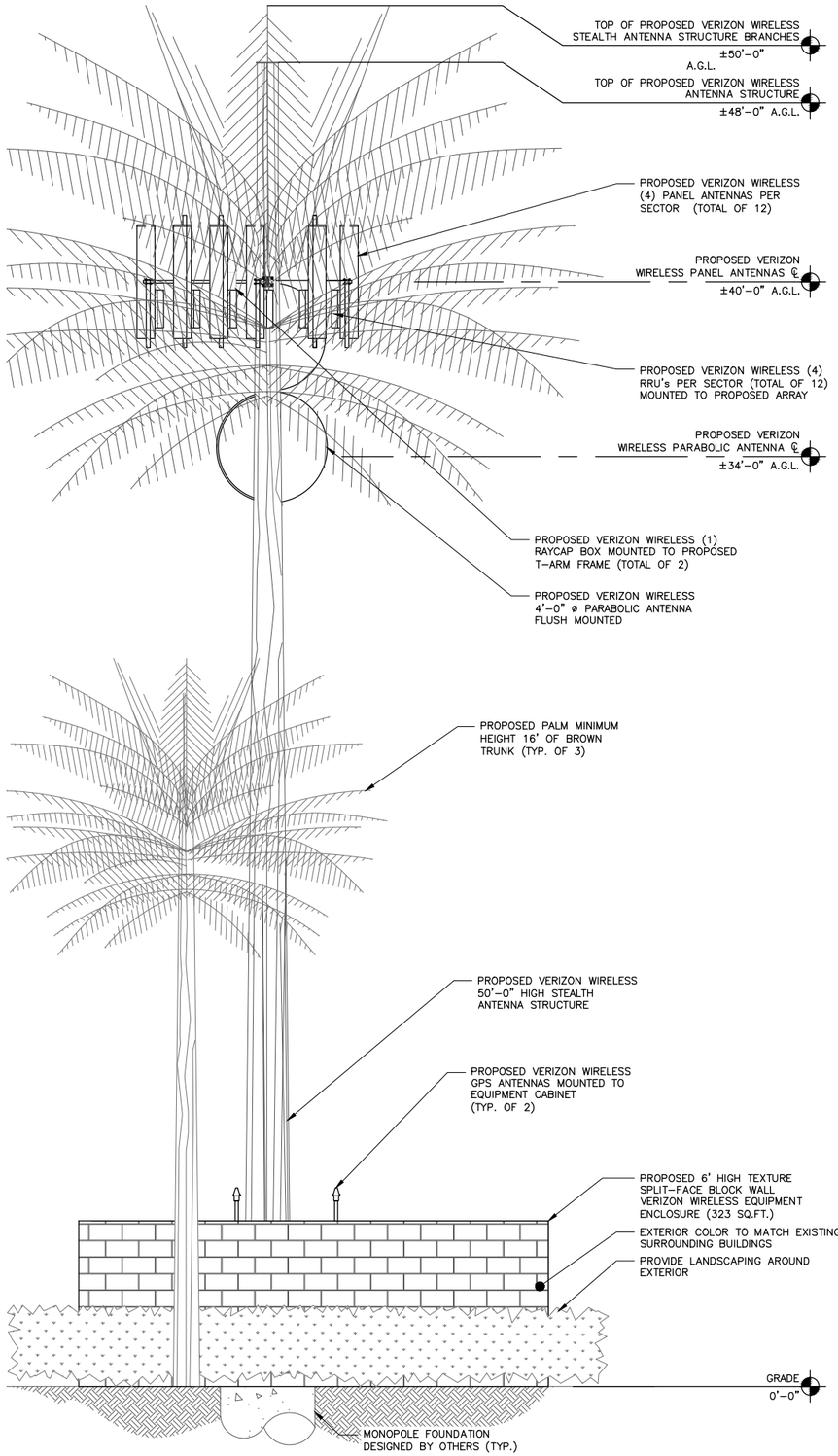
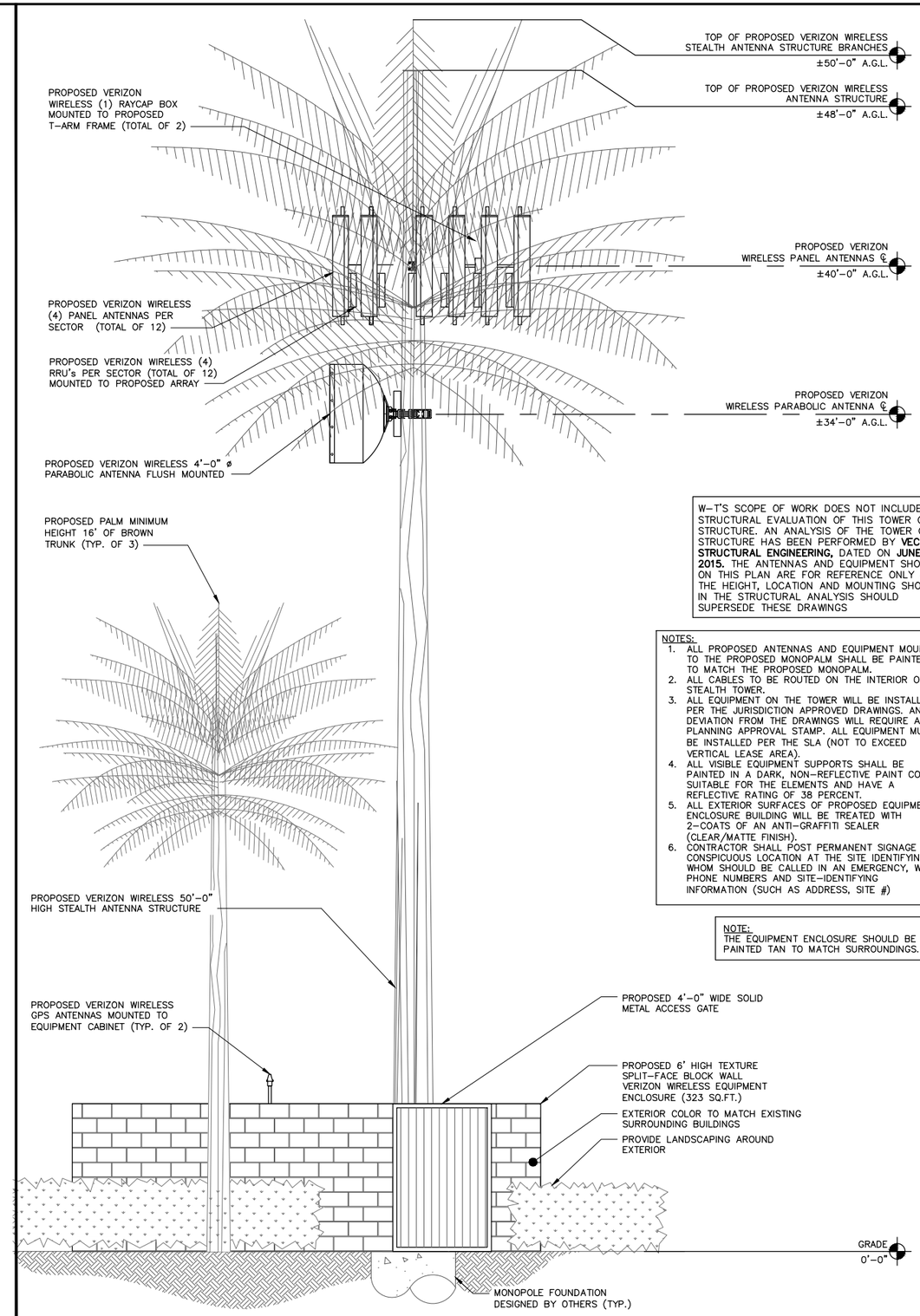
GRAPEWIN
8306 GRAPEWIN STREET
EASTVALE, CA 92880
RIVERSIDE COUNTY

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-4



PROPOSED SOUTH ELEVATION | SCALE: 3/8" = 1'-0" | 1



PROPOSED WEST ELEVATION | SCALE: 3/8" = 1'-0" | 2

W-T'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS TOWER OR STRUCTURE. AN ANALYSIS OF THE TOWER OR STRUCTURE HAS BEEN PERFORMED BY **VECTOR STRUCTURAL ENGINEERING,** DATED ON **JUNE 24, 2015.** THE ANTENNAS AND EQUIPMENT SHOWN ON THIS PLAN ARE FOR REFERENCE ONLY AND THE HEIGHT, LOCATION AND MOUNTING SHOWN IN THE STRUCTURAL ANALYSIS SHOULD SUPERSEDE THESE DRAWINGS

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NOTE:
THE EQUIPMENT ENCLOSURE SHOULD BE PAINTED TAN TO MATCH SURROUNDINGS.

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PROJECT NO:	T143451
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B	07/07/15	100% ZONING DRAWINGS

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GRAPEWIN
8306 GRAPEWIN STREET
EASTVALE, CA 92880
RIVERSIDE COUNTY

SHEET TITLE
ELEVATIONS

SHEET NUMBER
A-5

Request to the Mayor and to Eastvale City Council to uphold the Planning Commission's decision to deny Verizon's application for a cell phone tower on 8306 Grapewin Street (Project No. 15-1662)

TO: Eastvale City Council

FROM: Eastvale Residents

DATE: July 11, 2016

SUBJECT: Request to City Council to uphold the Planning Commission's decision to deny Verizon's application for a cell phone tower (Project No. 15-1662)

We, residents of Eastvale, request that the City Council uphold the Planning Commission's decision to deny Verizon's application for a cell phone tower on 8306 Grapewin Street (Project No. 15-1662). We would like to present the following facts for your consideration. Thank you for your time and service to our great city.

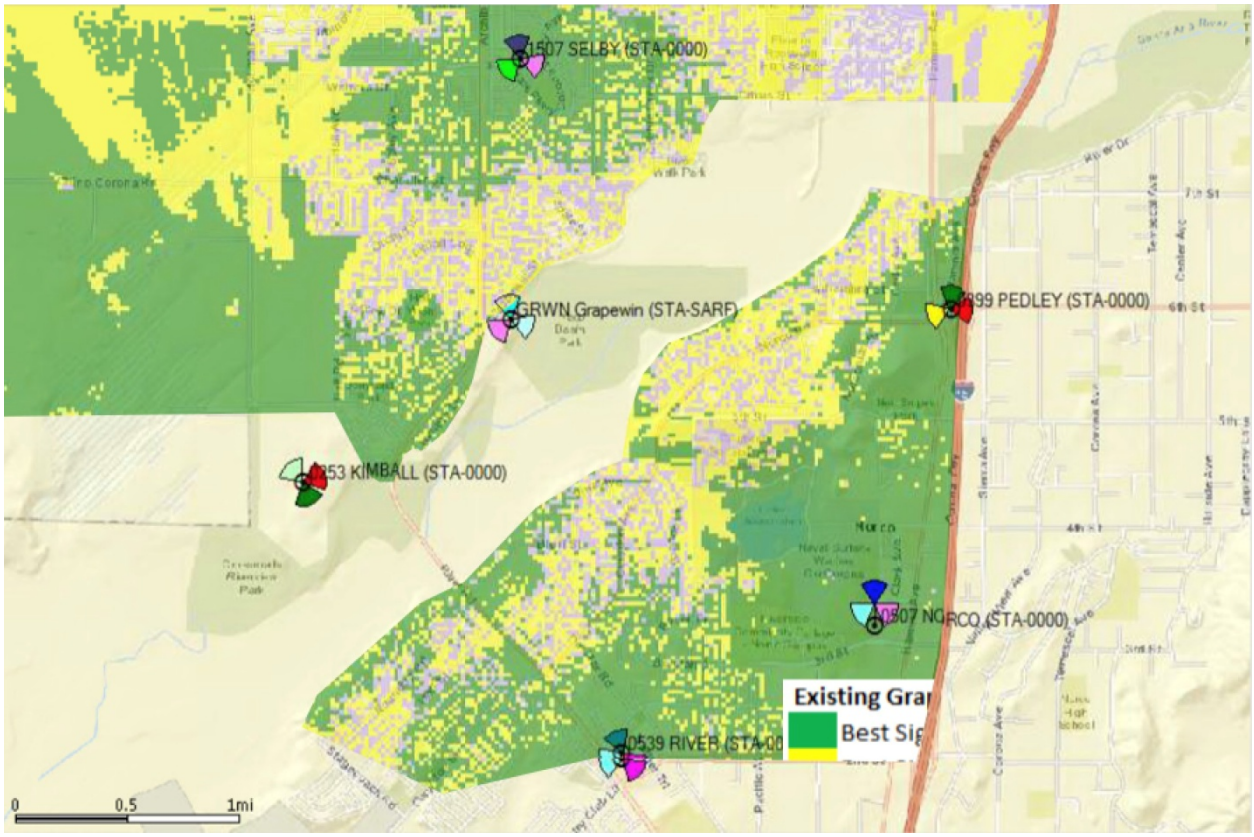
Not in compliance with Zoning Code

Section 4.14(A)(3) encourages "the use of existing … structures while taking into account the use of concealment technology." As discussed by Commissioner Bill VanLeeuwen, there are existing structures at Half Moon Park which is better centralized in the community providing better coverage to more residents and improved coverage to Ronald Regan Elementary (an area that has bad cell service).

Very Small Benefit to the Community

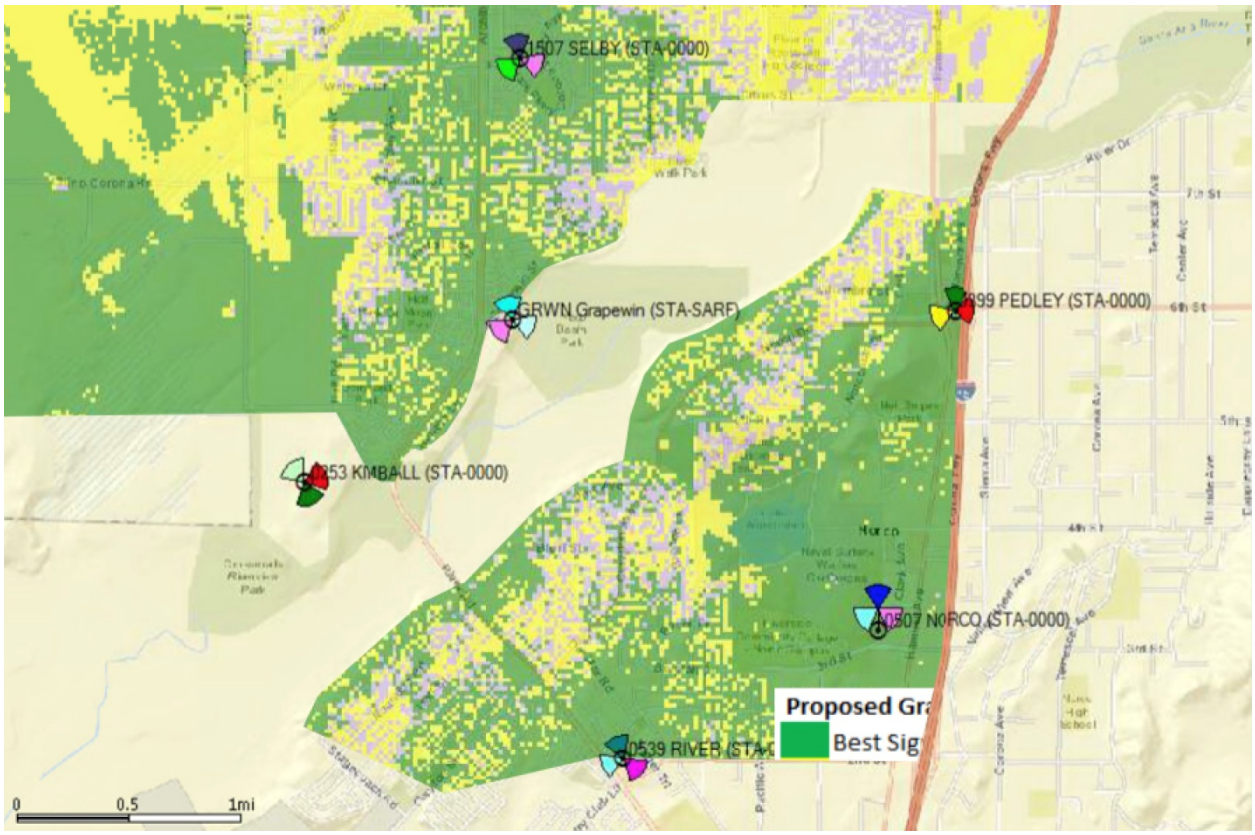
We, again, agree with the Planning Commission's finding that most of the proposed "new" coverage area is located in the area serving Norco and the Santa Ana River where there are no residents. We agree with the Planning Commission's statement that "the proposed facility at the proposed location would not enhance wireless service to the community for which it is being proposed."

Below is the map Verizon provided taking out the Santa Ana River. As you can see the Planning Commission was correct that the cell phone tower is covering more of the Santa Ana River and Norco than Eastvale.



Current Cell Phone Coverage (above)

Proposed Cell Phone Coverage (below)



No Adequate Site Analysis Performed

Verizon's site analysis only included 7 locations, all of which were in a row, and 3 of which were residential homes. Verizon has a responsibility to perform a more thorough site analysis – especially locations that better serve the residents of Eastvale and locations that are compliant with our zoning code (using existing structures, i.e. Half Moon Park).

There are already existing cell phone towers at Huber Park, Harada Heritage Park, McCune Family Park, Orchard Park and Providence Ranch Park (proposed).

Citizens do not want the Tower in the backyard of a residence.

Several hundred signatures were collected from Eastvale residents who oppose the tower being built in a residential backyard. When discussing the topic with residents they agree with the Planning Commission's findings that "the proposed facility at the proposed location would not enhance wireless service to the community for which it is being proposed" and that "the use of an existing … structure" would better serve our city.

Verizon mislead the Planning Commission on coverage area

Figure 1 on the Alternative Site Analysis provided by Verizon shows existing tower sites including a Verizon Tower across the river in Norco. Figure 2 of existing coverage does not show that tower neither does figure 1 of vicinity map or figure 3 of proposed coverage area. We believe coverage from the tower not shown on the map is registration # 1251588 (SBA 2012 TC Assets, LLC) or 1266341 (Horvath Towers, LLC).

Visual Nuisance

There is no need for an additional visual nuisance when there are existing structures that are more suitable (refer to section 4.14(A)(3) of the zoning code). Again there are existing cell phone towers at Huber Park, Harada Heritage Park, McCune Family Park, Orchard Park and Providence Ranch Park (proposed).

Tower is effectively only 15 feet high, not 50 feet above the adjoining properties and homes.

The proposed tower location is approximately 30' below street level. With the transmitters several feet below the top of the 50' monoplam, the tower is only approximately 15' above street level. Microwave radio relay transmits data "between two locations on a line of sight radio path." The signals from this tower will be diluted since they will be going through dozens of second stories of homes before it attempts to reach all other Eastvale cell towers which are approximately 45' above the ground.

Noise

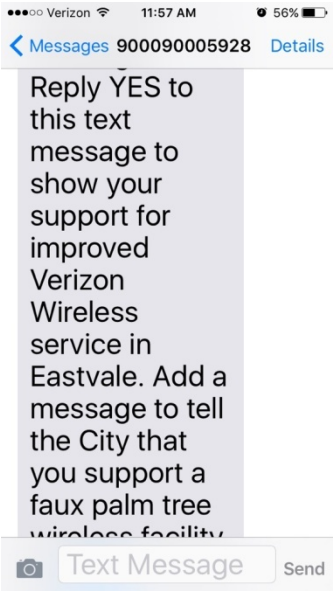
Wireless carriers require access for maintenance 24 hours a day, 365 days a year, and maintenance (most often done at night) brings trucks with lifts, generators, radios, and lights. This maintenance work is typically done at night (late) to avoid impacting daytime users. This noise and lights propagate in all directions and affect many neighbors. This commercial activity is not appropriate in a residential backyard. You can see what it's like to live next to a cell phone tower by watching here: https://www.youtube.com/watch?v=QCaOazQauvc.

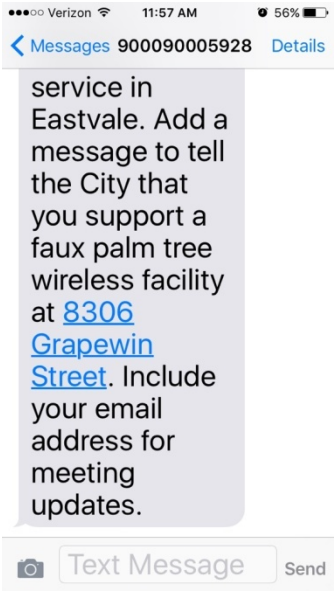
Privacy Concerns

The proposed cell tower is 50 feet tall, and as noted earlier, effectively 15' in height from street level. Anyone working on the tower would have an unobstructed view straight into children's bedrooms - this is unacceptable!

Verizon presented inaccurate facts regarding the text message they sent

Verizon presented a large amount of supposedly Eastvale residents who are in favor of the tower and only one opposed based on a text message they sent out. Below is a copy of the text message. The message was apparently not sent to only Eastvale residents but based on a ping from their cell phone towers for all of those in the service ~~vanity~~ vicinity including numerous non-residents. In addition, in its text message Verizon did not provide the option to oppose the tower.





We again urge the City Council to uphold the Planning Commission's decision to deny Verizon's application for a cell phone tower on 8306 Grapewin Street. Thank you for your time, consideration and service to our community.

Sincerely,

Sean McMullin	Heidi McMullin	Kurt DeSteuben	Adele DeSteuben
Brad Peacock	Suzie Peacock	Nazar Kalayji	Deanne Kalayji
John Ingratz	Rosa Ingratz	Bashar Madani	

And all of the following signers of the petition to stop this cell towers.

SCHWARTZ HYDE & SULLIVAN, LLP

TIMOTHY K. GARFIELD
LAUREL LEE HYDE
KEVIN P. SULLIVAN

WILLIAM W. SCHWARTZ, JR.
(1941-2011)

WWW.SANLAWYERS.COM

WRITER'S EMAIL:
KSULLIVAN@SANLAWYERS.COM

EIN: 33-0718779

July 8, 2016

Via Email Only

Mayor Ike Bootsma
and Councilmembers
City of Eastvale
12363 Limonite Ave., Suite 910
Eastvale, CA 91752

Re: Verizon Wireless's Appeal of the City Planning Commission Denial Of Minor Development Plan No. 15-1662 for the Unmanned And Disguised Telecommunications Facility to be Located at 8306 Grapewin Street in Eastvale (Grapewin).

Mayor Bootsma and Councilmembers:

Our office represents Verizon Wireless ("Verizon") regarding the unmanned and disguised wireless telecommunications facility to be located at 8306 Grapewin Street in Eastvale (the "Property") pursuant to Minor Development Plan No. 15-1662 (the "Facility").

Verizon's unmanned Facility will use only a small fraction of the ground space of the Property, will disguise and shield the antennas, will mimic the look of a palm tree and blend in with other trees in the neighborhood, is removed from residential structures, and will not generate any new traffic or pedestrian trips to the Property. The Facility is needed to fill a significant gap in coverage for area residents, businesses and vehicle users.

Accordingly, Verizon requests that the Eastvale City Council grant the appeal and approve the Facility and its related environmental review document.

A. Verizon's Proposed Facility.

Verizon's Facility is required to address a substantial gap in coverage and capacity in the area. The Facility is needed to provide new or enhanced coverage to previously significantly underserved residential areas, to offload existing voice and data capacity demands from other nearby Verizon wireless facilities (Kimball and Selby), and to serve customers who travel on nearby segments of Archibald Avenue and other streets. The need to offload capacity stress on existing network infrastructure in the area is most likely due to an increase in customers using smartphones and a decrease in overall landline phone use.

General information about Verizon's proposed small unmanned Facility is:

- City Planning Staff reviewed the project for nearly one year before it recommended approval of Minor Development Plan No. 15-1662 and issued a Categorical Exemption under CEQA for the project, which necessarily determined that the project will not have any significant impacts as to aesthetics or other items.

- All antennas and equipment for the Facility will be disguised and screened from public views. The Facility is sited at the back of the Property and away from Grapewin Street. (**Exhibit 1**).

- The faux tree mimics the look of a palm and blends with several other palm trees in the area.

- Verizon's disguised Facility is 20 feet lower than the 70 foot height limit for the Zone, or nearly 30% below the maximum height allowed.

- The Facility has a total ground-level footprint of only about 323 square feet for the equipment enclosure on a large lot. That Facility footprint is only a fraction the size of the Property.

- The unmanned Facility will generate only a few maintenance trips to the site only every one to two months on average. This is effectively a zero ADT generation rate for the Facility.

B. Verizon's Facility Is Consistent With National and State Policies To Promote The Development Of Wireless Communications Networks Within The City.

Approval of Verizon's proposed disguised Facility is consistent with many laws and policies that promote the rapid and broad development of wireless communications networks, including:

- As of 2011, the Federal Communications Commission ("FCC") found that **about 70% of all E911 calls originated from wireless devices**, and that percentage will continue to increase.[1] One of the main reasons that many people own a wireless phone is the ability to call 911 for help in an emergency.

[1] FCC Consumer and Governmental Affairs Bureau, Wireless 911 Services Fact Sheet (originally issued Feb. 1, 2011) (updated version found at https://transition.fcc.gov/cgb/consumerfacts/wireless911srvc.pdf).

- A U.S. Department of Health and Human Services report found, as of 2013, that 41% of U.S. homes had only wireless telephones, up from 30% in 2010.[2]

- The FCC determined that the volume of consumer data transmissions utilizing carriers' national mobile networks **will increase by almost 800% between 2013 and 2018**.[3] The growing consumer capacity demands demonstrate the importance of wireless broadband communications networks to the U.S.'s economic growth, global competitiveness, and civic life.[4]

- The State Legislature stated that the timely deployment of wireless telecommunications facility networks has a significant beneficial economic impact in California. (Government Code section 65964.1(c)).

C. Verizon's Facility Complies With All Health Safety Regulations And Is Safe.

Verizon's Facility is required to comply, and will comply, with all laws and regulations on health safety. This includes all FCC laws on radio frequency waves. Verizon earlier provided the City with a May 12, 2016, report from qualified experts (Hammett & Edison, Inc.) that explained the Facility complies with all FCC regulations and is safe.

In addition, the FCC and other organizations have determined, based on a consensus review of many scientific studies, that telecommunications service base stations (antenna sites) are safe. Information about the health safety of such facilities includes:

- American Cancer Society - *http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/cellular-phone-towers* ("Public exposure to radio waves from cell phone tower antennas is slight for several reasons. The power levels are relatively low, the antennas are mounted high above ground level, and the signals are transmitted intermittently, rather than constantly. At ground level near typical cellular base stations, the amount of RF energy is thousands of times less than the limits for safe exposure set by the US Federal Communication Commission (FCC) and other regulatory authorities. It is very unlikely that a person could be exposed to RF levels in excess of these limits just by being near a cell phone tower.")

- FCC Radio Frequency Safety - *http://www.fcc.gov/general/radio-frequency-safety-0* and

[2] FCC Report and Order No. 14-153 (October 21, 2014) page 4, notes 3-4, and http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201407.pdf.
[3] FCC Report and Order No. 14-153 (October 21, 2014) page 4, note 6.
[4] FCC Report and Order No. 14-153 (October 21, 2014) page 4, note 8.

https://www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety#Q15 ("The RF emissions from cellular or PCS base station antennas are generally directed toward the horizon in a relatively narrow pattern in the vertical plane. In the case of sector (panel) antennas, the pattern is fan-shaped, like a wedge cut from a pie. As with all forms of electromagnetic energy, the power density from the antenna decreases rapidly as one moves away from the antenna. Consequently, ground-level exposures are much less than exposures if one were at the same height and directly in front of the antenna.")

- World Health Organization - *http://www.who.int/peh-emf/about/WhatisEMF/en/index1.html* (Telecommunications base stations add little to the total ambient radio frequency signals as signal strengths are typically similar to or lower than signal strengths from distant radio and TV stations.)

D. Verizon's Facility Fills A Significant Gap In Coverage And Was Sited In The Least Intrusive Means.

The Facility fills a large gap in coverage in the densely populated residential communities, and any businesses, near Archibald Avenue. (*See* coverage maps attached as **Exhibit 2**, and aerial photo of the community attached as **Exhibit 3**). Verizon's RF engineer's supplemental letter dated July 6, 2016, which is submitted to the City along with this correspondence, explains that the Grapewin site is needed to relieve significant network stresses due to other nearby existing Verizon sites called as "Kimball" and "Selby" that are operating at around full capacity. Those stresses cause lack of voice coverage and connectivity, dropped calls and lack of call reliability, and slow data processing speeds in the area.

Further, materials were earlier submitted to the City by Verizon on about June 8, 2016, regarding Verizon's customers' support for the Facility. Over a period of five (5) days recently, 933 Verizon customers responded to a text message inquiring about support for the Facility and for improved services in the community.

Street segments of Archibald Avenue are also provided substantially improved voice and data services by the Facility. (*See* **Exhibits 2** and **3**). Archibald Avenue between N. River Road and Chandler Street supports a total of 12,000-12,500 average daily traffic trips (ADTs) based on the County of Riverside Transportation Department, Traffic Counts – 2014, which is found at http://rctlma.org/Portals/7/documents/WEB%20COUNTS.pdf. Archibald Avenue is used by City residents.

Verizon reviewed a reasonable range of alternative sites within the limited search ring related to the nearby Kimball and Selby facilities in Verizon's network. But no feasible alternative locations were found for leasing or were adequate to place a disguised facility. No viable co-location sites were found. The search ring area is in a section of Eastvale that is

largely developed with a majority of residential uses, has limited commercial properties (including any multi-story buildings tall enough to support a rooftop facility that can achieve Verizon's coverage objective), and is bordered to the east by the Santa Ana River Valley (where facilities are difficult to site due to sensitive habitat and topography). (*See* **Exhibit 4**, City Zoning Map and Verizon's planning consultant's narrative discussion of the lack of alternative sites in the area; see **Exhibit 5**, an alternative site analysis prepared by Verizon's planning consultant.)

No substantial evidence therefore supports the Planning Commission's denial decision on the supposed grounds that existing co-location options exist. No such feasible opportunities are available in the area.

Further, no substantial evidence supports the Planning Commission's denial decision on the supposed grounds that Eastvale residents and businesses would not be served by the Facility. Coverage maps (**Exhibit 2**), the aerial photo of the area (**Exhibit 3**), as well as the Zoning Map (**Exhibit 4**) all conclusively demonstrate that the Facility would provide improved coverage and capacity to City residents. No substantial evidence contradicts this information.

E. The Facility Will Not Result In Any Material Visual Impacts.

No substantial evidence supports the Planning Commission's belated denial decision claim that the Facility will have aesthetic impacts. No material visual impacts will result from the Facility for the following reasons:

- The faux tree Facility has a minimal footprint, will mimic the look of a palm tree, will blend in with several other palm trees in the area, is setback far away from a public road, and is about 30% under the maximum allowable height for the zone.

- The faux tree design disguises and shields the antennas. (**Exhibit 1**).

- The proposed Categorical Exemption decision by the City Planning Department necessarily determined that the Facility would not cause any significant aesthetic or other impacts. No substantial evidence contradicts this conclusion.

* * * * *

Verizon looks forward to addressing the significant gap in coverage and capacity in the area by installing the proposed faux tree Facility. An application for the Facility was filed with the City in June 2015, more than 1 year ago. The Facility complies with all City codes and regulations for the site. The Facility will blend in with the visual elements in the area.

Accordingly, Verizon requests that the City Council grant the appeal and approve the CUP for the Facility, together with its CEQA Categorical Exemption.

Please include this letter as part of the administrative record for the Facility application. Please let me know if you have any questions about this matter. Thank you.

Sincerely,

/s/

Kevin P. Sullivan, Esq.

Copies: John Cavanaugh, Esq. (via email)
Eric Norris (via email)
Marc Donohue (via email)
Kanika Kith (via email)
Shannon Champion, Esq. (via email)
Glenn Stock (via email)
Jane Collier (via email)
Ahmad Smith (via email)
Courtney Standridge (via email)

EXHIBIT 1

EXHIBIT 1

VICINITY MAP
PHOTOSIMULATION VIEWPOINTS

verizonwireless

GRAPEWIN

8306 GRAPEWIN STREET
EASTVALE, CA 92880
RIVERSIDE COUNTY

WIRELESS
5015 SHOREHAM PLACE, SUITE 150
SAN DIEGO, CA 92122
OFFICE: (619) 736-3766

DISCLAIMER:

THIS PHOTOSIMULATION IS INTENDED AS A GRAPHICAL REPRESENTATION OF EXISTING AND PROPOSED SITE CONDITIONS BASED ON THE PROJECT / DRAWING PLANS. IT IS NOT INTENDED FOR CONSTRUCTION. ACTUAL, FINAL CONSTRUCTION MAY VARY

PHOTOSIMULATION VIEW 1

verizon wireless

GRAPEWIN

8306 GRAPEWIN STREET
EASTVALE, CA 92880
RIVERSIDE COUNTY

SAC WIRELESS
5015 SHOREHAM PLACE, SUITE 150
SAN DIEGO, CA 92122
OFFICE: (619) 736-3766

PHOTOSIMULATION VIEW 2

verizon wireless

GRAPEWIN

8306 GRAPEWIN STREET
EASTVALE, CA 92880
RIVERSIDE COUNTY

WIRELESS
5015 SHOREHAM PLACE, SUITE 150
SAN DIEGO, CA 92122
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PHOTOSIMULATION VIEW 3

verizon wireless

GRAPEWIN

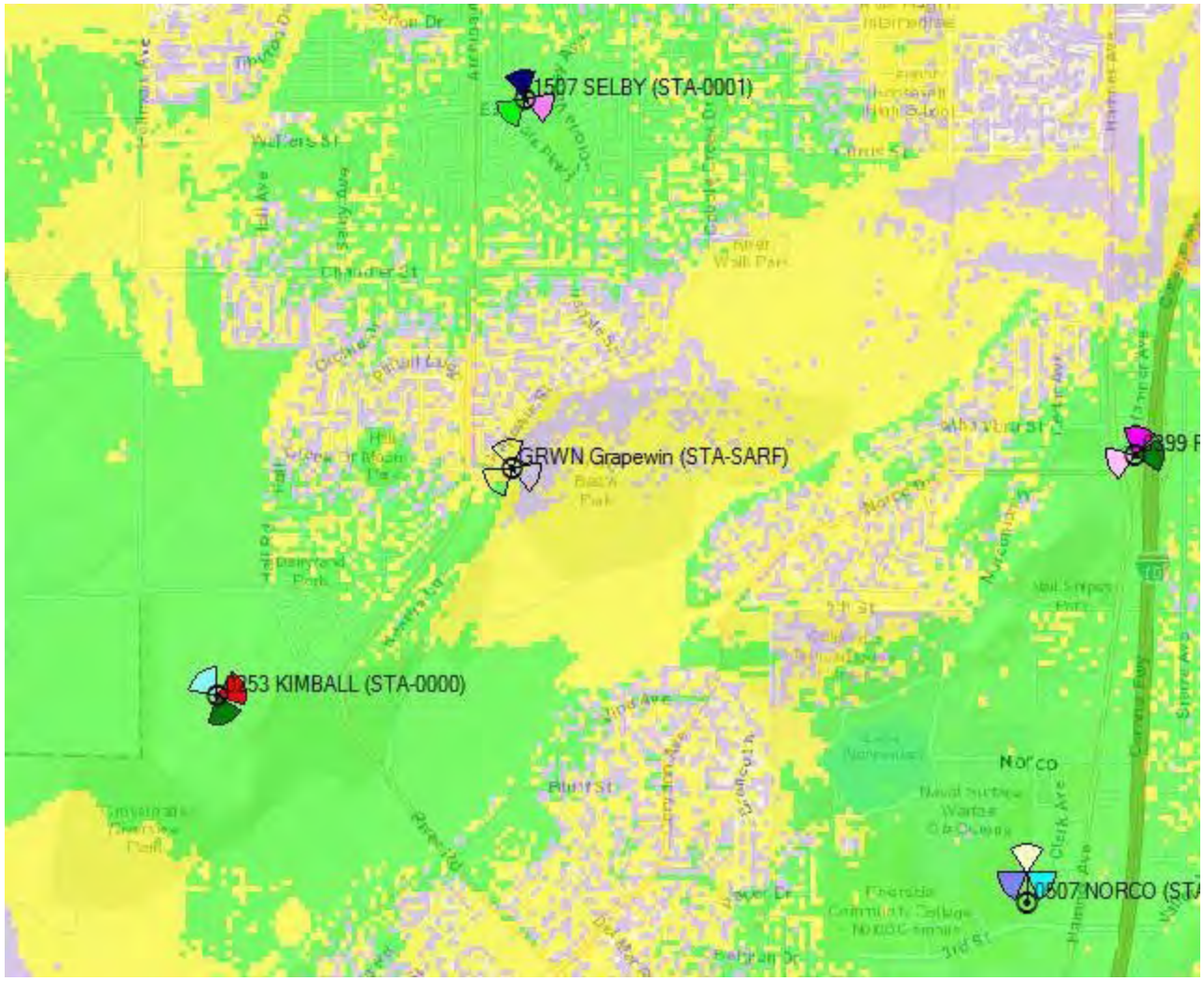
8306 GRAPEWIN STREET
EASTVALE, CA 92880
RIVERSIDE COUNTY

SAC WIRELESS
5015 SHOREHAM PLACE, SUITE 150
SAN DIEGO, CA 92122
OFFICE: (619) 736-3766

EXHIBIT 2

EXHIBIT 2

Existing Coverage



Proposed Coverage

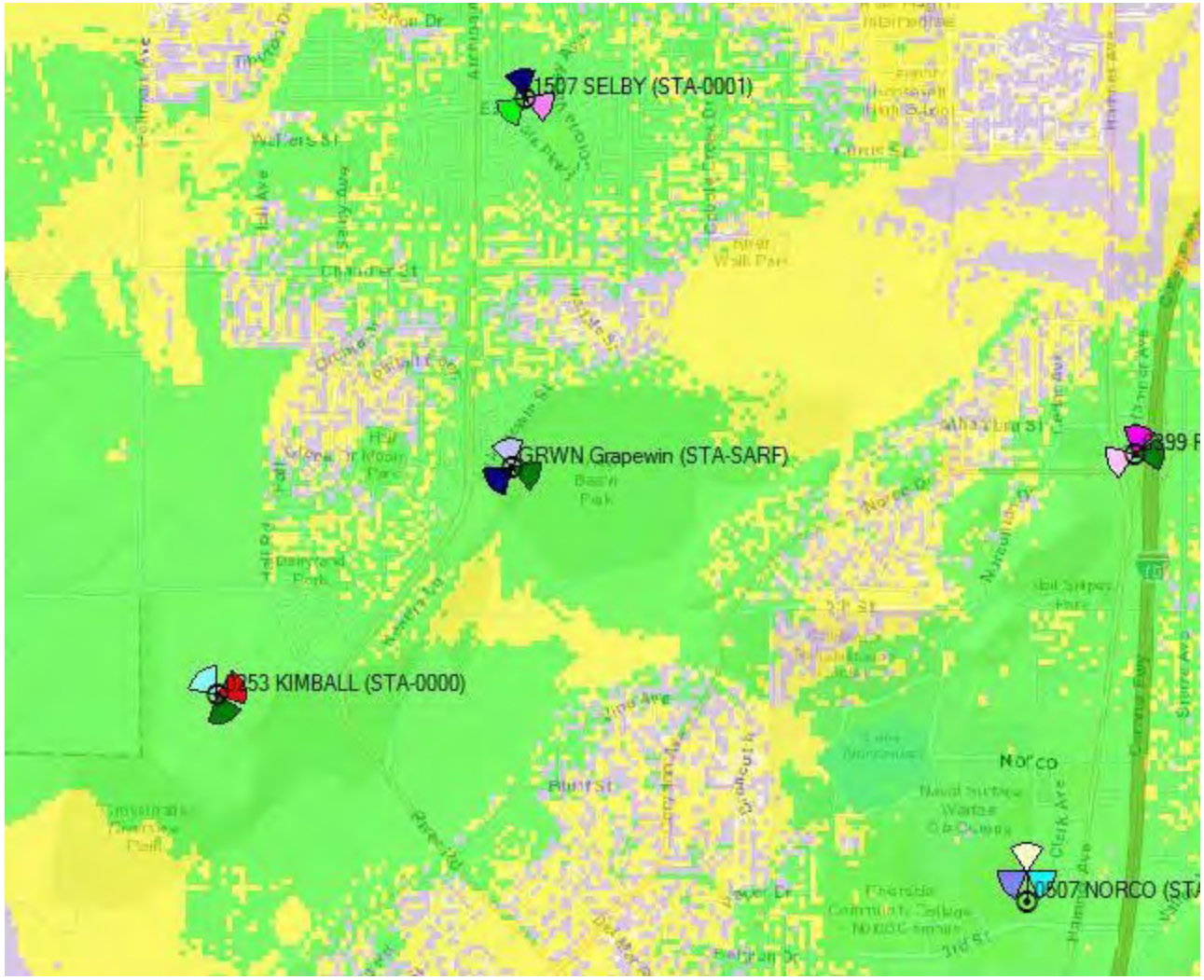


EXHIBIT 3

EXHIBIT 3

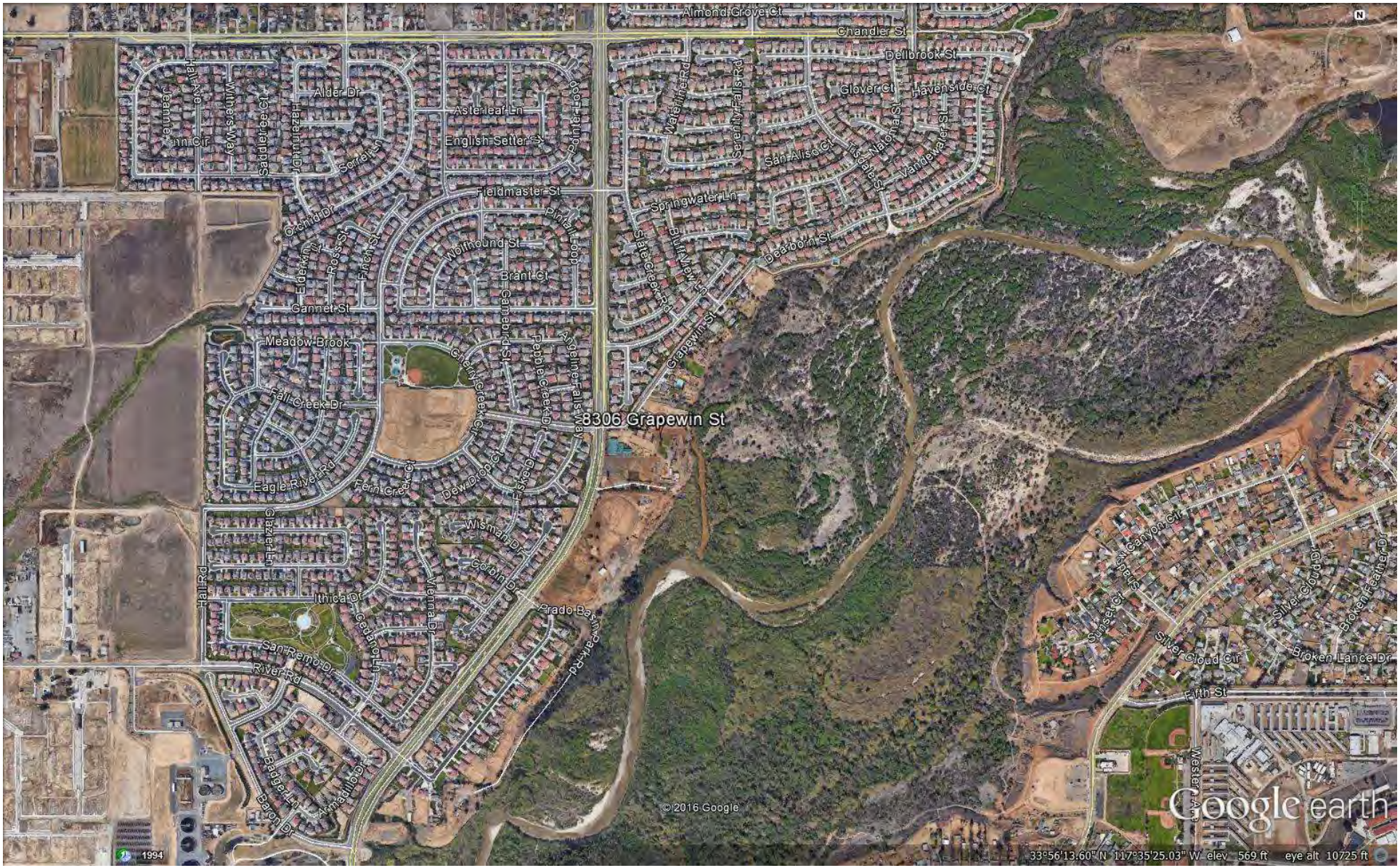
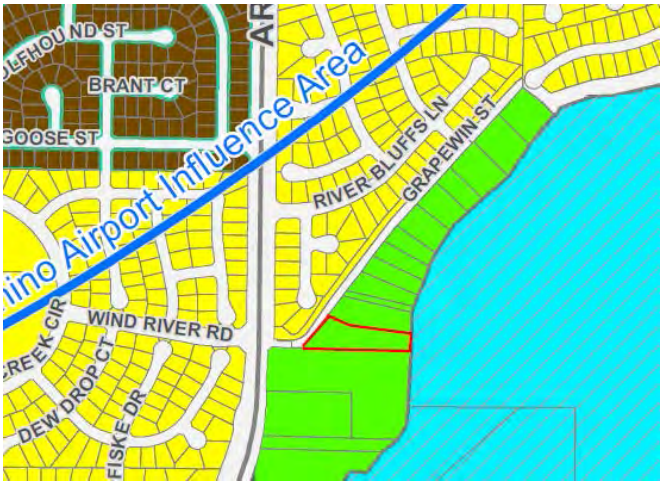

8306 Grapewin St
Almond Grove Ct
Chandler St
Dellbrook St
Glover Ct
Havenside Ct
Alder Dr
Asterleaf Ln
English Setter
Fieldmaster St
Springwater Ln
Dearborn St
Wolfhound St
Brant Ct
Gannet St
Meadow Brook
Fall Creek Dr
Eagle River Rd
Wisman Dr
Ithica Dr
San Remo Dr
River Rd
Hall Rd
Prado Basin
Oak Rd
Fifth St
Silver Cloud Ct
Broken Lance Dr
Broken Feather Dr
Silver Cloud Dr
Sunset Ct
Canyon Ct
Wester Ap
Badger Ln
Bison Dr
Amadillo Dr
Cetanon Ln
Velma Dr
Gerbin Dr
Dew Drop Ct
Fiske Dr
Pebble Creek Dr
Angelina Falls Way
Green Creek Ct
Gamebird St
Pinfall Loop
Ross St
Finch St
Edelweiss Ln
Orchid Dr
Serra Ln
Hazelnut Dr
Saddleridge Ct
Withers Way
Hawk
Jeannette Ln
Cir
Madelina Rd
Serenity Falls Rd
San Alisco Ct
Tidewater Ct
National St
Vandewater St
State Creek Rd
Bluff View Ln
Grapewin St
© 2016 Google
Google earth
1994
33°56'13.60" N 117°35'25.03" W elev 569 ft eye alt 10725 ft

EXHIBIT 4

EXHIBIT 4

City of Eastvale Zoning Map



The project site (Grapewin) is outline in RED in the center of the map above. The area shown above is the approximate scope of Verizon's search ring for a new facility, which would allow for distance from existing Verizon telecom facilities in the area and would avoid interference with them.

Brown is Planned Residential Developments and disguised wireless communication facilities are not permitted in this area.

Yellow is One-Family Dwellings (R-1) and disguised wireless communications facilities are not permitted in this area.

Light Green is Light Agriculture (A-1) Disguised wireless communications facilities are permitted so long as they meet the setback requirements. Disguised wireless communication facilities in or adjacent to nonresidential zone classifications shall be set back from habitable dwellings a distance equal to 200% (100ft) of the facility height OR shall be set back from residential property lines a distance equal to 100% (50ft) of facility height, whichever is greater. Although many candidates with this zoning classification were considered many were not an option as we would not be able to meet the proper setbacks.

Blue is Watercourse, Watershed, and Conservation Areas (W-1) Disguised wireless communications facilities are permitted, but the Santa Ana Riverbed was not considered as a viable candidate because of significant permitting and impact mitigation difficulties from extending utilities and access to a new facility, as well as construction of a new facility, within a sensitive habitat area. Also, the Riverbed area is lower in elevation, which would require a very tall and visible structure to achieve Verizon's coverage objective. Likely permitting difficulties would arise for that reason too.

EXHIBIT 5

EXHIBIT 5

Verizon Project: Grapewin

Proposed Wireless Telecommunications Facility at 8306 Grapewin St.

Alternative Site Analysis

The Site Selection Process

Data relating to incomplete and dropped calls is gathered, drive-tests are conducted, and scientific modeling using sophisticated software is evaluated. Once the area requiring a new site is identified, a target/search ring on a map is provided to a real estate professional to begin a search for a suitable location.

During an initial reconnaissance, properties for consideration for the installation of a cell site must be located in the general vicinity of the ring, with an appropriate zoning designation, and appear to have enough space to accommodate an antenna structure and the supporting radio equipment. The size of this space will vary depending on the objective of the site. The owners of each prospective location are notified to assess their interest in partnering with Verizon Wireless.

Four key elements are considered in the selection process:

1. Leasing: The property must have an owner who is willing to enter into a long-term lease agreement under very specific terms and conditions.
2. Zoning: It must be suitably zoned in accordance with local land-use codes to allow for a successful permitting process.
3. Construction: Construction constraints and costs must be reasonable from a business perspective, and the proposed project must be capable of being constructed in accordance with local building codes and safety standards.
4. RF: It must be strategically located to be able to achieve the RF engineer's objective to close the significant gap with antennas at a height to clear nearby obstructions.

Beginning in March 2014, CORE Communications was able to identify (4) potential locations that showed promise in meeting the four essential elements listed above. Over the course of a year, CORE Communications had many visits with potential landlords, discussed lease spaces, rental terms and made substantial progress in preparing these locations. Unfortunately, due to leasing issues and complications with RF objectives, these sites were put on hold.

In March of 2015, SAC Wireless picked up the project from CORE Communications and began searching the ring for additional alternatives. SAC went back to the previous landlords in hopes of resolving matters, but was unsuccessful. SAC was able to scout (3) additional locations and began the process of site walks, landlord discussions and zoning feasibility. The specifics pertaining to each site are listed below.

Site Selection Started by CORE Communications in March 2014

Alternate Site #1 – Vacant Lot (1)
Address: 8500 Archibald St Corona, CA 92880
APN: 130-080-005
Owner: Vantagepoint Church

CORE Communications was able to walk this property many times and met to discuss lease space and terms on many occasions. This vacant lot is to be developed into a church site and the landlord was still working on the plans and construction timelines. Overall the landlord couldn't commit to the lease space without having the plans for the church locked down. He also had concerns about resistance from the congregation.

Alternate Site #2 – Vacant Lot (2)
Address: N/A
APN: 130-080-008
Owner: Gilstrap, Marjorie J.

Efforts to reach landlord were made in person and via mail. No responses ever received.

Alternate Site #3 – Ranch/Horse Training
Address: 8312 Grapewin St. Corona, CA 92880
APN: 130-070-021
Owner: Peakcock Residence

CORE Communications worked with the landlord for over 9 months. Many site walks were conducted as well as meetings with the landlord. They were ready, willing and eager to proceed with the leasing process, but stood firm with their annual rental requirement of $50,000/yr. These terms could not be met by Verizon and therefor the progress of this site could not continue.

Alternate Site #4 – Farm
Address: NA
APN: 130-070-015

This landlord showed interest and was eager to proceed with lease discussions, but due to RF challenges we couldn't proceed any further. The topography, elevation and location of utilities presented issues, so the location was no longer pursued.

Site Selection Continued with SAC Wireless in March 2015

Alternate Site #5
Address: 8222 Grapewin St. Corona, CA 92880
APN: 130-070-010
Owner: Smith Residence

Alternate candidate 5 is located just north of the proposed project location. Although this location is within the target search ring area and the property owner may be open to a possible lease agreement with Verizon, the size, shape, and characteristics of the lot make it difficult to comply with setback requirements. Also, the lot characteristics make it difficult to create a design that is non-intrusive to the existing property elements and non-intrusive to the property owner's use of the remainder of the property.

Alternate 6:
APN: 130-080-004
(Archibald Avenue south of Grapewin Street)

Alternate candidate 6 was considered due to its location and site characteristics; however, the property owner is not interested in entering a long-term lease agreement with Verizon.

Alternate 7:
Address: 8306 Grapewin St. Corona, CA 92880
APN: 130-070-018
Owner: Ostercamp Residence

As a result of the infeasibility of the alternate sites, Verizon Wireless' network deployment personnel selected the proposed site in order to meet the technical objectives of RF engineering, which concurrently provides the best option with regard to other key criteria that include, but are not limited to accessibility, utility connections, zoning compatibility, liability and risk assessment, site acquisition, maintenance and construction costs. The proposed project location at 8306 Grapewin is the most desirable site, specifically in terms of zoning, as the disguised monopalm design will blend in well with the existing palm trees in the immediate area, ensuring a compatible design with the surrounding environment.

Additional challenges include:

Zoning– The search ring is limited due to residential parcels to the North – Northwest and the Santa Ana River Bed (Conservation) on the South – Southeast. (See Figure 2)

Topography – The parcels vary in elevation and can differ by up to 30+ feet.

- Verizon complies with all Federal, state, and local requirements.
- Communication sites are operated at a small percentage of FCC emission requirements
- Facilities are inspected by internal and third party entities at regular intervals to insure proper operation and compliance.
- Communication facilities can be found anywhere from hospitals and schools to single family lots.

Dear City Council, July 6th 2016

This letter is in reference to the proposed VZW telecommunications facility named "Grapewin" located at 8306 Grapewin, Corona, CA 92880. Verizon Wireless has identified a deficiency in its wireless services along Archibald Ave, Norco Dr, Prado Basin Park and surrounding residential neighborhoods. The deficiency in service was based on modeled propagation maps and traffic data from neighboring sites. Signal from the neighboring sites such as Kimball and Selby do not provide adequate or reliable coverage to Archibald Ave, Norco Dr, Prado Basin Park and surrounding residential neighborhoods. The poor signal quality that serves this area degrades the user experience by providing slow data speeds, unreliable network access and frequent connection drops. The Verizon Wireless "Grapewin" project was strategically placed to resolve the coverage deficiencies and improve network reliability to the Verizon Wireless customers in the area.

Figure 1 – Vicinity Map

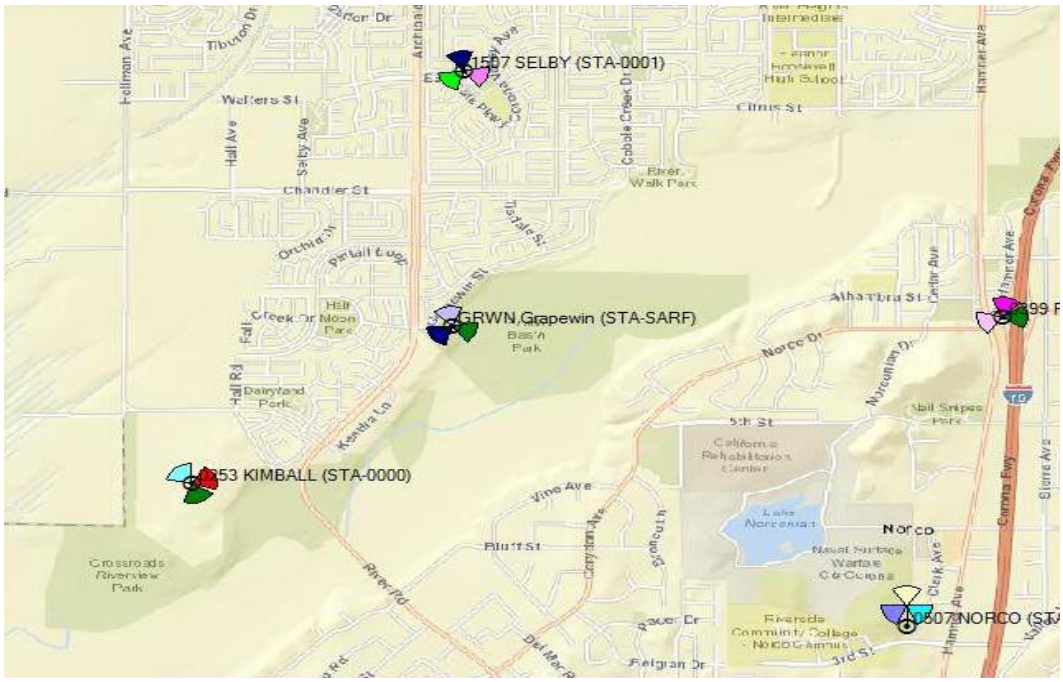


Figure 2 – Existing Coverage

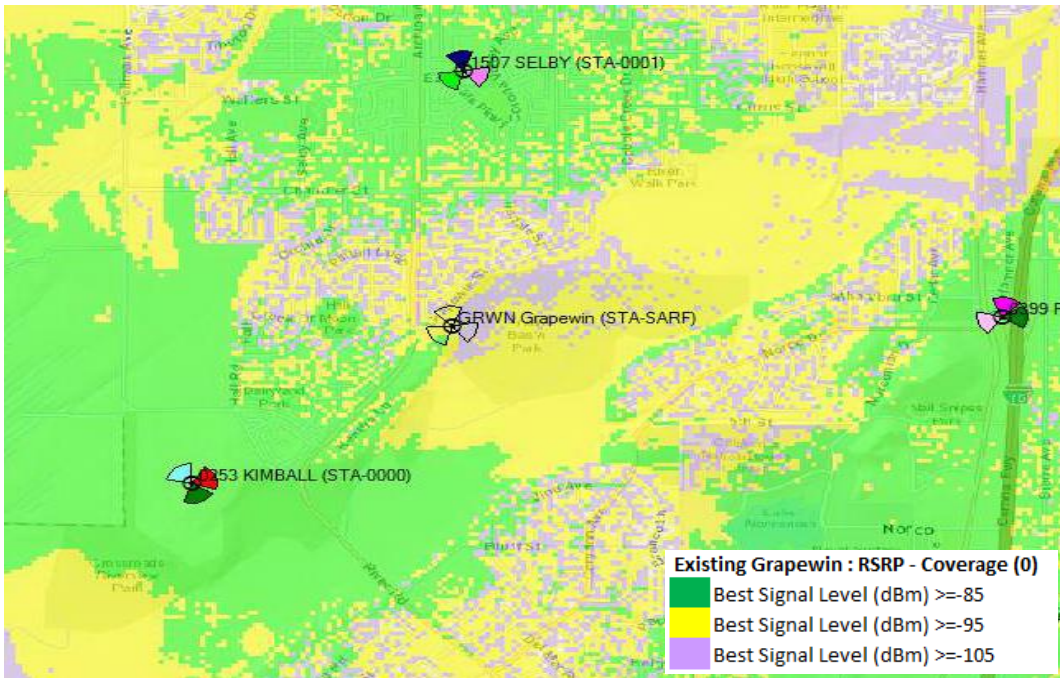
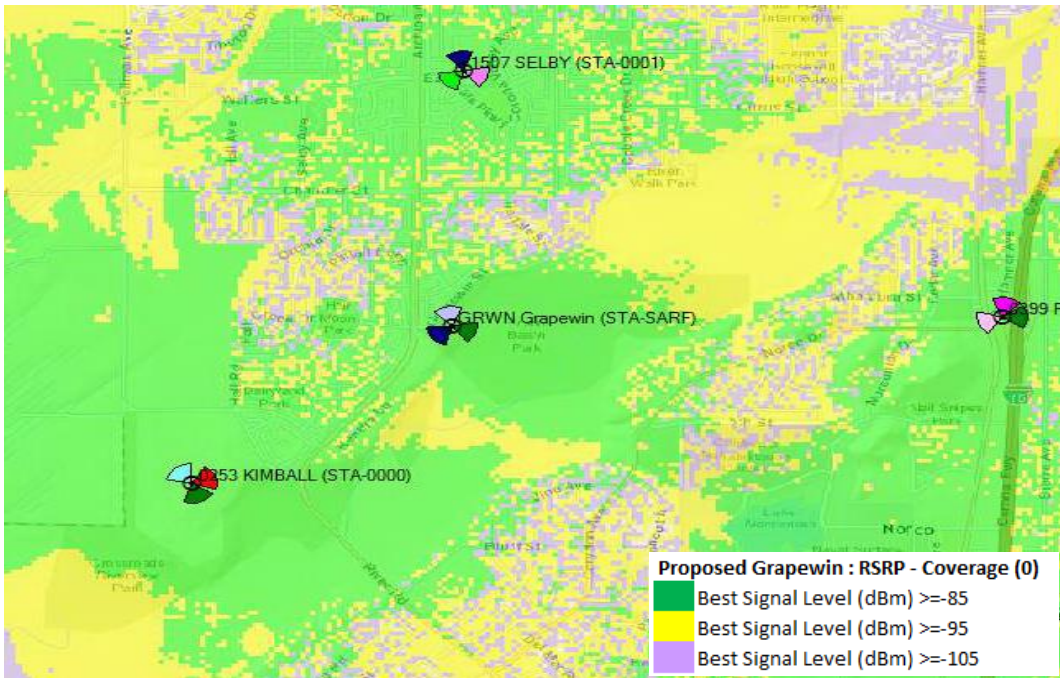


Figure 3 – Proposed Coverage



Capacity

In addition to the unreliability and poor performance observed by the users in weak/poor signal conditions, it also puts a stress on the effective capacity of the surrounding sites. When a cell site serves a mobile/device in poor coverage conditions, it must use up more time and spectrum resources in order to try and deliver the user content reliably. This uses up the limited physical resources quickly and can deprive other users connected to the site form gaining access to those resources impacting user experience for all customers in the area. Currently, Verizon Wireless has modified its adjacent facilities in an effort to maximize the available capacity; however, increased demand for voice and data services has already outstripped the capacity of adjacent sites such as "Kimball" and "Selby". The current "Grapewin" candidate was the only viable solution to provide the required signal level and quality to effectively offload the neighboring sites. Achieving capacity exhaustion severely compromises the Verizon Wireless network, leading to failed call attempts, dropped calls, poor quality and slow data speeds (the "Capacity Gap").

To achieve required capacity Grapewin antenna structure needs to be atleast 50 foot in height. This height will help not only in capacity but also help us to fill coverage gap between Kimball and Selby to achieve goal of less call failure (including emergency services) and faster data speed.

Based on an analysis of usage trends and near term capacity forecasts, the Selby site is forecasted to be at capacity in 2017. "At capacity" means that a site has exhausted all of its resources to reliably support voice calls and data usage.

Analysis shows capacity at Kimball is currently being reached sporadically, so customers/users already have degraded service. The data processing baseline demand for Kimball (near the proposed Grapewin site) is steadily growing and is expected to spike above the "capacity" standard more frequently beginning July 2016. Service in the area around the Kimball site currently is poor due to experienced dropped calls and slow data processing speeds, and will get worse if the proposed Grapewin site is not installed and the Kimball facility reaches capacity limits as forecasted in July 2016. Installation of the Grapewin site therefore will substantially improve data delivery speeds and call reliability for area customers.

Emergency 911 Services

As more of our voice calls move from CDMA to LTE, maintaining good LTE coverage becomes more important for E911. CDMA is Verizon's 3G technology mostly used for voice calling and small data usage. LTE is 4G technology focusing more on high-speed data transfer and, more recently, voice calling. In order to provide better call quality, voice calling, in the near future, will primarily be made using LTE. Also, upcoming phones will start being released as LTE-only. If an area has poor or no LTE coverage,

the likelihood of placing a 911 call is greatly impacted. The user would likely experience call issues such as dropped calls and audio gaps and may even not be able to make a call. During emergencies where multiple users need to make a call, the network would be clogged due to the lack of resources.

Verizon makes it a priority to ensure our customers have reliable access to make calls during any type of emergency.

Telecommunications networks are recognized to be integral to the use of the 911 emergency systems. As of 2011, the Federal Communications Commission ("FCC") found that about 70% of all Emergency 911 calls originated from wireless devices, and that percentage will continue to increase. (FCC Consumer and Governmental Affairs Bureau, Wireless 911 Services Fact Sheet (originally issued Feb. 1, 2011) (updated version found at https://transition.fcc.gov/cgb/consumerfacts/wireless911srvc.pdf)). One of the main reasons that many people own a wireless phone is the ability to call 911 for help in an emergency.

Summary

As an RF Engineer with over 20 years of experience, I have spent over 20 years working in the LA market where I designed and analyzed siting considerations for over 200 telecommunications facility sites. After analyzing the traffic & performance data, coverage plots and local knowledge of the area, it is my professional judgment that the current location and design of the "Grapewin" project is vital for improving the network reliability service and performance to Archibald Ave, Norco Dr, Prado Basin Park and surrounding residential areas.

Regards,
Carlos Herrera
Senior RF Design Engineer
Verizon

Kanika Kith

From: elopez951 <elopez951@aol.com>
Sent: Tuesday, July 05, 2016 9:05 AM
To: Kanika Kith
Subject: Cell tower

Follow Up Flag: Flag for follow up
Flag Status: Flagged

Why isn't every resident of Eastvale afforded the same level of cell service? Is one section of Eastvale less worthy? How do you determine which citizens to serve?

As a resident of Brant CT, I am unable to afford a land line and rely on my Verizon cell phone for all emergency services. This includes home wireless services from ATT UVERSE. I have tried another carrier and with the same poor result. As a senior I deserve the same protection as others in Eastvale.

I had to drive away from my home many times to receive or respond to a call. 90% of the time my signal strength is at a '3G' level with 1 or 2 bars. I have a new generation smartphone and can not receive phone calls! I later find a notification that I received 5 calls from a family member and I did not get a ring tone from a properly set up phone! And if you operate a business, full or part time, you loose many opportunities.

I deserve the quality of communication services that other residents of Eastvale enjoy for my safety, business, service expenses, and communication with in-need family members.

Eileen Lopez Lopez
14264 Brant Ct
EASTVALE, CA 92880

951-737-1105 Mobile

Sent from my Verizon, Samsung Galaxy smartphone

Kanika Kith

From: Kanika Kith
Sent: Thursday, April 14, 2016 5:12 PM
To: 'Courtney Standridge'
Cc: Eric Norris; Cathy Perring; Marc Donohue; Malinda Lim
Subject: FW: Hearing Request

Courtney,

We received a request for a public hearing for the wireless facility on Grapewin. See email below. We will take this project to Planning Commission on May 18th.

Let me know if you have any questions.

Kanika Kith
Senior Planner
City of Eastvale
12363 Limonite Ave., Suite 910
Eastvale, CA 91752
www.EastvaleCA.gov
951.258-8300 Cell

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Community ~ Pride ~ Prosperity

From: Kanika Kith
Sent: Thursday, April 14, 2016 5:06 PM
To: 'McMullin, Sean' <SEANM@allstate.com>
Cc: 'heidimcmullin@gmail.com' <heidimcmullin@gmail.com>; 'Nazar@Providentrealestate.com' <Nazar@Providentrealestate.com>
Subject: RE: Hearing Request

Hi Sean,

Thank you for sending this request for a public hearing. We will schedule this for Planning Commission meeting on May 18th.

If you have any comments or questions, feel free to email them to me.

Thanks,

Kanika Kith
Senior Planner
City of Eastvale
12363 Limonite Ave., Suite 910
Eastvale, CA 91752
www.EastvaleCA.gov
951.258-8300 Cell

Please note, City Hall is closed on Fridays

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Community ~ Pride ~ Prosperity

From: McMullin, Sean [mailto:SEANM@allstate.com]
Sent: Tuesday, April 12, 2016 10:48 AM
To: Kanika Kith <kkith@eastvaleca.gov>
Cc: heidimcmullin@gmail.com; Nazar@Providentrealestate.com
Subject: Hearing Request

Hi Kanika,

I would like to request a hearing on behalf of my wife, Heidi McMullin, regarding the minor development application for the installation of a new wireless telecommunications facility potentially located at 8306 Grapewin St. I am a resident of Eastvale. Let me know if you need me to do anything else. Thank you!

Sean McMullin
Agency Owner
Phone: 909-890-3559
Text & Fax: 909-890-9632
242 E. Airport Drive, Ste 203
San Bernardino, CA 92408

Allstate.

I can help protect the things that matter most.

My Website | Send Feedback | Contact Me

Kanika Kith

From: JimCSullivan@aol.com
Sent: Tuesday, April 19, 2016 4:43 PM
To: Kanika Kith
Cc: kurt@fec-electric.com; lylesmith50@att.net; jimcsullivan@aol.com
Subject: Request for Hearing on Minor Development Review Project No. 15-1662
Attachments: 160419 Eastvale Kurt.doc

Follow Up Flag: Follow up
Flag Status: Flagged

Ms Kanika Kith,

Thank you for your courtesy on the phone this afternoon, and attached is the letter requesting the Planning commission review and deny the application for this microwave tower site.

The neighbors will be in attendance at that hearing scheduled for May 18, and will have abundant information for the commissioners to review and make their decision with.

Please do contact me when you have the information requested earlier.

Thank you

Jim

Jim Sullivan
5102 Wisteria Dr
Oceanside, CA 92056

909-910-0520 cell JimCSullivan@aol.com -

Jim Sullivan
PrideMark
5102 Wisteria Dr
Oceanside Ca, 92056

Ms Kanika Kith
City of Eastvale Planning Department
12363 Limonite Avenue, Suite 910
Eastvale , CA 91752 April 18, 2016

Re: Request for a hearing on Minor Development Review Project No. 15-1662

Dear Ms

This letter is in opposition to the Project No 15-1662, and on behalf of Mr. & Mrs Kurt deStuben, 8230 Grapewin Street; and Mr. & Mrs Lyle Smith, 8222 Grapewin Street. These are the adjoining neighbors to the east of the proposed microwave tower.

We are requesting a hearing for this, and would like more information on project and any study done by the proponent regarding the affects of a tower on the health and environmental effects of the immediate, surrounding homes. Unfortunately, the project proponent has not made earlier contact with the residents in the vicinity of the proposed cell tower, and there are questions about the medical and health concerns of such a facility. Having been cancer survivors they do not wish to expose themselves to a risk factor that can be avoided. There are several points of reference indicating the need for studies of this kind of facility, noting that the The International Association of Fire Fighters' position on locating cell towers or commercial wireless infrastructure on fire department facilities is to oppose the use of fire stations as base stations for towers and/or antennas for the conduction of cell phone transmissions. This based on studies of adverse affects to Firemen in California. (reference https://www.iaff.org/HS/Facts/CellTowerFinal.asp)

It is our understanding that the City will hold a requested hearing on May 18, at 6 PM. Please confirm and we will be in attendance to provide the Planning Commission with both our concerns, and with the information that will allow for consideration of moving this tower to a more appropriate location.

We are looking forward to hearing from you soon.

Yours sincerely,

Jim

Jim Sullivan
5102 Wisteria Dr
Oceanside, CA 92056

909-910-0520 cell JimCSullivan@aol.com -

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forward this e-mail message and immediately delete it from your computer.

Please consider the environment before printing this e-mail

Jim Sullivan
PrideMark
5102 Wisteria Dr
Oceanside Ca, 92056
Ms Kanika Kith

City of Eastvale Planning Department
12363 Limonite Avenue, Suite 910
Eastvale , CA 91752

April 18, 2016

Ms Kanika Kith
City of Eastvale Planning Department
12363 Limonite Avenue, Suite 910
Eastvale , CA 91752

April 18, 2016

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We are looking forward to hearing from you soon.

Yours sincerely,

Kanika Kith

From: BMENG2000 <bmeng2000@aol.com>
Sent: Sunday, May 08, 2016 1:01 PM
To: Daniella McClister; Kanika Kith
Subject: Re: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

Follow Up Flag: Follow up
Flag Status: Flagged

I would like to review the environmental and safety studies for this tower , please email me a link for these studies

Regards
Bashar Madani

Sent from my iPhone

On May 8, 2016, at 9:01 AM, City of Eastvale <info@eastvaleca.gov> wrote:

PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

Post Date: 05/08/2016 9:00 AM

NOTICE IS HEREBY GIVEN that the City of Eastvale Planning Commission will hold a public hearing on **Wednesday, May 18, 2016**, at 6:00 p.m. at Rosa Parks Elementary School located at 13830 Whispering Hills Drive, Eastvale, CA 92880, to consider the proposed Minor Development Review application for the installation of a new wireless telecommunications facility that will be disguised as a 50-foot-high monopalm (artificial palm tree) and associated equipment in a 17-foot by 19-foot leased area behind an existing single-family home located at 8306 Grapewin Street, Corona, CA 92880 (Assessor's Parcel Number 130-070-018) with access via an easement on an adjacent parcel to the north (Assessor's Parcel Number 380-070-019) **– Project No. 15-1662**.

The associated equipment consists of 12 panel antennas, one microwave dish, two equipment cabinets, one generator, and associated apparatus surrounded by a proposed 6-foot-high textured split-face block wall enclosure. Maintenance personnel will visit the site every 4 to 6 weeks to ensure the equipment is functioning properly and to perform regular maintenance.

The applicant is Verizon Wireless, c/o Dail Richard. The project site is not located on a hazardous materials site listed under Government Code Section 65962.5. The project qualifies for a Class 3 Categorical Exemption pursuant to Section 15303, New Construction or Conversion of Small Structures, as exempt from further environmental review requirements contained in the California Environmental Quality Act (CEQA).

Any person may submit written comments prior to the public hearing or may appear in person before the Planning Commission to be heard. Written comments may be mailed to the City of Eastvale Planning Department located at 12363 Limonite Avenue, Suite 910, Eastvale, CA 91752.

Any questions on the project may be directed to Kanika Kith at (951) 258-8300 or via e-mail at kkith@eastvaleca.gov. All comments made in writing or via e-mail prior to the public hearing must be submitted and received by the City of Eastvale Planning Department no later than Wednesday, May 18, 2016, at 5:00 p.m. Oral and written comments may be submitted directly to the Planning Commission at the public hearing. If you challenge the project in court, you may be limited to raising only those issues you raised at the public hearing as described in this notice or in written correspondence delivered to the Eastvale Planning Commission prior to or at the public hearing.

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Kanika Kith

From: BMENG2000@aol.com
Sent: Tuesday, May 10, 2016 4:57 PM
To: Daniella McClister; Kanika Kith
Subject: RE: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

Dear Kanika
Please consider this email as an objection to this project , there are many concerns that need to be addressed properly on this project .

1. The timing of the letter provides a very short notice to residents around this area, leave them with 8 days to comment on such development.
2. Is there any study been made to comply with city of Eastvale code -chapter 120.05 in regards to height limitation from residents?
3. Is there any study been made to comply with the aircraft zone and FAA, is this tower will create any issue to flights at corona airport and eventfully increasing possibility for flight accidents in this area?
4. Is there any study been performed for the electromagnetic frequency (EMF) expected to come from tower and the health impact associated with such waves, what is the current EMF and what is excepted to be? Is the new value safe? Please see attached link for related study http://www.prisonplanet.com/new-study-links-over-7000-cancer-deaths-to-cell-phone-tower-radiation-exposures.html
5. Is the legal impact associated with this tower if approved and caused a health issue been reviewed by the city, who will pay for a class action if a residents claim cancer or health related problem from this tower?

Thanks
Bashar Madani
From: City of Eastvale [mailto:info@eastvaleca.gov]
Sent: Sunday, May 8, 2016 9:01 AM
To: bmeng2000@aol.com
Subject: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

Post Date: 05/08/2016 9:00 AM

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Kanika Kith

From: BMENG2000@aol.com
Sent: Tuesday, May 17, 2016 3:56 PM
To: Kanika Kith
Subject: RE: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

Hi Kanika ,

Thank You for sending additional information , It seems the applicant is addressing the signal strength and improvement to their wireless services , yet noting in these documents addressing possible danger and radiant exposure to resident as well as risk assessment and mitigation .

Regards
Bashar Madani

From: Kanika Kith [mailto:kkith@eastvaleca.gov]
Sent: Tuesday, May 17, 2016 3:24 PM
To: 'BMENG2000' <bmeng2000@aol.com>
Subject: RE: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

Hi Bashar,

Attached are additional documents provided by the applicant for the wireless project on Grapewin.

Kanika Kith
Senior Planner
City of Eastvale
12363 Limonite Ave., Suite 910
Eastvale, CA 91752
www.EastvaleCA.gov
951.258-8300 Cell

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From: Kanika Kith
Sent: Sunday, May 15, 2016 7:35 PM

To: BMENG2000 <bmeng2000@aol.com>
Subject: RE: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

Hi Bashar,

We received some documents from the applicant regarding your request. See attached.

Also, please use the link below to access the agenda for the May 18, 2016 Planning Commission meeting:

http://www.eastvaleca.gov/home/showdocument?id=4803

Please let me know if you have any questions.

Kanika

From: BMENG2000 [mailto:bmeng2000@aol.com]
Sent: Sunday, May 08, 2016 1:01 PM
To: Daniella McClister; Kanika Kith
Subject: Re: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

I would like to review the environmental and safety studies for this tower , please email me a link for these studies

Regards
Bashar Madani

Sent from my iPhone

On May 8, 2016, at 9:01 AM, City of Eastvale <info@eastvaleca.gov> wrote:

PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

Post Date: 05/08/2016 9:00 AM

NOTICE IS HEREBY GIVEN that the City of Eastvale Planning Commission will hold a public hearing on **Wednesday, May 18, 2016**, at 6:00 p.m. at Rosa Parks Elementary School located at 13830 Whispering Hills Drive, Eastvale, CA 92880, to consider the proposed Minor Development Review application for the installation of a new wireless telecommunications facility that will be disguised as a 50-foot-high monopalm (artificial palm tree) and associated equipment in a 17-foot by 19-foot leased area behind an existing single-family home located at 8306 Grapewin Street, Corona, CA 92880 (Assessor's Parcel Number 130-070-018) with access via an easement on an adjacent parcel to the north (Assessor's Parcel Number 380-070-019) **– Project No. 15-1662**.

The associated equipment consists of 12 panel antennas, one microwave dish, two equipment cabinets, one generator, and associated apparatus surrounded by a proposed 6-foot-high textured split-face block wall enclosure. Maintenance personnel will visit the site every 4 to 6 weeks to ensure the equipment is functioning properly and to perform regular maintenance.

The applicant is Verizon Wireless, c/o Dail Richard. The project site is not located on a hazardous materials site listed under Government Code Section 65962.5. The project qualifies for a Class 3

Categorical Exemption pursuant to Section 15303, New Construction or Conversion of Small Structures, as exempt from further environmental review requirements contained in the California Environmental Quality Act (CEQA).

Any person may submit written comments prior to the public hearing or may appear in person before the Planning Commission to be heard. Written comments may be mailed to the City of Eastvale Planning Department located at 12363 Limonite Avenue, Suite 910, Eastvale, CA 91752. Any questions on the project may be directed to Kanika Kith at (951) 258-8300 or via e-mail at kkith@eastvaleca.gov. All comments made in writing or via e-mail prior to the public hearing must be submitted and received by the City of Eastvale Planning Department no later than Wednesday, May 18, 2016, at 5:00 p.m. Oral and written comments may be submitted directly to the Planning Commission at the public hearing. If you challenge the project in court, you may be limited to raising only those issues you raised at the public hearing as described in this notice or in written correspondence delivered to the Eastvale Planning Commission prior to or at the public hearing.

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Kanika Kith

From: BMENG2000@aol.com
Sent: Tuesday, May 17, 2016 11:54 AM
To: Kanika Kith; Daniella McClister
Cc: Eric Norris; Cathy Perring; John Cavanaugh; Ike Bootsma; Joe Tessari
Subject: RE: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662
Attachments: RE: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662; Document (6).pdf

Follow Up Flag: Follow up
Flag Status: Flagged

Hi Kanika
The provided documents in the attached email don't address any of the concerns mentioned below and was sent on May 10th .

1. The timing of the letter provides a very short notice to residents around this area, leave them with 8 days to comment on such development.
2. Is there any study been made to comply with city of Eastvale code -chapter 120.05 in regards to height limitation from residents?
3. Is there any study been made to comply with the aircraft zone and FAA, is this tower will create any issue to flights at corona airport and eventfully increasing possibility for flight accidents in this area?
4. Is there any study been performed for the electromagnetic frequency (EMF) expected to come from tower and the health impact associated with such waves, what is the current EMF and what is excepted to be? Is the new value safe? Please see attached link for related study http://www.prisonplanet.com/new-study-links-over-7000-cancer-deaths-to-cell-phone-tower-radiation-exposures.html
5. Is the legal impact associated with this tower if approved and caused a health issue been reviewed by the city, who will pay for a class action if a residents claim cancer or health related problem from this tower?

Please see below comments from the documents you sent on Saturday

The Local governmental guide limiting an exposure of the employee to 6 minute and 30 minute (see attached Page from the guidelines you sent on Saturday) the question is , if the guidelines limiting employee exposure to 6 and 30 min then how would you justify the exposure of the residents that they leave with a few feet from that tower for the whole day and night?

The Engineering report include the guidelines information and limits but don't provide any calculation or computer modeling on how they arrive with that limit included on the report , A computer modeling would be appropriate to illustrate the radiation level at a different radius and have a better understanding of the radiation impact .

I would still recommend addressing the above issue sufficiently and insuring the safety of our residence prior of approving such development .

Regards
Bashar Madani

From: Kanika Kith [mailto:kkith@eastvaleca.gov]
Sent: Tuesday, May 10, 2016 7:32 PM
To: 'BMENG2000@aol.com' <BMENG2000@AOL.com>; Daniella McClister <dmcclister@eastvaleca.gov>
Cc: Eric Norris <Enorris@eastvaleca.gov>; Teague, Mark <MTeague@mbakerintl.com>; Cathy Perring <cperring@eastvaleca.gov>; Weintraub, Morgan <mweintraub@mbakerintl.com>; John Cavanaugh <Jcavanaugh@eastvaleca.gov>
Subject: RE: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

Thank you for your comments. They will be included in the staff report for the Planning Commission to consider.

Thank you,

Kanika Kith
Senior Planner
City of Eastvale
12363 Limonite Ave., Suite 910
Eastvale, CA 91752
www.EastvaleCA.gov
951.258-8300 Cell

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From: BMENG2000@aol.com [mailto:BMENG2000@AOL.com]
Sent: Tuesday, May 10, 2016 4:57 PM
To: Daniella McClister <dmcclister@eastvaleca.gov>; Kanika Kith <kkith@eastvaleca.gov>
Subject: RE: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

Dear Kanika
Please consider this email as an objection to this project , there are many concerns that need to be addressed properly on this project .

1. The timing of the letter provides a very short notice to residents around this area, leave them with 8 days to comment on such development.
2. Is there any study been made to comply with city of Eastvale code -chapter 120.05 in regards to height limitation from residents?
3. Is there any study been made to comply with the aircraft zone and FAA, is this tower will create any issue to flights at corona airport and eventfully increasing possibility for flight accidents in this area?
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5. Is the legal impact associated with this tower if approved and caused a health issue been reviewed by the city, who will pay for a class action if a residents claim cancer or health related problem from this tower?

Thanks

Bashar Madani
From: City of Eastvale [mailto:info@eastvaleca.gov]
Sent: Sunday, May 8, 2016 9:01 AM
To: bmeng2000@aol.com
Subject: City of Eastvale, CA: PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

PLANNING COMMISSION NOTICE OF PUBLIC HEARING PROJECT NO. 15-1662

Post Date: 05/08/2016 9:00 AM

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The associated equipment consists of 12 panel antennas, one microwave dish, two equipment cabinets, one generator, and associated apparatus surrounded by a proposed 6-foot-high textured split-face block wall enclosure. Maintenance personnel will visit the site every 4 to 6 weeks to ensure the equipment is functioning properly and to perform regular maintenance.

The applicant is Verizon Wireless, c/o Dail Richard. The project site is not located on a hazardous materials site listed under Government Code Section 65962.5. The project qualifies for a Class 3 Categorical Exemption pursuant to Section 15303, New Construction or Conversion of Small Structures, as exempt from further environmental review requirements contained in the California Environmental Quality Act (CEQA).

Any person may submit written comments prior to the public hearing or may appear in person before the Planning Commission to be heard. Written comments may be mailed to the City of Eastvale Planning Department located at 12363 Limonite Avenue, Suite 910, Eastvale, CA 91752. Any questions on the project may be directed to Kanika Kith at (951) 258-8300 or via e-mail at kkith@eastvaleca.gov. All comments made in writing or via e-mail prior to the public hearing must be submitted and received by the City of Eastvale Planning Department no later than Wednesday, May 18, 2016, at 5:00 p.m. Oral and written comments may be submitted directly to the Planning Commission at the public hearing. If you challenge the project in court, you may be limited to raising only those issues you raised at the public hearing as described in this notice or in written correspondence delivered to the Eastvale Planning Commission prior to or at the public hearing.

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Illustration 3. ***FCC Limits for Maximum Permissible Exposure (MPE)***

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	$(900/f^2)$*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	$(180/f^2)$*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

NOTE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Finally, it is important to understand that the FCC's limits apply cumulatively to all sources of RF emissions affecting a given area. A common example is where two or more wireless operators have agreed to share the cost of building and maintaining a tower, and to place their antennas on that joint structure. In such a case, the total exposure from the two facilities taken together must be within the FCC guidelines, or else an EA will be required.

A. Categorically Excluded Facilities

The Commission has determined through calculations and technical analysis that due to their low power or height above ground level, many facilities by their very nature are highly unlikely to

Kanika Kith

From: Dave Welch <welch_family@att.net>
Sent: Wednesday, May 18, 2016 4:20 PM
To: Kanika Kith
Subject: Proposed Verizon cell tower on Grapewin

Follow Up Flag: Follow up
Flag Status: Flagged

Subject: Cell Tower at Grapewin

I am writing in SUPPORT of the proposed Verizon cell tower on Grapewin. I live half way between the proposed tower and RR Elementary and there is no service within 50 feet of my home. Once inside I have service via my wireless network extender, which goes I and out, so we've been anxiously awaiting since we first heard of Verizon's intent about 2.5 years ago. We have a friend on Grapewin who was approached.

William D Welch (Dave)
8327 Fiske Drive
Eastvale CA 92880

Sent from Dave's iPhone

Kanika Kith

From: Marc Donohue
Sent: Monday, June 06, 2016 9:59 AM
To: Larry Oblea; Howard Feng; Karen Patel; William Van Leeuwen; Daryl Charlson
Cc: Eric Norris; Cathy Perring; 'jcavanaugh@cavanaughlaw.net'; Malinda Lim; Kanika Kith
Subject: FW: Cell Tower - 8306 Grapewin Street

Good Morning,

Please see the comments below.

Thank you,

Marc Donohue, CMC | City Clerk
City of Eastvale
12363 Limonite Ave., Suite 910
Eastvale, CA 91752
(951) 703-4421
www.eastvaleca.gov
Facebook | Twitter

From: Aundrea [mailto:amartin100503@gmail.com]
Sent: Thursday, June 02, 2016 10:13 PM
To: Marc Donohue
Subject: Cell Tower - 8306 Grapewin Street

Hello Marc,

I would like to add my comments in favor of the cell tower on Grapewin.

The cell service at Ronald Reagan Elementary School is very poor. Making it difficult for those staff members who need proper cell service to receive important calls, especially when not near a land line.

AND for those of us that volunteer in our children's classrooms who may need to received an important or emergency call. I personally have missed an urgent call about one of my children who does not go to RRES and was very upset once my phone update after leaving the school area and realized what had been missed. Yes my husband was called. But I am the first to be called for a specific reason. Because I can get to them first and faster.

Please consider this as another valid reason to build this cell tower.

Aundrea Martin
14537 Beechwood Ct, Eastvale

626-354-2907

Sent from my iPhone

Kanika Kith

From: JimCSullivan@aol.com
Sent: Monday, June 13, 2016 9:24 AM
To: Kanika Kith
Cc: jimcsullivan@aol.com; kurt@fec-electric.com; ca1adele@aol.com
Subject: Opposition to PROJECT NO.15-1662 Reasons for denying the Project

Ms Kanika Kith,

During the Planning Commission hearing on May 18 the "City Attorney Cavanaugh emphasized that Federal law mandates that a wireless facility cannot be denied based on health issues alone, there would need to be other reasons for denial", as noted in the minutes of that meeting.

Reasons for denying the Project may be found in the documents submitted by the applicant. Information provided by the applicant may be shown to be intended to be easily misunderstood, and this may have been accidental or purposely done, but the resulting facts do not change the situation.

The 50 foot tower is located on a site that is approximately 20 feet lower than the immediately surrounding parcels and homes. It is in fact about 20 feet above some of the homes in nearby, surrounding areas.

- **The elevation of the Tower when completed will not be 50 feet above the surrounding residences. Because of the topography and location sited it will be from 20 to 30 feet lower than the nearby homes. Which means that those residents living adjacent to the Tower will have added exposure to radiation.**
- **Verizon's topo map (Chapter 2, figure 4) does not show adjoining property topo elevations and conveniently omits many of the elevation notations which makes it difficult for any non engineer to read and understand**
- **Setbacks for the Tower are not adequate in the opinion of residents because some of the homes that are two story residences may be facing directly into the radiation beams, and the transmissions could be directed through their homes, their bedrooms, and living spaces.**

Reference to nearby home to the west of the Tower was referred to as a 'structure' or 'shed'. This was pointed out by Suzie Peacock and when "Commissioner Van Leeuwen initiated discussion regarding the nearest site to the tower being referred to as a structure versus a residence. Senior Planner Kith noted that staff was unable to access property to verify if it was a habitable structure and noted that on the site plan it was identified as an existing building." (minutes of 5/18 meeting)

- **Photo provided to the Commission on page 2 of Staff Report clearly shows the Peacock home and any observation from Grapewin Street would show that this is the principal residence for the family.**

Mr Bashar Madani wrote, on May 10, to the Commission in opposition to the Project and itemized his several concerns. One of which is, "Is the legal impact associated with this tower if approved and caused a health issue been reviewed by the city, who will pay for a class action if a residents claim cancer or health related problem from this tower?"

- **Adele deSteuben is the closest neighbor to the East of the Tower site. She is a cancer survivor, and is currently diagnosed with meningioma brain tumor that has been stable and in a restive or non growing status for several years. Who will be responsible and liable for her if the microwave radiation stimulates this and it advances?**
- **Heidi Mullin is a cancer survivor who is purchasing a home on Grapewin and is concerned about the many studies that have shown that Microwave Radiation may not be harmful in small doses, but what will the radiation levels be when she is in constant exposure to the transmission adjacent to her new home?**

Is the Planning commission prepared to take this responsibility, and to pass it on to the City and citizens?

Verizon has multiple sites identified for the project. There are at least three other sites that appeared to be preferred by the applicant, but were not available because of property owner opposition, or too high of a cost to lease. This clearly shows that the issue is dollars and cents to the company. It is not good sense to put this project on Grapewin and the company may have purposely colored some of the data to make this less understood, and more easily approved by the Commissioners. This is not a fair treatment of either the public, or the Commission.

The residents on Grapewin Street and nearby neighbors want to emphasize to the Planning Commission that the subject project is not bad in or of itself, but is in a Bad Location. Please deny the project and ask Verizon to find a better location.

Respectfully Submitted

Jim Sullivan
Advocate for Kurt and Adele deSteuben
909-910-0520 cell JimCSullivan@aol.com -

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Kanika Kith

From: JimCSullivan@aol.com
Sent: Monday, June 13, 2016 8:05 AM
To: Kanika Kith
Cc: jimcsullivan@aol.com
Subject: Oppositions to Project #15-1662 IAFF position on Microwave Towers
Attachments: 160615 IAFF FireFighters Position on the Health Effects from Rad

Ms Kanika Kith,

In the minutes of the May 18 meeting Bill Frescas, engineer with Verizon, discussed the Electromagnetic emissions (EME) issues and noted that the FCC mandates measurements and Verizon has to show that they are in compliance. He stated that cell sites are located in parks, churches, and fire stations.

Recent news articles portray a different fact: http://abc7.com/news/la-supervisors-stop-cell-tower-construction-at-fire-stations/571612/ ***3/24/2015: Los Angeles County suspends decision to construct the towers! Further more the Policy Position of the IAFF, International Association of FireFighters, attached below, refute his statements.***

The issue is Time. Time that is spent in the zone of Radiation. More time equals more concerns.

Microwave towers are important for communications and need to be located appropriately. NOT on sites that are near to bedrooms and living quarters where people tend to spend the majority of their time. This project on Grapewin is not a well designed geographically nor consistent with avoiding neighborhood exposure to Microwave Radiation.

This is why the current site is Opposed by the residents and request that Verizon should seek a site that is not in a neighborhood.

It is dollars and cents for the applicant and Verizon, it is quality of life and concern for children and elderly for those that would be forced to live in the shadow of the tower.

Best Regards

Jim Sullivan
Advocate for Kurt and Adele deSteuben
909-910-0520 cell JimCSullivan@aol.com

INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS

DIVISION OF OCCUPATIONAL HEALTH, SAFETY AND MEDICINE

Position on the Health Effects from Radio Frequency/Microwave (RF/MW) Radiation in Fire Department Facilities from Base Stations for Antennas and Towers for the Conduction of Cell Phone Transmissions

http://www.iaff.org/hs/Facts/CellTowerFinal.asp

The International Association of Fire Fighters' position on locating cell towers commercial wireless infrastructure on fire department facilities, as adopted by its membership in August 2004 [1], is that the IAFF oppose the use of fire stations as base stations for towers and/or antennas for the conduction of cell phone transmissions until a study with the highest scientific merit and integrity on health effects of exposure to low-intensity RF/MW radiation is conducted and it is proven that such sitings are not hazardous to the health of our members.

Further, the IAFF is investigating funding for a U.S. and Canadian study that would characterize exposures from RF/MW radiation in fire houses with and without cellular antennae, and examine the health status of the fire fighters as a function of their assignment in exposed or unexposed fire houses. Specifically, there is concern for the effects of radio frequency radiation on the central nervous system (CNS) and the immune system, as well as other metabolic effects observed in preliminary studies.

It is the belief of some international governments and regulatory bodies and of the wireless telecommunications industry that no consistent increases in health risk exist from exposure to RF/MW radiation unless the intensity of the radiation is sufficient to heat body tissue. However, it is important to note that these positions are based on non-continuous exposures to the general public to low intensity RF/MW radiation emitted from wireless telecommunications base stations. Furthermore, most studies that are the basis of this position are at least five years old and generally look at the safety of the phone itself. IAFF members are concerned about the effects of living directly under these antenna base stations for a considerable stationary period of time and on a daily basis. There are established biological effects from exposure to low-level RF/MW radiation. Such biological effects are recognized as markers of adverse health effects when they arise from exposure to toxic chemicals for example. The IAFF's efforts will attempt to establish whether there is a correlation between such biological effects and a health risk to fire fighters and emergency medical personnel due to the siting of cell phone antennas and base stations at fire stations and facilities where they work.

Background

Critical questions concerning the health effects and safety of RF/MW radiation remain. Accordingly, should we allow exposure of our fire fighters and emergency medical personnel to this radiation to continue for the next twenty years when there is ongoing controversy over many aspects of RF/MW health effects? While no one disagrees that serious health hazards occur when living cells in the body are heated, as happens with high intensity RF/MW exposure (just like in a

microwave oven), scientists are currently investigating the health hazards of low intensity RF/MW exposure. Low intensity RF/MW exposure is exposure which does not raise the temperature of the living cells in the body.

Additionally, a National Institute of Environmental Health Sciences panel designated power frequency electromagnetic fields (ELF/EMF) as "possible human carcinogens." [(2)] In March 2002 The International Association on Research on Cancer of the World Health Organization also assigned this designation to ELF/EMF in Volume 80 of its *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans.* [(3)]

Fixed antennas used for wireless telecommunications are referred to as cellular base stations, cell stations, PCS ("Personal Communications Service") stations or telephone transmission towers. These base stations consist of antennas and electronic equipment. Because the antennas need to be high in the air, they are often located on towers, poles, water tanks, or rooftops. Typical heights for freestanding base station towers are 50-200 feet.

Some base stations use antennas that look like poles, 10 to 15 feet in length, that are referred to as "omni-directional" antennas. These types of antennas are usually found in rural areas. In urban and suburban areas, wireless providers now more commonly use panel or sector antennas for their base stations. These antennas consist of rectangular panels, about 1 by 4 feet in dimension. The antennas are usually arranged in three groups of three antennas each. One antenna in each group is used to transmit signals to wireless phones, and the other two antennas in each group are used to receive signals from wireless phones.

At any base station site, the amount of RF/MW radiation produced depends on the number of radio channels (transmitters) per antenna and the power of each transmitter. Typically, 21 channels per antenna sector are available. For a typical cell site using sector antennas, each of the three transmitting antennas could be connected to up to 21 transmitters for a total of 63 transmitters. When omni-directional antennas are used, a cellular base station could theoretically use up to 96 transmitters. Base stations used for PCS communications generally require fewer transmitters than those used for cellular radio transmissions, since PCS carriers usually have a higher density of base station antenna sites.

The electromagnetic RF/MW radiation transmitted from base station antennas travel toward the horizon in relatively narrow paths. The individual pattern for a single array of sector antennas is wedge-shaped, like a piece of pie. Cellular and PCS base stations in the United States are required to comply with limits for exposure recommended by expert organizations and endorsed by government agencies responsible for health and safety. When cellular and PCS antennas are mounted on rooftops, RF/MW radiation levels on that roof or on others near by would be greater than those typically encountered on the ground.

The telecommunications industry claims cellular antennas are safe because the RF/MW radiation they produce is too weak to cause heating, i.e., a "thermal effect." They point to "safety standards" from groups such as ANSI/IEEE or ICNIRP to support their claims. But these groups have explicitly stated that their claims of “safe RF/MW radiation exposure is harmless” rest on the fact that it is too weak to produce a rise in body temperature, a "thermal effect." [(4)]

There is a large body of internationally accepted scientific evidence which points to the existence of non-thermal effects of RF/MW radiation. The issue at the present time is not whether such evidence exists, but rather what weight to give it.

Internationally acknowledged experts in the field of RF/MW radiation research have shown that RF/MW transmissions of the type used in digital cellular antennas and phones can have critical

effects on cell cultures, animals, and people in laboratories and have also found epidemiological evidence (studies of communities, not in the laboratory) of serious health effects at "non-thermal levels," where the intensity of the RF/MW radiation was too low to cause heating. They have found:

- Increased cell growth of brain cancer cells [5]
- A doubling of the rate of lymphoma in mice [6]
- Changes in tumor growth in rats [7]
- An increased number of tumors in rats [8]
- Increased single- and double-strand breaks in DNA, our genetic material [9]
- 2 to 4 times as many cancers in Polish soldiers exposed to RF [10]
- More childhood leukemia in children exposed to RF [11]
- Changes in sleep patterns and REM type sleep [12]
- Headaches caused by RF/MW radiation exposure [13]
- Neurologic changes [14] including:
    - Changes in the blood-brain-barrier [15]
    - Changes in cellular morphology (including cell death) [16]
    - Changes in neural electrophysiology (EEG) [17]
    - Changes in neurotransmitters (which affect motivation and pain perception) [18]
    - Metabolic changes (of calcium ions, for instance) [19]
    - Cytogenetic effects (which can affect cancer, Alzheimer's, neurodegenerative diseases) [20]
- Decreased memory, attention, and slower reaction time in school children [21]
- Retarded learning in rats indicating a deficit in spatial "working memory" [22]
- Increased blood pressure in healthy men [23]
- Damage to eye cells when combined with commonly used glaucoma medications [24]

Many national and international organizations have recognized the need to define the true risk of low intensity, non-thermal RF/MW radiation exposure, calling for intensive scientific investigation to answer the open questions. These include:

- The World Health Organization, noting reports of "cancer, reduced fertility, memory loss, and adverse changes in the behavior and development of children." [25]
- The U. S. Food and Drug Administration (FDA) [26]
- The International Agency for Research on Cancer (IARC) [27]
- The Swedish Work Environmental Fund [28]
- The National Cancer Institute (NCI) [29]
- The European Commission (EC) [30]
- New Zealand's Ministry of Health [31]
- National Health and Medical Research Council of Australia [32]
- Commonwealth Scientific Industrial Research Organization of Australia (CSIRO) [33]
- The Royal Society of Canada expert group report prepared for Health Canada [34]
- European Union's REFLEX Project (Risk Evaluation of Potential Environmental Hazards from Low Frequency Electromagnetic Field Exposure Using Sensitive *in vitro* Methods) [35]
- The Independent Group on Electromagnetic Fields of the Swedish Radiation Protection Board (SSI) [36]
- The United Kingdom's National Radiological Protection Board (NRPB) [37]
- The EMF-Team Finland's Helsinki Appeal 2005 [38]

Non-thermal effects are recognized by experts on RF/MW radiation and health to be potential health hazards. Safe levels of RF/MW exposure for these low intensity, non-thermal effects have not yet been established.

The FDA has explicitly rejected claims that cellular phones are "safe." [39]

The Environmental Protection Agency (EPA) has stated repeatedly that the current (ANSI/IEEE) RF/MW safety standards protect only against thermal effects. [40]

Many scientists and physicians question the safety of exposure to RF/MW radiation. The CSIRO study, for example, notes that there are no clear cutoff levels at which low intensity RF/MW exposure has no effect, and that the results of ongoing studies will take years to analyze. [41]

Internationally, researchers and physicians have issued statements that biological effects from low-intensity RF/MW radiation exposure are scientifically established:

- The 1998 Vienna-EMF Resolution [42]
- The 2000 Salzburg Resolution on Mobile Telecommunication Base Stations [43]
- The 2002 Catania Resolution [44]
- The 2002 Freiburger Appeal [45]
- The 2004 Report of the European Union's REFLEX Project (Risk Evaluation of Potential Environmental Hazards from Low Frequency Electromagnetic Field Exposure Using Sensitive *in vitro* Methods) [46]
- The 2004 Second Annual Report from Sweden's Radiation Protection Board (SSI) Independent Expert Group on Electromagnetic Fields Recent Research on Mobile Telephony and Health Risks [47]
- Mobile Phones and Health 2004: Report by the Board of NRPB (The UK's National Radiological Protection Board) [48]

The county of Palm Beach, Florida, the City of Los Angeles, California, and the country of New Zealand have all prohibited cell phone base stations and antennas near schools due to safety concerns. The British Columbia Confederation of Parent Advisory Councils [BCCPAC] passed a resolution in 2003 banning cellular antennae from schools and school grounds. This organization is comparable to the Parent Teachers Association (PTA) in the United States. The resolution was directed to B.C. Ministry of Education, B.C. Ministry of Children and Family Development, B.C. School Trustees Association, and B.C. Association of Municipalities.

US Government Information

In the United States, the Federal Communications Commission (FCC) has used safety guidelines for RF/MW radiation environmental exposure since 1985.

The FCC guidelines for human exposure to RF/MW radiation are derived from the recommendations of two organizations, the National Council on Radiation Protection and Measurements (NCRP) and the Institute of Electrical and Electronics Engineers (IEEE). In both cases, the recommendations were developed by scientific and engineering experts drawn from industry, government, and academia after extensive reviews of the scientific literature related to the biological effects of RF/MW radiation.

Many countries in Europe and elsewhere use exposure guidelines developed by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). The ICNIRP safety limits are generally

similar to those of the NCRP and IEEE, with a few exceptions. For example, ICNIRP recommends different exposure levels in the lower and upper frequency ranges and for localized exposure from certain products such as hand-held wireless telephones. Currently, the World Health Organization is working to provide a framework for international harmonization of RF/MW radiation safety standards.

In order to affirm conformity to standards regarding heating of tissue, measurements are time averaged over 0.1 hours [6 minutes]. This method eliminates any spikes in the readings. Computer power bars have surge protectors to prevent damage to computers. **Fire fighters and emergency medical personnel do not!**

The NCRP, IEEE, and ICNIRP all have identified a whole-body Specific Absorption Rate (SAR) value of 4 watts per kilogram (4 W/kg) as a threshold level of exposure at which harmful biological thermal effects due to tissue heating may occur. Exposure guidelines in terms of field strength, power density and localized SAR were then derived from this threshold value. In addition, the NCRP, IEEE, and ICNIRP guidelines vary depending on the frequency of the RF/MW radiation exposure. This is due to the finding that whole-body human absorption of RF/MW radiation varies with the frequency of the RF signal. The most restrictive limits on whole-body exposure are in the frequency range of 30-300 MHz where the human body absorbs RF/MW energy most efficiently. For products that only expose part of the body, such as wireless phones, exposure limits in terms of SAR only are specified.

Similarly, the exposure limits used by the FCC are expressed in terms of SAR, electric and magnetic field strength, and power density for transmitters operating at frequencies from 300 kHz to 100 GHz. The specific values can be found in two FCC bulletins, OET Bulletins 56 and 65.

OET Bulletin 56, "Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields" was designed to provide factual information to the public by answering some of the most commonly asked questions. It includes the latest information on FCC guidelines for human exposure to RF/MW radiation. Further information and a downloadable version of Bulletin 56 can be found at: http://www.fcc.gov/oet/info/documents/bulletins/#56

OET Bulletin 65, "Evaluating Compliance With FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" was prepared to provide assistance in determining whether proposed or existing transmitting facilities, operations or devices comply with limits for human exposure to RF/MW radiation adopted by the Federal Communications Commission (FCC). Further information and a downloadable version of Bulletin 65 can be found at: http://www.fcc.gov/oet/info/documents/bulletins/#65

The FCC authorizes and licenses products, transmitters, and facilities that generate RF and microwave radiation. It has jurisdiction over all transmitting services in the U.S. except those specifically operated by the Federal Government. Under the National Environmental Policy Act of 1969 (NEPA), the FCC has certain responsibilities to consider whether its actions will significantly affect the quality of the human environment. Therefore, FCC approval and licensing of transmitters and facilities must be evaluated for significant impact on the environment. Human exposure to RF radiation emitted by FCC-regulated transmitters is one of several factors that must be considered in such environmental evaluations. In 1996, the FCC revised its guidelines for RF/MW radiation exposure as a result of a multi-year proceeding and as required by the Telecommunications Act of 1996.

For further information and answers to questions about the safety of RF/MW radiation from transmitters and facilities regulated by the FCC go to http://www.fcc.gov/oet/rfsafety/rf-faqs.html.

Canadian Government Information

Industry Canada is the organization that sets regulatory requirements for electromagnetic spectrum management and radio equipment in Canada. Industry Canada establishes standards for equipment certification and, as part of these standards, developed RSS-102, which specifies permissible radiofrequency RF/MW radiation levels. For this purpose, Industry Canada adopted the limits outlined in Health Canada's Safety-Code 6, which is a guideline document for limiting RF exposure. A downloadable version of "*RSS-102 - Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields"*, as well as additional information can be found at: http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/vwapj/rss102.pdf/$FILE/rss102.pdf .

Safety Code 6 specifies the requirements for the use of radiation emitting devices. This Code replaces the previous Safety Code 6 - EHD-TR-160. A downloadable version of "Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz TO 300 GHz – Safety Code 6", as well as further detailed information can be found at http://www.hc-sc.gc.ca/hecs-sesc/ccrpb/publication/99ehd237/toc.htm.

US and Canadian Legal Issues

Although some local and state governments have enacted rules and regulations about human exposure to RF/MW radiation in the past, the Telecommunications Act of 1996 requires the United States Federal Government to control human exposure to RF/MW radiation. In particular, Section 704 of the Act states that, "No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions." Further information on federal authority and FCC policy is available in a fact sheet from the FCC's Wireless Telecommunications Bureau at www.fcc.gov/wtb.

In a recent opinion filed by Senior Circuit Judge Stephen F. Williams, No. 03-1336 *EMR Network v. Federal Communications Commission and United States of America*, the Court upheld the FCC's decision not to initiate an inquiry on the need to revise its regulations to address non-thermal effects of radiofrequency (RF) radiation from the facilities and products subject to FCC regulation as EMR Network had requested in its September 2001 Petition for Inquiry.

At the request of the EMR Network, the EMR Policy Institute provided legal and research support for this appeal. On January 13, 2005, a Petition for Rehearing *en banc* by the full panel of judges at the DC Circuit Court of Appeals was filed. Briefs, background documents and the DC Circuit decision are found at: http://www.emrpolicy.org/litigation/case_law/index.htm.

The Toronto Medical Officer of Health for the Toronto Board of Health recommended to Health Canada that public exposure limits for RF/MW radiation be made 100 times stricter; however the recommendation was not allowed, since, as in the US, only the Canadian federal government can regulate RF/MW radiation exposure level.

World Health Organization Efforts

In 1996, the World Health Organization (WHO) established the International EMF Project to review the scientific literature and work towards resolution of health concerns over the use of RF/MW technology. WHO maintains a Web site that provides addition information on this project and about RF/MW biological effects and research. For further information go to http://www.who.int/peh-emf/en/.

Conclusion

For decades, the International Association of Fire Fighters has been directly involved in protecting and promoting the health and safety of our membership. However, we simply don't know at this time what the possible health consequences of long-term-exposure to low-intensity RF/MW radiation of the type used by the cell phone base stations and antennas will be. No one knows--the data just aren't there. The chairman of the International Commission on Non-Ionizing Radiation Protection ICNIRP), one of the leading international organizations which formulated the current RF/MW radiation exposure guidelines, has stated that the guidelines include "no consideration regarding prudent avoidance" for health effects for which evidence is less than conclusive [(49)]

Again, fire department facilities, where fire fighters and emergency response personnel live and work are not the proper place for a technology which could endanger their health and safety

The only reasonable and responsible course is to conduct a study of the highest scientific merit and integrity on the RF/MW radiation health effects to our membership and, in the interim, oppose the use of fire stations as base stations for towers and/or antennas for the conduction of cell phone transmissions until it is proven that such sitings are not hazardous to the health of our members.

Footnotes

[back] 1. **Revised and Amended IAFF Resolution No. 15; August 2004**

Study of Firefighters Exposed to Radio Frequency (RF) Radiation from Cell Towers/Masts

WHEREAS, fire stations across the United States and Canada are being sought by wireless companies as base stations for the antennas and towers for the conduction of cell phone transmissions; and

WHEREAS, many firefighters who are living with cell towers on or adjacent to their stations are paying a substantial price in terms of physical and mental health. As first responders and protectors of the general public, it is crucial that firefighters are functioning at optimal cognitive and physical capacity at all times; and

WHEREAS, the brain is the first organ to be affected by RF radiation and symptoms manifest in a multitude of neurological conditions including migraine headaches, extreme fatigue, disorientation, slowed reaction time, vertigo, vital memory loss and attention deficit amidst life threatening emergencies; and

WHEREAS, most of the firefighters who are experiencing symptoms can attribute the onset to the first week(s) these towers/antennas were activated; and

WHEREAS, RF radiation is emitted by these cellular antennas and RF radiation can penetrate every living cell, including plants, animals and humans; and

WHEREAS, both the U. S. and Canadian governments established regulatory limits for RF radiation based on thermal (heat) measurements with no regard for the adverse health effects from non-thermal radiation which is proven to harm the human brain and immune system; and

WHEREAS, the U. S. Environmental Protection Agency stated in a July 16, 2002, letter, "Federal health and safety agencies have not yet developed policies concerning possible risk from long-term, non-thermal exposures. The FCC's exposure guideline is considered protective of effects arising from a thermal mechanism (RF radiation from cell towers is non-thermal) but not from all possible mechanisms. Therefore, the generalization by many that the guidelines protecting human beings from harm by any or all mechanisms is not justified"; and

WHEREAS, an Expert Panel Report requested by the Royal Society of Canada prepared for Health Canada (1999) stated that, "Exposure to RF fields at intensities far less than levels required to produce measurable heating can cause effects in cells and tissues. These biological effects include alterations in the activity of the enzyme ornithine decarboxylase, in calcium regulation, and in the permeability of the blood-brain barrier. Some of these biological effects brought about by non-thermal exposure levels of RF could potentially be associated with adverse health effects"; and

WHEREAS, based on concerns over growing scientific evidence of dangers from RF radiation, an international conference was convened in Salzburg, Austria, in the summer of 2000 where renowned scientists declared the upper-most RF radiation exposure limit from a tower-mast should be 1/10th of 1 microwatt (Note that 1/10th of 1 microwatt is 10,000 times lower than the uppermost limit allowed by the U. S. or Canada.); and it should be noted this limit was set because of study results showing brain wave changes at 1/10th of 1 microwatt; and

WHEREAS, in a recently cleared paper by Dr. Richard A. Albanese of the U. S. Air Force, a highly recognized physician in the area of the impact of radiation on the human body, Dr. Albanese states, "I would ask a good faith effort in achieving as low exposure rates as are possible within reasonable financial constraints. Also I would fund targeted studies using animal subjects and human groups living or working in high radiation settings or heavy cellular phone users, emphasizing disease causations. I urge acceptance of the ideal that there should be no unmonitored occupational or environmental exposures whose associated disease rates are unknown." (The opinions expressed herein are those of Dr. Albanese, and do not reflect the policies of the United States Air Force.); and

WHEREAS, recently a study, not affiliated with the wireless industry, was conducted of firefighters exposed to RF radiation from cell towers/antennas affixed to their stations.** The study revealed brain damage that can be differentiated from chemical causation (such as inhalation of toxic smoke) suggesting RF radiation as the cause of the brain damage found on SPECT scans; and

WHEREAS, firefighters are the protectors of people and property and should be protected under the Precautionary Principle of Science and therefore, unless radiation is proven safe and harmless, cellular antennas should not be placed on or near fire stations; therefore be it

RESOLVED, That the IAFF shall seek funding for an initial U. S. and Canadian study with the highest scientific merit and integrity, contrasting firefighters with residence in stations with towers to firefighters without similar exposure; and be it further

RESOLVED, That in accordance with the results of the study, the IAFF will establish protective policy measures with the health and safety of all firefighters as the paramount objective; and be it further

RESOLVED, That the IAFF oppose the use of fire stations as base stations for antennas and towers for the conduction of cell phone transmissions until such installations are proven not to be hazardous to the health of our members.

**Note: A pilot study was conducted in 2004 of six California fire fighters working and sleeping in stations with towers. The study, conducted by Gunnar Heuser, M.D., PhD. of Agoura Hills, CA, focused on neurological symptoms of six fire fighters who had been working for up to five years in stations with cell towers. Those symptoms included slowed reaction time, lack of focus, lack of impulse control, severe headaches, anesthesia-like sleep, sleep deprivation, depression, and tremors. Dr. Heuser used functional brain scans - SPECT scans - to assess any changes in the brains of the six fire fighters as compared to healthy brains of men of the same age. Computerized psychological testing known as TOVA was used to study reaction time, impulse control, and attention span. The SPECT scans revealed a pattern of abnormal change which was concentrated over a wider area than would normally be seen in brains of individuals exposed to toxic inhalation, as might be expected from fighting fires. Dr. Heuser concluded the only plausible explanation at this time would be RF radiation exposure. Additionally, the TOVA testing revealed among the six fire fighters delayed reaction time, lack of impulse control, and difficulty in maintaining mental focus.

[back] 2. An international blue ribbon panel assembled by the National Institute of Environmental Health Sciences (NIEHS) designated power frequency electromagnetic fields (EMF) as "possible human carcinogens" on June 24, 1998. The panel's decision was based largely on the results of epidemiological studies of children exposed at home and workers exposed on the job. The evaluation of the EMF literature followed procedures developed by the International Agency for Research on Cancer (IARC), based in Lyon, France. The working group's report will be the basis for the NIEHS report to Congress on the EMF Research and Public Information Dissemination program (EMF RAPID). The National Radiological Protection Board (NRPB) of the United Kingdom noted that the views of its Advisory Group on Non-Ionizing Radiation are "consistent with those of the NIEHS expert panel."

June 26, 1998 statement of the National Radiological Protection Board, sited in Microwave News, July/August 1998

[back] 3. *World Health Organization; International Agency for Research on Cancer; IARC Monographs on the Evaluation of Carcinogenic Risks to Humans; Volume 80 Non-Ionizing Radiation, Part 1: Static and Extremely Low-Frequency (ELF) Electric and Magnetic Fields; 2002; 429 pages; ISBN 92 832 1280 0;* See http://www-cie.iarc.fr/htdocs/monographs/vol80/80. This IARC Monograph provides the rationale for its designation of ELF/EMF as a possible human carcinogen. It states that:

A few studies on genetic effects have examined chromosomal aberrations and micronuclei in lymphocytes from workers exposed to ELF electric and magnetic fields. In these studies, confounding by genotoxic agents (tobacco, solvents) and comparability between the exposed and control groups are of concern. Thus, the studies reporting an increased frequency of chromosomal aberrations and micronuclei are difficult to interpret.

Many studies have been conducted to investigate the effects of ELF magnetic fields on various genetic end-points. Although increased DNA strand breaks have been reported in brain cells of exposed rodents, the results are inconclusive; most of the studies show no effects in mammalian cells exposed to magnetic fields alone at levels below 50 µT. However, extremely strong ELF magnetic

fields have caused adverse genetic effects in some studies. In addition, several groups have reported that ELF magnetic fields enhance the effects of known DNA- and chromosome-damaging agents such as ionizing radiation.

The few animal studies on cancer-related non-genetic effects are inconclusive. Results on the effects on in-vitro cell proliferation and malignant transformation are inconsistent, but some studies suggest that ELF magnetic fields affect cell proliferation and modify cellular responses to other factors such as melatonin. An increase in apoptosis following exposure of various cell lines to ELF electric and magnetic fields has been reported in several studies with different exposure conditions. Numerous studies have investigated effects of ELF magnetic fields on cellular end-points associated with signal transduction, but the results are not consistent.

[back] 4. The International Commission on Non-Ionizing Radiation Protection (ICNIRP) statement "Health Issues Related to the Use of Hand-Held Radiotelephones and Base Transmitters" of 1996 reads:

"Thermally mediated effects of RF fields have been studied in animals, including primates. These data suggest effects that will probably occur in humans subjected to whole body or localized heating sufficient to increase tissue temperatures by greater than 1C. They include the induction of opacities of the lens of the eye, possible effects on development and male fertility, various physiological and thermoregulatory responses to heat, and a decreased ability to perform mental tasks as body temperature increases. Similar effects have been reported in people subject to heat stress, for example while working in hot environments or by fever. The various effects are well established and form the biological basis for restricting occupational and public exposure to radiofrequency fields. In contrast, non-thermal effects are not well established and currently do not form a scientifically acceptable basis for restricting human exposure for frequencies used by hand-held radiotelephones and base stations."

International Commission on Non-Ionizing Radiation Protection, "Health Issues Related to the Use of Hand-Held Radiotelephones and Base Transmitters," Health Physics 70:587-593, 1996

The ANSI/IEEE Standard for Safety Levels of 1992 similarly states:

"An extensive review of the literature revealed once again that the most sensitive measurements of potentially harmful biological effects were based on the disruption of ongoing behavior associated with an increase of body temperature in the presence of electromagnetic fields. Because of the paucity of reliable data on chronic exposures, IEEE Subcommittee IV focused on evidence of behavioral disruption under acute exposures, even disruption of a transient and fully reversible nature."

IEEE Standards Coordinating committee 28 on Non-Ionizing Radiation Hazards: Standard for Safe Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 KHz to 300 GHz (ANSI/IEEE C95.1-1991), The Institute of Electrical and Electronics Engineers, New York, 1992.

[back] 5. Drs. Czerska, Casamento, Ning, and Davis (working for the Food and Drug Administration in 1997) using "a waveform identical to that used in digital cellular phones" at a power level within our current standards (SAR of 1.6 W/Kg, the maximum spatial peak exposure level recommended for the general population in the ANSI C95.1-1991 standard) found increases in cellular proliferation in human glioblastoma cells. This shows that "acceptable" levels of radiation can cause human cancer cells to multiply faster. The authors note that "because of reported associations between cellular

phone exposure and the occurrence of a brain tumor, glioblastoma, a human glioblastoma cell line was used" in their research.

E.M. Czerska, J. Casamento, J. T. Ning, and C. Davis, "Effects of Radiofrequency Electromagnetic Radiation on Cell Proliferation," [Abstract presented on February 7, 1997 at the workshop 'Physical Characteristics and Possible Biological Effects of Microwaves Applied in Wireless Communication, Rockville, MD] E. M. Czerska, J. Casamento Centers for Devices and Radiological Health, Food and Drug Administration, Rockville, Maryland 20857, USA; H. T. Ning, Indian Health Service, Rockville, Maryland 20857, USA; C. Davis, Electrical Engineering Dept., Univ. of Maryland, College Park, Maryland 20742, USA

[back] 6. Dr. Michael Repacholi (in 1997, currently the director of the International Electromagnetic Fields Project at the World Health Organization) took one hundred transgenic mice and exposed some to radiation for two 30 minute periods a day for up to 18 months. He found that the exposed mice developed lymphomas (a type of cancer) at twice the rate of the unexposed mice. While telecommunications industry spokespersons criticized the experiment for using mice with a mutation which predisposed them to cancer (transgenic) the researchers pointed out that "some individuals inherit mutations in other genes...that predispose them to develop cancer, and these individuals may comprise a subpopulation at special risk from agents that would pose an otherwise insignificant risk of cancer."

Dr. Repacholi stated "I believe this is the first animal study showing a true non-thermal effect." He repeated the experiment in 1998 using 50 Hz fields instead of the 900 MHz pulsed radiation (the type used by cellular phones) used in the original experiment and found no cancer risk. He stated that this new data had implications for his original cellular phone study: "the control groups for both our RF and 50 Hz field studies showed no statistical differences, which lessens the possibility that the RF/MW radiation study result was a chance event or due to errors in methodology."

It is extremely important to note that Dr. Michael Repacholi was Chairman of the ICNIRP at the time its Statement on Health Issues Related to the Use of Hand-Held Radiotelephones and Base Transmitters was developed in 1996.

M. Repacholi et al., "Lymphomas in Eμ-Pim1 Transgenic Mice Exposed to Pulsed 900 MHz Electromagnetic Fields," Radiation Research, 147, pp.631-640, May 1997

[back] 7. Dr. Ross Adey (Veterans Administration Hospital at Loma Linda University in 1996) found what appeared to be a protective effect in rats exposed to the type of radiation used in digital cellular phones. The rats were exposed to an SAR of 0.58-0.75 W/Kg 836 MHz pulsed radiation of the TDMA type two hours a day, four days a week for 23 months, with the signals turned on and off every 7.5 minutes, so total exposure was 4 hours a week. Interestingly this effect was not present when a non-digital, analog signal was used. Rats exposed developed cancer less often. This study shows that low power fields of the digital cellular frequency can influence cancer development. Whether they would protect or promote in our children is a question for further study.

Ross Adey of the Veterans Administration Hospital at Loma Linda University, CA presented the results of pulsed (digital cellular) radiation on June 13, 1996 at the 18th Annual Meeting of the Bioelectromagnetics Society in Victoria, Canada. He presented the findings of the analog cellular phone radiation effect at the June 1997 2nd World Congress for Electricity and Magnetism in Biology and Medicine in Bologna, Italy. Reviews can be found in Microwave News issues July/August, 1996 and March/April 1997.

In recognition of his more than three decades of "fundamental contributions to the emerging science of the biological effects of electromagnetic fields," the authors of the November 2004 Report of the European Union's REFLEX Project (*Risk Evaluation of Potential Environmental Hazards From Low Frequency Electromagnetic Field Exposure Using Sensitive in vitro Methods*) chose to include Dr. Adey's personal views on Electromagnetic Field Exposure research as the Foreword to that report. To view the entire report, see: http://www.itis.ethz.ch/downloads/REFLEX_Final%20Report_171104.pdf

The following is taken from Dr. Adey's Foreword found on pages 1-3 of the REFLEX Report:

The Future of Fundamental Research in a Society Seeking Categoric Answers to Health Risks of New Technologies

In summary, we have become superstitious users of an ever-growing range of technologies, but we are now unable to escape the web that they have woven around us.

Media reporters in general are no better informed. Lacking either responsibility or accountability, they have created feeding frenzies from the tiniest snippets of information gleaned from scientific meetings or from their own inaccurate interpretation of published research. In consequence, the public has turned with pleading voices to government legislatures and bureaucracies for guidance . . .

We face the problem brought on by the blind leading the blind. Because of public pressure for rapid answers to very complex biological and physical issues, short-term research programs have been funded to answer specific questions about certain health risks.

In many countries, and particularly in the USA, the effects of such harassing and troublesome tactics on independent, careful fundamental research have been near tragic. Beguiled by health hazard research as the only source of funding, accomplished basic scientists have diverted from a completely new frontier in physical regulation of biological mechanisms at the atomic level. Not only have governments permitted corporate interests in the communications industry to fund this research, they have even permitted them to determine the research questions to be addressed and to select the institutions performing the research.

[back] 8. Dr. A. W. Guy reported an extensive investigation on rats chronically exposed from 2 up to 27 months of age to low-level pulsed microwaves at SARs up to 0.4 W/Kg. The exposed group was found to have a significantly higher incidence of primary cancers.

A. W. Guy, C. K. Chou, L. Kunz, L, Crowley, and J. Krupp, "Effects of Long-Term Low-Level Radiofrequency Radiation Exposure on Rats." Volume 9. Summary. Brooks Air Force Base, Texas, USAF School of Aerospace Medicine, USF-SAM-TR-85-11; 1985

[back] 9. Drs. Henry Lai and N. P. Singh of the University of Washington in Seattle have reported both single- and double-strand DNA breaks in the brains of rats exposed to radiofrequency electromagnetic radiation at an SAR of 1.2 W/Kg. DNA is the carrier of the genetic information in all living cells. Cumulated DNA strand breaks in brain cells can lead to cancer or neurodegenerative diseases.

H. Lai and N. P. Singh, "Single- and Double-Strand DNA Breaks in Rat Brain Cells After Acute Exposure to Radiofrequency Electromagnetic Radiation," International Journal of Radiation Biology, Vol 69, No. 4, 513-521, 1996

[back] 10. Dr. Stanislaw Szmigielski has studied many thousands of Polish soldiers. He has found that those exposed to radiofrequency and microwave radiation in the workplace had more than double the cancer rate of the unexposed servicemen analyzing data from 1971-1985. He has presented further data suggesting a dose-response relationship with soldiers exposed to 100-200 W/cm^2 suffering 1.69 times as many cancers as the unexposed, and those exposed to 600-1000 W/cm^2 suffering 4.63 times as many cancers. The level considered safe for the public according to FCC regulations is 1000 W/cm^2. Occupational exposure up to 5000 W/cm^2 is allowed.

S. Szmigielski, "Cancer Morbidity in Subjects Occupationally Exposed to High Frequency (Radiofrequency and Microwave) Electromagnetic Radiation," The Science of the Total Environment 180:9-17, 1996

[back] 11. Dr. Bruce Hocking found an association between increased childhood leukemia incidence and mortality in the proximity of television towers. The power density ranged from 0.2-8.0 W/cm^2 nearer and 0.02 W/cm^2 farther from the towers.

B. Hocking, I. R. Gordon, H. L. Grain, and G. E. Hatfield, "Cancer Incidence and Mortality and Proximity to TV Towers," Medical Journal of Australia 165: 601-605; 1996

[back] 12. Drs. Mann and Röschke investigated the influence of pulsed high-frequency RF/MW radiation of digital mobile radio telephones on sleep in healthy humans. They found a hypnotic effect with shortening of sleep onset latency and a REM (Rapid Eye Movement) suppressive effect with reduction of duration and percentage of REM sleep. "REM sleep plays a special physiological role for information processing in the brain, especially concerning consolidation of new experiences. Thus the effects observed possibly could be associated with alterations of memory and learning functions."

K. Mann and J. Röschke, "Effects of Pulsed High-Frequency Electromagnetic Fields on Human Sleep," Neuropsychobiology 33:41-47, 1996

[back] 13. Dr. Allen Frey has been researching RF/MW radiation for over 3 decades. Here is the abstract on a paper concerning headaches and cellular phone radiation. "There have been numerous recent reports of headaches occurring in association with the use of hand-held cellular telephones. Are these reported headaches real? Are they due to emissions from telephones? There is reason to believe that the answer is "yes" to both questions. There are several lines of evidence to support this conclusion. First, headaches as a consequence of exposure to low intensity microwaves were reported in the literature 30 years ago. These were observed during the course of microwave hearing research before there were cellular telephones. Second, the blood-brain barrier appears to be involved in headaches, and low intensity microwave energy exposure affects the barrier. Third, the dopamine-opiate systems of the brain appear to be involved in headaches, and low intensity electromagnetic energy exposure affects those systems. In all three lines of research, the microwave energy used was approximately the same--in frequencies, modulations, and incident energies--as those emitted by present day cellular telephones, Could the current reports of headaches be the canary in the coal mine, warning of biologically significant effects?"

A. H. Frey, "Headaches from Cellular Telephones: Are they Real and What Are the Implications?" Environmental Health Perspectives Volume 106, Number 3, pp.101-103, March 1998

[back] 14. Henry Lai's review of the literature concerning neurological effects of RF/MW radiation: Existing data indicate that RF/MW radiation of relatively low intensity can affect the nervous system. Changes in blood-brain barrier, morphology, electrophysiology, neurotransmitter functions, cellular metabolism, and calcium efflux, and genetic effects have been reported in the brain of animals after

exposure to RF. These changes can lead to functional changes in the nervous system. Behavioral changes in animals after exposure to RR have been reported.

Even a temporary change in neural functions after RF/MW radiation exposure could lead to adverse consequences. For example, a transient loss of memory function or concentration could result in an accident when a person is driving. Loss of short term working memory has indeed been observed in rats after acute exposure to RF/MW radiation.

Research has also shown that the effects of RF/MW radiation on the nervous system can cumulate with repeated exposure. The important question is, after repeated exposure, will the nervous system adapt to the perturbation and when will homeostasis break down? Related to this is that various lines of evidence suggest that responses of the central nervous system to RF/MW radiation could be a stress response. Stress effects are well known to cumulate over time and involve first adaptation and then an eventual break down of homeostatic processes.

H. Lai, "Neurological Effects of Radiofrequency Electromagnetic Radiation Relating to Wireless Communication Technology," Paper presentation at the IBC-UK Conference: "Mobile Phones-Is There a Health Risk?" September 16-17, 1997, Brussels, Belgium

[back] 15. Blood-Brain-Barrier: The blood-brain-barrier (BBB) is primarily a continuous layer of cells lining the blood vessels of the brain. It is critical for regulation of the brain's activity. Lai notes that "Even though most studies indicate that changes in the BBB occurs only after exposure to RF/MW radiation of high intensities with significant increase in tissue temperature, several studies have reported increases in permeability after exposure to RF/MW radiation of relatively low intensities...Pulsed RF seems to be more potent than continuous wave RF." Pulsed RF/MW is the type used in digital cellular systems. Effects on the BBB were noted at the 0.2 W/cm^2 level, and even at SAR of 0.016-5 W/kg. These effects could lead to local changes in brain function.

H. Lai, Ibid

[back] 16. Cellular Morphology: RF/MW radiation induced morphological changes of the central nervous system cells and tissues have been shown to occur under relatively high intensity or prolonged exposure to the RF/MW radiation. However, there are several studies which show that repeated exposure at relatively low power intensities caused morphological changes in the central nervous system. Again here pulsed (as in digital phone use) RF/MW radiation produced more pronounced effects. Certain drugs given to nonhuman primates sensitized them, for instance allowing eye damage to occur at very low power intensities. Dr Lai notes "Changes in morphology, especially cell death, could have an important implication on health. Injury-induced cell proliferation has been hypothesized as a cause of cancer." Some of these experiments were in the range of SAR 0.53 W/kg or even 0.26 W/kg.

H. Lai, Ibid

[back] 17. Neural Electrophysiology: Changes in neuronal electrophysiology, evoked potentials, and EEG have been reported. Some effects were observed at low intensities and after repeated exposure, suggesting cumulative effect. Energy density levels were as low as 50 W/cm^2.

H. Lai, Ibid

[back] 18. Neurotransmitters: Neurotransmitters are molecules which transmit information from one nerve cell to another. Early studies have reported changes in various neurotransmitters (catecholamines, serotonin, and acetylcholine) in the brain of animals only after exposure to high intensities of RF/MW radiation. However, there are more recent studies that show changes in neurotransmitter functions after exposure to low intensities of RF radiation. For example, effects were seen at 50 $\mu W/cm^2$ in one experiment. U.S. and Canadian RF/MW radiation safety policies allow exposures of 1000 $\mu W/cm^2$ at that frequency.

RF/MW radiation activates endogenous opioids in the brain. Endogenous opioids are neurotransmitters with morphine-like properties and are involved in many important physiological and behavioral functions, such as pain perception and motivation.

The response to RF/MW radiation depends on the area of the brain studied and on the duration of exposure. Exposure to RF/MW radiation has been shown to affect the behavioral actions of benzodiazepines (these are drugs such as Valium).

H. Lai, Ibid

[back] 19. Metabolic Changes in Neural Tissue: Several studies investigated the effects of RF/MW radiation exposure on energy metabolism in the rat brain. Surprisingly, changes were reported after exposure to relatively low intensity RF/MW radiation for a short duration of time (minutes). The effects depended on the frequency and modulation characteristics of the RF/MW radiation and did not seem to be related to temperature changes in the tissue.

Calcium ions play important roles in the functions of the nervous system, such as the release of neurotransmitters and the actions of some neurotransmitter receptors. Thus changes in calcium ion concentration could lead to alterations in neural functions. This is an area of considerable controversy because some researchers have also reported no significant effects of RF/MW radiation exposure on calcium efflux. However, when positive effects were observed, they occurred after exposure to RF/MW radiation of relatively low intensities and were dependent on the modulation and intensity of the RF/MW radiation studied (window effects). Some studies had SARs as low as 0.05-0.005 W/Kg.

H. Lai, Ibid

[back] 20. Cytogenetic effects have been reported in various types of cells after exposure to RF/MW radiation. Recently, several studies have reported cytogenetic changes in brain cells by RF/MW radiation , and these results could have important implication for the health effects of RF/MW radiation . Genetic damage to glial cells can result in carcinogenesis. However, since neurons do not undergo mitosis, a more likely consequence of neuronal genetic damage is changes in functions and cell death, which could either lead to or accelerate the development of neurodegenerative diseases. Power densities of 1 mW/cm^2 were employed, a level considered safe for the public by the FCC.

RF/MW radiation -induced increases in single and double strand DNA breaks in rats can be blocked by treating the rats with melatonin or the spin-trap compound N-t-butyl--phenylnitrone. Since both compounds are potent free radical scavengers, these data suggest that free radicals may play a role in the genetic effect of RF. If free radicals are involved in the RF-induced DNA strand breaks in brain cells, results from this study could have an important implication on the health effects of RF exposure. Involvement of free radicals in human diseases, such as cancer and atherosclerosis, has been suggested. Free radicals also play an important role in the aging process, which has been ascribed to be a consequence of accumulated oxidative damage to body tissues, and involvement of free radicals in neurodegenerative diseases, such as Alzheimer's, Huntington, and Parkinson, has also been

suggested. One can also speculate that some individuals may be more susceptible to the effects of RF/MW radiation exposure.

H. Lai, Ibid

[back] 21. Dr. A. A. Kolodynski and V. V. Kolodynska of the Institute of Biology, Latvian Academy of Sciences, presented the results of experiments on school children living in the area of the Skrunda Radio Location Station in Latvia. Motor function, memory, and attention significantly differed between the exposed and control groups. The children living in front of the station had less developed memory and attention and their reaction time was slower.

A. A. Kolodynski, V. V. Kolodynska, "Motor and Psychological Functions of School Children Living in the Area of the Skrunda Radio Location Station in Latvia," The Science of the Total Environment 180:87-93, 1996

[back] 22. Dr. H. Lai and colleagues in 1993 exposed rats to 45 minutes of pulsed high frequency RF/MW radiation at low intensity and found that the rats showed retarded learning, indicating a deficit in spatial "working memory" function.

H Lai, A. Horita, and A. W. Guy, "Microwave Irradiation Affects Radial-Arm Maze Performance in the Rat," Bioelectromagnetics 15:95-104, 1994

NOTE: *Dr. Lai's January 2005 compilation of published RF/MW radiation studies demonstrating biological effects of exposure to low-intensity RF/MW radiation is included as a Reference section at the end of this report.*

[back] 23. Dr. Stefan Braune reported a 5-10 mm Hg resting blood pressure rise during exposure to RF/MW radiation of the sort used by cellular phones in Europe. The Lancet, the British medical journal where the report appeared, stated that "Such an increase could have adverse effects on people with high blood pressure."

S. Braune, "Resting Blood Pressure Increase During Exposure to a Radio-Frequency Electromagnetic Field," The Lancet 351, pp. 1,857-1,858, 1998

[back] 24. Dr. Kues and colleagues (of Johns Hopkins University and the Food and Drug Administration) found that placing timolol and pilocarpine into the eyes of monkeys and then exposing them to low power density pulsed RF/MW radiation caused a significant reduction in the power-density threshold for causing damage to the cells covering the eye and the iris. In fact the power was reduced by a factor of 10, so that it entered the "acceptable, safe" level of the FCC, 1 mW/cm^2! Timolol and pilocarpine are commonly used by people suffering from glaucoma. This is a very important study, as it points to the fact that laboratory experiments under "ideal" conditions are rarely what one finds in real life. The "safe" level of RF/MW radiation exposure for healthy people is likely to be very different than for those of us who suffer from illness, take medications, or are perhaps simply younger or older than those in the experiments.

H. A. Kues, J. C. Monahan, S. A. D'Anna, D. S. McLeod, G. A. Lutty, and S. Koslov, "Increased Sensitivity of the Non-Human Primate Eye to Microwave Radiation Following Ophthalmic Drug Pretreatment," Bioelectromagnetics 13:379-393, 1992

[back] 25. The World Health Organization states that "concerns have been raised about the safety of cellular mobile telephones, electric power lines and police speed-control 'radar guns.' Scientific reports have suggested that exposure to electromagnetic fields emitted from these devices could have adverse health effects, such as cancer, reduced fertility, memory loss, and adverse changes in the behaviour and development of children." Therefore, "In May 1996, in response to growing public health concerns in many Member States over possible health effects from exposure to an ever-increasing number and diversity of EMF sources, the World Health Organization launched an international project to assess health and environmental effects of exposure to electric and magnetic fields, which became known as the International EMF Project. The International EMF Project will last for five years." "A number of studies at [frequencies above about 1 MHz] suggest that exposure to RF fields too weak to cause heating may have adverse health consequences, including cancer and memory loss. Identifying and encouraging coordinated research into these open questions is one of the major objectives of the International EMF Project."

World Health Organization Fact Sheet N181, "Electromagnetic Fields and Public Health, The International EMF Project," reviewed May 1998 and World Health Organization Fact Sheet N182, "Electromagnetic Fields and Public Health, Physical Properties and Effects on Biological Systems," reviewed May 1998,

[back] 26. The U. S. Food and Drug Administration in a January 14, 1998 letter to the House Telecommunications Subcommittee stated it "believes additional research in the area of RF is needed." In 1997 the FDA established the following priorities:

- Chronic (lifetime) animal exposures should be given the highest priority.
- Chronic animal exposures should be performed both with and without the application of chemical initiating agents to investigate tumor promotion in addition to tumorigenesis.
- Identification of potential risks should include end points other than brain cancer (e.g. ocular effects of RF radiation exposure).
- Replication of prior studies demonstrating positive biological effects work is needed. A careful replication of the Chou and Guy study (*Bioelectromagnetics, 13,* pp.469-496, 1992) which suggests that chronic exposure of rats to microwaves is associated with an increase in tumors, would contribute a great deal to the risk identification process for wireless communication products.
- Genetic toxicology studies should focus on single cell gel studies of DNA strand breakage and on induction of micronuclei.
- Epidemiology studies focused on approaches optimized for hazard identification are warranted.

Food and Drug Administration Recommendations quoted in Microwave News, March/April, 1997

[back] 27. The International Agency for Research on Cancer (IARC) is planning a multi-country, multi-million dollar study of cancer among users of wireless phones, beginning 1998. *Microwave News, January/February, 1998*

[back] 28. The Swedish Work Environmental Fund initiated a new epidemiological study on cellular phone radiation and brain tumors in 1997. *Microwave News, November/December, 1997*

[back] 29. The National Cancer Institute announced plans for a 5 year study of brain tumors and RF/MW radiation in 1993. *Microwave News, January/February, 1993*

[back] 30. The European Commission (EC) Expert Group on health effects of wireless phones called for a 5 year research program with a $20 million budget, reported 1997. *Microwave News , January/February, 1997*

[back] 31. A report commissioned by New Zealand's Ministry of Health stated that "It is imperative that the scientific issues be clarified as soon as possible, as there is much at stake." It called for more research to examine the potential health effects of RF radiation. *Microwave News, November/December, 1996*

[back] 32. The National Health and Medical Research Council of Australia announced its sponsorship of a 5 year, $3.5 million project on potential health effects of mobile phone technology in 1996. *Microwave News, November/December, 1996*

[back] 33. The Commonwealth Scientific Industrial Research Organization (CSIRO) of Australia concluded in 1995 that the safety of cellular telephones cannot be resolved "in the near future." Dr. Stan Barnett, a principal researcher of CSIRO, states that "My goal is to establish a national committee to approach this problem by coordinating relevant and focused research." He estimated a budget of $3 million over a 3 year period would be necessary.

Commonwealth Scientific Industrial Research Organization, "Status of Research on Biological Effects and Safety of Electromagnetic Radiation: Telecommunications Frequencies," a report prepared by Dr. Stan Barnett, as sited in Microwave News, September/October, 1995

[back] 34. In Canada, Expert Panels are formed in response to requests from governments and other organizations for guidance on public policy issues where specialized knowledge is required. The Royal Society of Canada (RSC) is the only national academic organization, encompassing all fields of study in the sciences, arts and humanities that provides, through its Committee on Expert Panels, a service to Canadians by convening Expert Panels that produce publicly disseminated, arms-length, third party reviews. The most recent Expert Panel report addressing RF/MW radiation examines new data on dosimetry and exposure assessment, thermoregulation, biological effects such as enzyme induction, and toxicological effects, including genotoxicity, carcinogenicity, and testicular and reproductive outcomes. Epidemiological studies of mobile phone users and occupationally exposed populations are examined, along with human and animal studies of neurological and behavioural effects. All of the authoritative reviews completed within the last two years have supported the need for further research to clarify the possible associations between RF fields and adverse health outcomes that have appeared in some reports.
See: http://www.rsc.ca//index.php?lang_id=1&page_id=120.

Recent Advances in Research on Radiofrequency Fields and Health: 2001-2003; A Follow-up to The Royal Society of Canada, Report on the Potential Health Risks of Radiofrequency Fields from Wireless Telecommunication Devices, 1999

[back] 35. The European Union effort to address this issue is in the study *Risk Evaluation of Potential Environmental Hazards from Low Energy Electromagnetic Field Exposure Using Sensitive in vitro Methods* (REFLEX). Exposure to electromagnetic fields (EMF) in relation to health is a controversial topic throughout the industrial world. So far epidemiological and animal studies have generated conflicting data and thus uncertainty regarding possible adverse health effects. This situation has triggered controversies in communities especially in Europe with its high density of population and industry and the omnipresence of EMF in infrastructures and consumer products. These controversies are affecting the siting of facilities, leading people to relocate, schools to close or power lines to be re-sited, all at great expense. The European Union believes that causality between EMF exposure and disease can never be regarded as proven without knowledge and understanding of the basic mechanisms possibly triggered by EMF. To search for those basic mechanisms powerful technologies developed in toxicology and molecular biology were to be employed in the REFLEX project to investigate cellular and sub-cellular responses of living cells exposed to EMF in vitro.

The REFLEX data have made a substantial addition to the data base relating to genotoxic and phenotypic effects of both ELF-EMF and RF-EMF on *in vitro* cellular systems. While the data neither precludes nor confirms a health risk due to EMF exposure nor was the project designed for this purpose, the value lies in providing new data that will enable mechanisms of EMF effects to be studied more effectively than in the past. Furthermore, the REFLEX data provide new information that will be used for risk evaluation by WHO, IARC and ICNIRP. For further information on REFLEX see: http://europa.eu.int/comm/research/quality-of-life/ka4/ka4_electromagnetic_en.html

[back] 36. The Swedish Radiation Protections Institute (SSI) endeavors to ensure that human beings and the environment are protected from the harmful effects of radiation, both in the present and in the future. SSI has focused on epidemiological research on cancer and exposure from mobile phones and transmitters as well as experimental cancer research. In addition three selected topics were also discussed, namely blood-brain barrier, heat shock proteins, and precautionary framework. For further information on SSI see: http://www.ssi.se/forfattning/eng_forfattlista.html

[back] 37. In the United Kingdom, the National Radiological Protection Board (NRPB) was created by the Radiological Protection Act 1970. The statutory functions of NRPB are to advance the acquisition of knowledge about the protection of mankind from radiation hazards through research and to provide information and advice to persons (including Government Departments) with responsibilities in the United Kingdom in relation to the protection from radiation hazards either of the community as a whole or of particular sections of the community. The NFPB believes that there is a need for better occupational studies rather than simply for more. In particular, the studies need to be of occupational groups for whom measurements show that there is genuinely a substantially raised exposure to RF fields. If the studies are to be more informative than those so far, a key requirement will be for improved exposure measurement (or improved estimation of exposure) for individuals, or at least for occupational groups. It would be desirable, as far as practical, that the studies should measure the intensity and timing of RF field exposures, and also that they should include some assessment of major RF field exposures from sources other than the current occupation. Ideally, exposure assessment needs to be anatomical site (organ)-specific, because some sources result in greatly differing doses to different parts of the body. It is a difficulty in these prescriptions, of course, that the appropriate exposure metric is unknown. For further information on NRPB see: http://www.nrpb.org/index.htm

[back] 38. On January 5, 2005, the EMF-Team Finland issued the Helsinki Appeal 2005 to members of the European Parliament. In it physicians and researchers call on the European Parliament to apply the Precautionary Principle to electromagnetic fields, especially in the radio- and microwave-frequency bands. They criticize the present RF/MW radiation safety standards that do not recognize the biological effects caused by non-thermal exposures to non-ionizing radiation [i.e., RF/MW radiation.] They also call for continued refunding of the REFLEX EMF research program. The text of the Helsinke Appeal 2005 is found at: http://www.emrpolicy.org/news/headlines/index.htm

[back] 39. On July 19, 1993 Dr. Elizabeth Jacobson, Deputy Director for Science, Center for Devices and Radiological Health, Food and Drug Administration criticized Thomas Wheeler, President of the Cellular Telecommunications Industry Association:

"I am writing to let you know that we were concerned about two important aspects of your press conference of July 16 concerning the safety of cellular phones, and to ask that you carefully consider the following comments when you make future statements to the press. First, both the written press statements and your verbal comments during the conference seemed to display an unwarranted confidence that these products will be found absolutely safe. In fact, the unremittingly upbeat tone of

the press packet strongly implies that there can be no hazard, leading the reader to wonder why any further research would be needed at all.....More specifically, your press packet selectively quotes from our Talk Paper of February 4 in order to imply that FDA believes that cellular phones are "safe." ("There is no proof at this point that cellular phones are harmful.") In fact, the same Talk Paper also states, "There is not enough evidence to know for sure, either way." Our position, as we have stated it before, is this: Although there is no direct evidence linking cellular phones with harmful effects in humans, a few animal studies suggest that such effects could exist. It is simply too soon to assume that cellular phones are perfectly safe, or that they are hazardous--either assumption would be premature. This is precisely why more research is needed."

Full text of letter can be found in Microwave News, July/August, 1993

[back] 40. In 1993 the Director of the Office of Radiation and Indoor Air of the Environmental Protection Agency suggested that the FCC not adopt the 1992 ANSI/IEEE standard "due to serious flaws," among them (1) "the ANSI/IEEE conclusion that there is no scientific data indicating that certain subgroups of the population are more at risk than others is not supported by NCRP and EPA reports" and (2) "the thesis that ANSI/IEEE recommendations are protective of all mechanisms of interaction is unwarranted because the adverse effects level in the 1992 ANSI/IEEE standard are based on a thermal effect."

Letter from Margo T. Oge, Director, Office of Radiation and Indoor Air to Thomas Stanley, Chief Engineer, Office of engineering and Technology, FCC, dated Nov 9, 1993

[back] 41. A brief sampling of the CSIRO report:

Problems in studies of human populations published to date include imprecise estimates of exposure. As a result, such epidemiological studies may underestimate any real risk. The likelihood of epidemiological studies providing useful information is questionable, particularly if the biological end point cannot be predicted. Its value in the short term (less than 10 years) must be negligible unless there was an enormous increase in the rate of cancer growth. Interestingly, the incidence of brain tumors in the EC countries has increased substantially in recent years.

RF safety cannot be assessed in the absence of reported serious effects when so little research has been aimed at the problem. It is somewhat surprising, and rather disappointing, to find that although the literature contains many hundreds of publications, there are very few areas of consensus....At low levels the absence of clear thresholds and [the] presence of intensity and frequency windows have created questions rather than provided answers.

There is no doubt that the interpretation of bioeffects data has been clouded by a preoccupation with thermally mediated processes. In fact, development of the ANSI/IEEE standard is based only on well-established thermal effects, and ignores the more subtle non-thermal processes that are more difficult to interpret and apply to human health.

Commonwealth Scientific Industrial Research Organization, "Status of Research on Biological Effects and Safety of Electromagnetic Radiation: Telecommunications Frequencies," a report prepared by Dr. Stan Barnett, as sited in Microwave News, September/October, 1995

[back] 42. Statement from the October 25-28, 1998 "*Symposium of Mobile Phones and Health - Workshop on Possible Biological and Health Effects of RF Electromagnetic Fields*" held at the University of Vienna, Austria.

The preferred terminology to be used in public communication: Instead of using the terms "athermal", "non-thermal" or "microthermal" effects, the term "low intensity biological effects" is more appropriate.

Preamble: The participants agreed that biological effects from low-intensity exposures are scientifically established. However, the current state of scientific consensus is inadequate to derive reliable exposure standards. The existing evidence demands an increase in the research efforts on the possible health impact and on an adequate exposure and dose assessment.

Base stations: How could satisfactory Public Participation be ensured: The public should be given timely participation in the process. This should include information on technical and exposure data as well as information on the status of the health debate. Public participation in the decision (limits, siting, etc.) should be enabled.

Cellular phones: How could the situation of the users be improved: Technical data should be made available to the users to allow comparison with respect to EMF-exposure. In order to promote prudent usage, sufficient information on the health debate should be provided. This procedure should offer opportunities for the users to manage reduction in EMF-exposure. In addition, this process could stimulate further developments of low-intensity emission devices.

[back] 43. Statement from the June 7-8, 2000 International Conference on Cell Tower Siting Linking Science and Public Health, Salzburg, Austria. The full report can be found at: www.land-sbg.gv.at/celltower

- It is recommended that development rights for the erection and for operation of a base station should be subject to a permission procedure. The protocol should include the following aspects:
    - Information ahead and active involvement of the local public
    - Inspection of alternative locations for the siting
    - Protection of health and wellbeing
    - Considerations on conservation of land- and townscape
    - Computation and measurement of exposure
    - Considerations on existing sources of HF-EMF exposure
    - Inspection and monitoring after installation

- It is recommended that a national database be set up on a governmental level giving details of all base stations and their emissions.

- It is recommended for existing and new base stations to exploit all technical possibilities to ensure exposure is as low as achievable (ALATA-principle) and that new base stations are planned to guarantee that the exposure at places where people spend longer periods of time is as low as possible, but within the strict public health guidelines.

- Presently the assessment of biological effects of exposures from base stations in the low-dose range is difficult but indispensable for protection of public health. There is at present evidence of no threshold for adverse health effects.

  - Recommendations of specific exposure limits are prone to considerable uncertainties and should be considered preliminary. For the total of all high frequency irradiation a limit value of 100 mW/m² (10 µW/cm²) is recommended.

  - For preventive public health protection a preliminary guideline level for the sum total of exposures from all ELF pulse modulated high-frequency facilities such as GSM base stations of 1 mW/m² (0.1 µW/cm²) is recommended.

[back] 44. Scientists attending the September 13-14, 2002 International Conference "State of the Research on Electromagnetic Fields – Scientific and Legal Issues," organized by ISPESL (National Institute for Prevention and Work Safety, Italy), the University of Vienna, and the City of Catania, held in Catania, Italy, agreed to the following:

- Epidemiological and *in vivo* and *in vitro* experimental evidence demonstrates the existence for electromagnetic field (EMF) induced effects, some of which can be adverse to health.

- We take exception to arguments suggesting that weak (low intensity) EMF cannot interact with tissue.

- There are plausible mechanistic explanations for EMF-induced effects which occur below present ICNIRP and IEEE guidelines and exposure recommendations by the EU.

- The weight of evidence calls for preventive strategies based on the precautionary principle. At times the precautionary principle may involve prudent avoidance and prudent use.

- We are aware that there are gaps in knowledge on biological and physical effects, and health risks related to EMF, which require additional independent research.

[back] 45. The Freiburger Appeal is a German based appeal by mainly medical practitioners who are concerned about the effects, they believe, from mobile phone technology including masts that are appearing in their patients. It started in Oct 2002 and with very little international publicity has got 50,000 signatories with at least 2000 medical signatures from across the world. Mast These physicians and scientists agreed to establish an international scientific commission to promote research for the protection of public health from EMF and to develop the scientific basis and strategies for assessment, prevention, management and communication of risk, based on the precautionary principle.

Excerpt:

On the basis of our daily experiences, we hold the current mobile communications technology (introduced in 1992 and since then globally extensive) and cordless digital telephones (DECT standard) to be among the fundamental triggers for this fatal development. One can no longer evade these pulsed microwaves. They heighten the risk of already-present chemical/physical influences,

stress the body–immune system, and can bring the body–still-functioning regulatory mechanisms to a halt. Pregnant women, children, adolescents, elderly and sick people are especially at risk.

Statement of the physicians and researchers of Interdisziplinäre Gesellschaft für Umweltmedizin e. V. (Interdisciplinary Association for Environmental Medicine) IGUMED, Sackingen, Germany, September 19, 2002. The Freiburger Appeal can be found at: http://www.mastsanity.org/doctors-appeals.html.

[back] 46. Report of the European Union's REFLEX Project (Risk Evaluation of Potential Environmental Hazards from Low Frequency Electromagnetic Field Exposure Using Sensitive *in vitro* Methods), November 2004. The Project studied ELF and RF exposures to various animal cell types. The report is found at: http://www.itis.ethz.ch/downloads/REFLEX_Final%20Report_171104.pdf

From the Summary: *[t]he omnipresence of EMF's in infrastructures and consumer products have become a topic of public concern. This is due to the fear of people that based on the many conflicting research data a risk to their health cannot be excluded with some certainty. Therefore, the overall objective of REFLEX was to find out whether or not the fundamental biological processes at the cellular and molecular level support such an assumption. For this purpose, possible effects of EMF's on cellular events controlling key functions, including those involved in carcinogenesis and in the pathogenesis of neurodegenerative disorders, were studied through focused research. Failure to observe the occurrence of such key critical events in living cells after EMF exposure would have suggested that further research efforts in this field could be suspended and financial resources be reallocated to the investigation of more important issues. But as clearly demonstrated, the results of the REFLEX project show the way into the opposite direction.*

[back] 47. From the Discussion section of the December 20, 2004 Second Annual Report of Sweden's Radiation Protection Board (SSI) entitled: *Recent Research on Mobile Telephony and Health Risks: Second Annual Report from SSI's Independent Expert Group on Electromagnetic Fields*. The complete report is available at: http://www.ssi.se/english/EMF_exp_Eng_2004.pdf

To date, little is known about the levels of radiofrequency radiation exposure in the general population from sources such as mobile phones being used by oneself or other people, mobile phone base stations, and radio and television transmitters. Measurements that have been performed have usually been made as a result of public concern about base station exposures or other specific sources, and have therefore been made at locations that could be assumed to have higher fields than would be the case if measurement locations were selected randomly. Furthermore, all measurements have been stationary, and there is today no knowledge about the level of exposure that an individual will have throughout the day.

There is need for information about the personal exposure to RF fields in the general population, to enhance the understanding of the relative importance of exposure from base stations close to the home, from radio and television transmitters, and from the use of mobile phones . . . Studies with personal RF exposure measurements of randomly selected samples of the general population are strongly encouraged.

[back] 48. Released January 11, 2005, Mobile Phones and Health 2004: Report by the Board of NRPB Documents of the NRPB: Volume 15, No.

5. See: http://www.nrpb.org/publications/documents_of_nrpb/abstracts/absd15-5.htm

From the Executive Summary:

The Board notes that a central recommendation in the Stewart Report was that a precautionary approach to the use of mobile phone technologies be adopted until much more detailed and scientifically robust information on any health effects becomes available.

The Board considers that it is important to understand the signal characteristics and field strengths arising from new telecommunications systems and related technologies, to assess the RF exposure of people, and to understand the potential biological effects on the human body.

[back] 49. The ICNIRP exposure guidelines are only designed to protect against "known adverse health impacts," according to Dr. Jürgen Bernhardt, ICNIRP's chairman. Bernhardt reviewed the updated limits, which cover the spectrum from 1 Hz to 300 GHz, in a presentation at the *20th Annual Meeting of the Bioelectromagnetics Society* in St. Pete Beach, FL, on June 10. The limits protect against "short-term, immediate health effects" such as nerve stimulation, contact shocks and thermal insults, according to the guidelines, which appear in the April issue of *Health Physics* (*74*, pp.494-522, 1998). Despite "suggestive" evidence that power frequency magnetic fields can be carcinogenic, ICNIRP has concluded that this and other non-thermal health effects have not been "established." ICNIRP has long followed this approach to standard-setting. In his talk, Bernhardt noted that the guidelines include "no consideration regarding prudent avoidance" for health effects for which evidence is less than conclusive.

Microwave News, July/August 1998

Additional References and Studies

The following references reporting biological effects of radiofrequency radiation (RFR) at low intensities through January 2005 were compiled on 12/27/04 by Henry C. Lai PhD, Research Professor of Bioengineering, University of Washington, Seattle, WA

Balode *Sci Total Environ* 180(1):81-85, 1996 - blood cells from cows from a farm close and in front of a radar installation showed significantly higher level of severe genetic damage.

Boscol et al. *Sci Total Environ* 273(1-3):1-10, 2001 - RFR from radio transmission stations (0.005 mW/cm^2) affects immune system in women.

Chiang et al. *J. Bioelectricity* 8:127-131, 1989 - people who lived and worked near radio antennae and radar installations showed deficits in psychological and short-term memory tests.

de Pomerai et al. *Nature* 405:417-418, 2000. *Enzyme Microbial Tech* 30:73-79, 2002 - reported an increase in a molecular stress response in cells after exposure to a RFR at a SAR of 0.001 W/kg. This stress response is a basic biological process that is present in almost all animals - including humans.

de Pomerai et al. (*FEBS Lett* 22;543(1-3):93-97, 2003 - RFR damages proteins at 0.015-0.020 W/kg.

D'Inzeo et al. *Bioelectromagnetics* 9(4):363-372, 1988 - very low intensity RFR (0.002 – 0.004 mW/cm^2) affects the operation of acetylcholine-related ion-channels in cells. These channels play important roles in physiological and behavioral functions.

Dolk et al. *Am J Epidemiol* 145(1):1-91997- a significant increase in adult leukemias was found in residents who lived near the Sutton Coldfield television (TV) and frequency modulation (FM) radio transmitter in England.

Dutta et al.*Bioelectromagnetics* 10(2):197-202 1989 - reported an increase in calcium efflux in cells after exposure to RFR at 0.005 W/kg. Calcium is an important component of normal cellular functions.

Fesenko et al. *Bioelectrochem Bioenerg* 49(1):29-35, 1999 - reported a change in immunological functions in mice after exposure to RFR at a power density of 0.001 mW/cm^2.

Hallberg O, Johansson O, (2004) concluded that continuous disturbance of cell repair mechanisms by body-resonant FM electromagnetic fields seems to amplify the carcinogenic effects resulting from cell damage caused e.g. by UV-radiation.

Hjollund et al. *Reprod Toxicol* 11(6):897, 1997 - sperm counts of Danish military personnel, who operated mobile ground-to-air missile units that use several RFR emitting radar systems (maximal mean exposure 0.01 mW/cm^2), were significantly lower compared to references.

Hocking et al. *Med J Aust* 165(11-12):601-605, 1996 - an association was found between increased childhood leukemia incidence and mortality and proximity to TV towers.

Ivaschuk et al. *Bioelectromagnetics* 18(3):223-229, 1999 - short-term exposure to cellular phone RFR of very low SAR (26 mW/kg) affected a gene related to cancer.

Kolodynski and Kolodynska, *Sci Total Environ* 180(1):87-93, 1996 - school children who lived in front of a radio station had less developed memory and attention, their reaction time was slower, and their neuromuscular apparatus endurance was decreased.

Kwee et al. *Electro- and Magnetobiology* 20: 141-152, 2001 - 20 minutes of cell phone RFR exposure at 0.0021 W/kg increased stress protein in human cells.

Lebedeva et al. *Crit Rev Biomed Eng* 28(1-2):323-337, 2000 - brain wave activation was observed in human subjects exposed to cellular phone RFR at 0.06 mW/cm^2.

Magras and Xenos *Bioelectromagnetics* 18(6):455-461, 1999 - reported a decrease in reproductive function in mice exposed to RFR at power densities of 0.000168 - 0.001053 mW/cm^2. Irreversible sterility was found in the fifth generation of offspring.

Mann et al. *Neuroendocrinology* 67(2):139-144, 1998 - a transient increase in blood cortisol was observed in human subjects exposed to cellular phone RFR at 0.02 mW/cm^2. Cortisol is a hormone involved in stress reaction.

Marinelli et al. *J Cell Physiol.* 198(2):324-332, 2004 - exposure to 900-MHz RFR at 0.0035 W/kg affected cell's self-defense responses.

Michelozzi et al. *Epidemiology* 9 (Suppl) 354p, 1998 - leukemia mortality within 3.5 km (5,863 inhabitants) near a high power radio-transmitter in a peripheral area of Rome was higher than expected.

Michelozzi et al. *Am J Epidemiol* 155(12):1096-1103, 2002 - childhood leukemia higher at a distance up to 6 km from a radio station.

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Phillips et al. *Bioelectrochem. Bioenerg.* 45:103-110, 1998 - reported DNA damage in cells exposed to RFR at SAR of 0.0024 - 0.024 W/kg.

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Pyrpasopoulou et al. *Bioelectromagnetics* 25(3):216-227, 2004 - exposure to cell phone radiation during early gestation at SAR of 0.0005 W/kg (5 µW/cm^2) affected kidney development in rats.

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Santini et al. *Pathol Biol* (Paris) 50(6):369-373, 2002 - increase in complaint frequencies for tiredness, headache, sleep disturbance, discomfort, irritability, depression, loss of memory, dizziness, libido decrease, in people who lived within 300 m of mobile phone base stations.

Sarimov et al. *IEEE Trans Plasma Sci* 32:1600-1608, 2004 - GSM microwaves affect human lymphocyte chromatin similar to stress response at 0.0054 W/kg.

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Somosy et al. *Scanning Microsc* 5(4):1145-1155, 1991 - RFR at 0.024 W/kg caused molecular and structural changes in cells of mouse embryos.

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Stark et al. *J Pineal Res* 22(4):171-176, 1997 - a two- to seven-fold increase of salivary melatonin concentration was observed in dairy cattle exposed to RFR from a radio transmitter antenna.

Tattersall et al. *Brain Res* 904(1):43-53, 2001 - low-intensity RFR (0.0016 - 0.0044 W/kg) can modulate the function of a part of the brain called the hippocampus, in the absence of gross thermal effects. The changes in excitability may be consistent with reported behavioral effects of RFR, since the hippocampus is involved in learning and memory.

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Velizarov et al. *Bioelectrochem Bioenerg* 48(1):177-180, 1999 - showed a decrease in cell proliferation (division) after exposure to RFR of 0.000021 - 0.0021 W/kg.

Veyret et al. *Bioelectromagnetics* 12(1):47-56, 1991 - low intensity RFR at SAR of 0.015 W/kg affects functions of the immune system.

Wolke et al. *Bioelectromagnetics* 17(2):144-153, 1996 - RFR at 0.001W/kg affects calcium concentration in heart muscle cells of guinea pigs.

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INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS

DIVISION OF OCCUPATIONAL HEALTH, SAFETY AND MEDICINE

Position on the Health Effects from Radio Frequency/Microwave (RF/MW) Radiation in Fire Department Facilities from Base Stations for Antennas and Towers for the Conduction of Cell Phone Transmissions

http://www.iaff.org/hs/Facts/CellTowerFinal.asp

The International Association of Fire Fighters' position on locating cell towers commercial wireless infrastructure on fire department facilities, as adopted by its membership in August 2004 [(1)], is that the IAFF oppose the use of fire stations as base stations for towers and/or antennas for the conduction of cell phone transmissions until a study with the highest scientific merit and integrity on health effects of exposure to low-intensity RF/MW radiation is conducted and it is proven that such sitings are not hazardous to the health of our members.

Further, the IAFF is investigating funding for a U.S. and Canadian study that would characterize exposures from RF/MW radiation in fire houses with and without cellular antennae, and examine the health status of the fire fighters as a function of their assignment in exposed or unexposed fire houses. Specifically, there is concern for the effects of radio frequency radiation on the central nervous system (CNS) and the immune system, as well as other metabolic effects observed in preliminary studies.

It is the belief of some international governments and regulatory bodies and of the wireless telecommunications industry that no consistent increases in health risk exist from exposure to RF/MW radiation unless the intensity of the radiation is sufficient to heat body tissue. However, it is important to note that these positions are based on non-continuous exposures to the general public to low intensity RF/MW radiation emitted from wireless telecommunications base stations. Furthermore, most studies that are the basis of this position are at least five years old and generally look at the safety of the phone itself. IAFF members are concerned about the effects of living directly under these antenna base stations for a considerable stationary period of time and on a daily basis. There are established biological effects from exposure to low-level RF/MW radiation. Such biological effects are recognized as markers of adverse health effects when they arise from exposure to toxic chemicals for example.

The IAFF's efforts will attempt to establish whether there is a correlation between such biological effects and a health risk to fire fighters and emergency medical personnel due to the siting of cell phone antennas and base stations at fire stations and facilities where they work.

Background

Critical questions concerning the health effects and safety of RF/MW radiation remain. Accordingly, should we allow exposure of our fire fighters and emergency medical personnel to this radiation to continue for the next twenty years when there is ongoing controversy over many aspects of RF/MW health effects? While no one disagrees that serious health hazards occur when living cells in the body are heated, as happens with high intensity RF/MW exposure (just like in a microwave oven), scientists are currently investigating the health hazards of low intensity RF/MW exposure. Low intensity RF/MW exposure is exposure which does not raise the temperature of the living cells in the body.

Additionally, a National Institute of Environmental Health Sciences panel designated power frequency electromagnetic fields (ELF/EMF) as "possible human carcinogens." [(2)] In March 2002 The International Association on Research on Cancer of the World Health Organization also assigned this designation to ELF/EMF in Volume 80 of its *IARC Monographs on the Evaluation of Carcinogenic Risks to Humans.* [(3)]

Fixed antennas used for wireless telecommunications are referred to as cellular base stations, cell stations, PCS ("Personal Communications Service") stations or telephone transmission towers. These base stations consist of antennas and electronic equipment. Because the antennas need to be high in the air, they are often located on towers, poles, water tanks, or rooftops. Typical heights for freestanding base station towers are 50-200 feet.

Some base stations use antennas that look like poles, 10 to 15 feet in length, that are referred to as "omni-directional" antennas. These types of antennas are usually found in rural areas. In urban and suburban areas, wireless providers now more commonly use panel or sector antennas for their base stations. These antennas consist of rectangular panels, about 1 by 4 feet in dimension. The antennas are usually arranged in three groups of three antennas each. One antenna in each group is used to transmit signals to wireless phones, and the other two antennas in each group are used to receive signals from wireless phones.

At any base station site, the amount of RF/MW radiation produced depends on the number of radio channels (transmitters) per antenna and the power of each transmitter. Typically, 21 channels per antenna sector are available. For a typical cell site using sector antennas, each of the three transmitting antennas could be connected to up to 21 transmitters for a total of 63 transmitters. When omni-directional antennas are used, a cellular base station could theoretically use up to 96 transmitters. Base stations used for PCS communications generally require fewer transmitters than those used for cellular radio transmissions, since PCS carriers usually have a higher density of base station antenna sites.

The electromagnetic RF/MW radiation transmitted from base station antennas travel toward the horizon in relatively narrow paths. The individual pattern for a single array of sector antennas is wedge-shaped, like a piece of pie. Cellular and PCS base stations in the United States are required to comply with limits for exposure recommended by expert organizations and endorsed by government agencies responsible for health and safety. When cellular and PCS antennas are mounted on rooftops, RF/MW radiation levels on that roof or on others near by would be greater than those typically encountered on the ground.

The telecommunications industry claims cellular antennas are safe because the RF/MW radiation they produce is too weak to cause heating, i.e., a "thermal effect." They point to "safety standards" from groups such as ANSI/IEEE or ICNIRP to support their claims. But these groups have explicitly stated that their claims of “safe RF/MW radiation exposure is harmless” rest on the fact that it is too weak to produce a rise in body temperature, a "thermal effect." [(4)]

There is a large body of internationally accepted scientific evidence which points to the existence of non-thermal effects of RF/MW radiation. The issue at the present time is not whether such evidence exists, but rather what weight to give it.

Internationally acknowledged experts in the field of RF/MW radiation research have shown that RF/MW transmissions of the type used in digital cellular antennas and phones can have critical effects on cell cultures, animals, and people in laboratories and have also found epidemiological evidence (studies of communities, not in the laboratory) of serious health effects at "non-thermal levels," where the intensity of the RF/MW radiation was too low to cause heating. They have found:

- Increased cell growth of brain cancer cells [(5)]
- A doubling of the rate of lymphoma in mice [(6)]
- Changes in tumor growth in rats [(7)]
- An increased number of tumors in rats [(8)]
- Increased single- and double-strand breaks in DNA, our genetic material [(9)]
- 2 to 4 times as many cancers in Polish soldiers exposed to RF [(10)]
- More childhood leukemia in children exposed to RF [(11)]
- Changes in sleep patterns and REM type sleep [(12)]
- Headaches caused by RF/MW radiation exposure [(13)]
- Neurologic changes [(14)] including:
    - Changes in the blood-brain-barrier [(15)]
    - Changes in cellular morphology (including cell death) [(16)]
    - Changes in neural electrophysiology (EEG) [(17)]
    - Changes in neurotransmitters (which affect motivation and pain perception) [(18)]
    - Metabolic changes (of calcium ions, for instance) [(19)]
    - Cytogenetic effects (which can affect cancer, Alzheimer's, neurodegenerative diseases) [(20)]
- Decreased memory, attention, and slower reaction time in school children [(21)]
- Retarded learning in rats indicating a deficit in spatial "working memory" [(22)]
- Increased blood pressure in healthy men [(23)]
- Damage to eye cells when combined with commonly used glaucoma medications [(24)]

Many national and international organizations have recognized the need to define the true risk of low intensity, non-thermal RF/MW radiation exposure, calling for intensive scientific investigation to answer the open questions. These include:

- The World Health Organization, noting reports of "cancer, reduced fertility, memory loss, and adverse changes in the behavior and development of children." [(25)]
- The U. S. Food and Drug Administration (FDA) [(26)]

- The International Agency for Research on Cancer (IARC) [27]
- The Swedish Work Environmental Fund [28]
- The National Cancer Institute (NCI) [29]
- The European Commission (EC) [30]
- New Zealand's Ministry of Health [31]
- National Health and Medical Research Council of Australia_[32]
- Commonwealth Scientific Industrial Research Organization of Australia (CSIRO) [33]
- The Royal Society of Canada expert group report prepared for Health Canada [34]
- European Union's REFLEX Project (Risk Evaluation of Potential Environmental Hazards from Low Frequency Electromagnetic Field Exposure Using Sensitive *in vitro* Methods) [35]
- The Independent Group on Electromagnetic Fields of the Swedish Radiation Protection Board (SSI) [36]
- The United Kingdom's National Radiological Protection Board (NRPB) [37]
- The EMF-Team Finland's Helsinki Appeal 2005 [38]

Non-thermal effects are recognized by experts on RF/MW radiation and health to be potential health hazards. Safe levels of RF/MW exposure for these low intensity, non-thermal effects have not yet been established.

The FDA has explicitly rejected claims that cellular phones are "safe." [39]

The Environmental Protection Agency (EPA) has stated repeatedly that the current (ANSI/IEEE) RF/MW safety standards protect only against thermal effects. [40]

Many scientists and physicians question the safety of exposure to RF/MW radiation. The CSIRO study, for example, notes that there are no clear cutoff levels at which low intensity RF/MW exposure has no effect, and that the results of ongoing studies will take years to analyze. [41]

Internationally, researchers and physicians have issued statements that biological effects from low-intensity RF/MW radiation exposure are scientifically established:

- The 1998 Vienna-EMF Resolution [42]
- The 2000 Salzburg Resolution on Mobile Telecommunication Base Stations [43]
- The 2002 Catania Resolution [44]
- The 2002 Freiburger Appeal [45]
- The 2004 Report of the European Union's REFLEX Project (Risk Evaluation of Potential Environmental Hazards from Low Frequency Electromagnetic Field Exposure Using Sensitive *in vitro* Methods) [46]
- The 2004 Second Annual Report from Sweden's Radiation Protection Board (SSI) Independent Expert Group on Electromagnetic Fields Recent Research on Mobile Telephony and Health Risks [47]
- Mobile Phones and Health 2004: Report by the Board of NRPB (The UK's National Radiological Protection Board) [48]

The county of Palm Beach, Florida, the City of Los Angeles, California, and the country of New Zealand have all prohibited cell phone base stations and antennas near schools due to safety

concerns. The British Columbia Confederation of Parent Advisory Councils [BCCPAC] passed a resolution in 2003 banning cellular antennae from schools and school grounds. This organization is comparable to the Parent Teachers Association (PTA) in the United States. The resolution was directed to B.C. Ministry of Education, B.C. Ministry of Children and Family Development, B.C. School Trustees Association, and B.C. Association of Municipalities.

US Government Information

In the United States, the Federal Communications Commission (FCC) has used safety guidelines for RF/MW radiation environmental exposure since 1985.

The FCC guidelines for human exposure to RF/MW radiation are derived from the recommendations of two organizations, the National Council on Radiation Protection and Measurements (NCRP) and the Institute of Electrical and Electronics Engineers (IEEE). In both cases, the recommendations were developed by scientific and engineering experts drawn from industry, government, and academia after extensive reviews of the scientific literature related to the biological effects of RF/MW radiation.

Many countries in Europe and elsewhere use exposure guidelines developed by the International Commission on Non-Ionizing Radiation Protection (ICNIRP). The ICNIRP safety limits are generally similar to those of the NCRP and IEEE, with a few exceptions. For example, ICNIRP recommends different exposure levels in the lower and upper frequency ranges and for localized exposure from certain products such as hand-held wireless telephones. Currently, the World Health Organization is working to provide a framework for international harmonization of RF/MW radiation safety standards.

In order to affirm conformity to standards regarding heating of tissue, measurements are time averaged over 0.1 hours [6 minutes]. This method eliminates any spikes in the readings. Computer power bars have surge protectors to prevent damage to computers. **Fire fighters and emergency medical personnel do not!**

The NCRP, IEEE, and ICNIRP all have identified a whole-body Specific Absorption Rate (SAR) value of 4 watts per kilogram (4 W/kg) as a threshold level of exposure at which harmful biological thermal effects due to tissue heating may occur. Exposure guidelines in terms of field strength, power density and localized SAR were then derived from this threshold value. In addition, the NCRP, IEEE, and ICNIRP guidelines vary depending on the frequency of the RF/MW radiation exposure. This is due to the finding that whole-body human absorption of RF/MW radiation varies with the frequency of the RF signal. The most restrictive limits on whole-body exposure are in the frequency range of 30-300 MHz where the human body absorbs RF/MW energy most efficiently. For products that only expose part of the body, such as wireless phones, exposure limits in terms of SAR only are specified.

Similarly, the exposure limits used by the FCC are expressed in terms of SAR, electric and magnetic field strength, and power density for transmitters operating at frequencies from 300 kHz to 100 GHz. The specific values can be found in two FCC bulletins, OET Bulletins 56 and 65.

OET Bulletin 56, "Questions and Answers about Biological Effects and Potential Hazards of

Radiofrequency Electromagnetic Fields" was designed to provide factual information to the public by answering some of the most commonly asked questions. It includes the latest information on FCC guidelines for human exposure to RF/MW radiation. Further information and a downloadable version of Bulletin 56 can be found at: http://www.fcc.gov/oet/info/documents/bulletins/#56

OET Bulletin 65, "Evaluating Compliance With FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields" was prepared to provide assistance in determining whether proposed or existing transmitting facilities, operations or devices comply with limits for human exposure to RF/MW radiation adopted by the Federal Communications Commission (FCC). Further information and a downloadable version of Bulletin 65 can be found at: http://www.fcc.gov/oet/info/documents/bulletins/#65

The FCC authorizes and licenses products, transmitters, and facilities that generate RF and microwave radiation. It has jurisdiction over all transmitting services in the U.S. except those specifically operated by the Federal Government. Under the National Environmental Policy Act of 1969 (NEPA), the FCC has certain responsibilities to consider whether its actions will significantly affect the quality of the human environment. Therefore, FCC approval and licensing of transmitters and facilities must be evaluated for significant impact on the environment. Human exposure to RF radiation emitted by FCC-regulated transmitters is one of several factors that must be considered in such environmental evaluations. In 1996, the FCC revised its guidelines for RF/MW radiation exposure as a result of a multi-year proceeding and as required by the Telecommunications Act of 1996.

For further information and answers to questions about the safety of RF/MW radiation from transmitters and facilities regulated by the FCC go to http://www.fcc.gov/oet/rfsafety/rf-faqs.html.

Canadian Government Information

Industry Canada is the organization that sets regulatory requirements for electromagnetic spectrum management and radio equipment in Canada. Industry Canada establishes standards for equipment certification and, as part of these standards, developed RSS-102, which specifies permissible radiofrequency RF/MW radiation levels. For this purpose, Industry Canada adopted the limits outlined in Health Canada's Safety-Code 6, which is a guideline document for limiting RF exposure. A downloadable version of "*RSS-102 - Evaluation Procedure for Mobile and Portable Radio Transmitters with respect to Health Canada's Safety Code 6 for Exposure of Humans to Radio Frequency Fields"*, as well as additional information can be found at: http://strategis.ic.gc.ca/epic/internet/insmt-gst.nsf/vwapj/rss102.pdf/$FILE/rss102.pdf .

Safety Code 6 specifies the requirements for the use of radiation emitting devices. This Code replaces the previous Safety Code 6 - EHD-TR-160. A downloadable version of "Limits of Human Exposure to Radiofrequency Electromagnetic Fields in the Frequency Range from 3 kHz TO 300 GHz – Safety Code 6", as well as further detailed information can be found at http://www.hc-sc.gc.ca/hecs-sesc/ccrpb/publication/99ehd237/toc.htm.

US and Canadian Legal Issues

Although some local and state governments have enacted rules and regulations about human

exposure to RF/MW radiation in the past, the Telecommunications Act of 1996 requires the United States Federal Government to control human exposure to RF/MW radiation. In particular, Section 704 of the Act states that, "No State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions." Further information on federal authority and FCC policy is available in a fact sheet from the FCC's Wireless Telecommunications Bureau at www.fcc.gov/wtb.

In a recent opinion filed by Senior Circuit Judge Stephen F. Williams, No. 03-1336 *EMR Network v. Federal Communications Commission and United States of America*, the Court upheld the FCC's decision not to initiate an inquiry on the need to revise its regulations to address non-thermal effects of radiofrequency (RF) radiation from the facilities and products subject to FCC regulation as EMR Network had requested in its September 2001 Petition for Inquiry.

At the request of the EMR Network, the EMR Policy Institute provided legal and research support for this appeal. On January 13, 2005, a Petition for Rehearing *en banc* by the full panel of judges at the DC Circuit Court of Appeals was filed. Briefs, background documents and the DC Circuit decision are found at: http://www.emrpolicy.org/litigation/case_law/index.htm.

The Toronto Medical Officer of Health for the Toronto Board of Health recommended to Health Canada that public exposure limits for RF/MW radiation be made 100 times stricter; however the recommendation was not allowed, since, as in the US, only the Canadian federal government can regulate RF/MW radiation exposure level.

World Health Organization Efforts

In 1996, the World Health Organization (WHO) established the International EMF Project to review the scientific literature and work towards resolution of health concerns over the use of RF/MW technology. WHO maintains a Web site that provides addition information on this project and about RF/MW biological effects and research. For further information go to http://www.who.int/peh-emf/en/.

Conclusion

For decades, the International Association of Fire Fighters has been directly involved in protecting and promoting the health and safety of our membership. However, we simply don't know at this time what the possible health consequences of long-term-exposure to low-intensity RF/MW radiation of the type used by the cell phone base stations and antennas will be. No one knows--the data just aren't there. The chairman of the International Commission on Non-Ionizing Radiation Protection ICNIRP), one of the leading international organizations which formulated the current RF/MW radiation exposure guidelines, has stated that the guidelines include "no consideration regarding prudent avoidance" for health effects for which evidence is less than conclusive [(49)]

Again, fire department facilities, where fire fighters and emergency response personnel live and work are not the proper place for a technology which could endanger their health and safety

The only reasonable and responsible course is to conduct a study of the highest scientific merit and integrity on the RF/MW radiation health effects to our membership and, in the interim, oppose the use of fire stations as base stations for towers and/or antennas for the conduction of cell phone transmissions until it is proven that such sitings are not hazardous to the health of our members.

Footnotes

[back] 1. **Revised and Amended IAFF Resolution No. 15; August 2004**

Study of Firefighters Exposed to Radio Frequency (RF) Radiation from Cell Towers/Masts

WHEREAS, fire stations across the United States and Canada are being sought by wireless companies as base stations for the antennas and towers for the conduction of cell phone transmissions; and

WHEREAS, many firefighters who are living with cell towers on or adjacent to their stations are paying a substantial price in terms of physical and mental health. As first responders and protectors of the general public, it is crucial that firefighters are functioning at optimal cognitive and physical capacity at all times; and

WHEREAS, the brain is the first organ to be affected by RF radiation and symptoms manifest in a multitude of neurological conditions including migraine headaches, extreme fatigue, disorientation, slowed reaction time, vertigo, vital memory loss and attention deficit amidst life threatening emergencies; and

WHEREAS, most of the firefighters who are experiencing symptoms can attribute the onset to the first week(s) these towers/antennas were activated; and

WHEREAS, RF radiation is emitted by these cellular antennas and RF radiation can penetrate every living cell, including plants, animals and humans; and

WHEREAS, both the U. S. and Canadian governments established regulatory limits for RF radiation based on thermal (heat) measurements with no regard for the adverse health effects from non-thermal radiation which is proven to harm the human brain and immune system; and

WHEREAS, the U. S. Environmental Protection Agency stated in a July 16, 2002, letter, “Federal health and safety agencies have not yet developed policies concerning possible risk from long-term, non-thermal exposures. The FCC’s exposure guideline is considered protective of effects arising from a thermal mechanism (RF radiation from cell towers is non-thermal) but not from all possible mechanisms. Therefore, the generalization by many that the guidelines protecting human beings from harm by any or all mechanisms is not justified”; and

WHEREAS, an Expert Panel Report requested by the Royal Society of Canada prepared for Health Canada (1999) stated that, “Exposure to RF fields at intensities far less than levels required to produce measurable heating can cause effects in cells and tissues. These biological effects include alterations in the activity of the enzyme ornithine decarboxylase, in calcium regulation, and in the permeability of the blood-brain barrier. Some of these biological effects

brought about by non-thermal exposure levels of RF could potentially be associated with adverse health effects"; and

WHEREAS, based on concerns over growing scientific evidence of dangers from RF radiation, an international conference was convened in Salzburg, Austria, in the summer of 2000 where renowned scientists declared the upper-most RF radiation exposure limit from a tower-mast should be 1/10th of 1 microwatt (Note that 1/10th of 1 microwatt is 10,000 times lower than the uppermost limit allowed by the U. S. or Canada.); and it should be noted this limit was set because of study results showing brain wave changes at 1/10th of 1 microwatt; and

WHEREAS, in a recently cleared paper by Dr. Richard A. Albanese of the U. S. Air Force, a highly recognized physician in the area of the impact of radiation on the human body, Dr. Albanese states, "I would ask a good faith effort in achieving as low exposure rates as are possible within reasonable financial constraints. Also I would fund targeted studies using animal subjects and human groups living or working in high radiation settings or heavy cellular phone users, emphasizing disease causations. I urge acceptance of the ideal that there should be no unmonitored occupational or environmental exposures whose associated disease rates are unknown." (The opinions expressed herein are those of Dr. Albanese, and do not reflect the policies of the United States Air Force.); and

WHEREAS, recently a study, not affiliated with the wireless industry, was conducted of firefighters exposed to RF radiation from cell towers/antennas affixed to their stations.** The study revealed brain damage that can be differentiated from chemical causation (such as inhalation of toxic smoke) suggesting RF radiation as the cause of the brain damage found on SPECT scans; and

WHEREAS, firefighters are the protectors of people and property and should be protected under the Precautionary Principle of Science and therefore, unless radiation is proven safe and harmless, cellular antennas should not be placed on or near fire stations; therefore be it

RESOLVED, That the IAFF shall seek funding for an initial U. S. and Canadian study with the highest scientific merit and integrity, contrasting firefighters with residence in stations with towers to firefighters without similar exposure; and be it further

RESOLVED, That in accordance with the results of the study, the IAFF will establish protective policy measures with the health and safety of all firefighters as the paramount objective; and be it further

RESOLVED, That the IAFF oppose the use of fire stations as base stations for antennas and towers for the conduction of cell phone transmissions until such installations are proven not to be hazardous to the health of our members.

**Note: A pilot study was conducted in 2004 of six California fire fighters working and sleeping in stations with towers. The study, conducted by Gunnar Heuser, M.D., PhD. of Agoura Hills, CA, focused on neurological symptoms of six fire fighters who had been working for up to five years in stations with cell towers. Those symptoms included slowed reaction time, lack of focus, lack of impulse control, severe headaches, anesthesia-like sleep, sleep deprivation, depression, and tremors. Dr. Heuser used functional brain scans - SPECT scans - to assess any changes in the brains of the six fire fighters as compared to healthy brains of men of the same age. Computerized psychological testing known as TOVA was used to study reaction time, impulse control, and attention span. The SPECT scans revealed a pattern of abnormal change which was concentrated over a wider area than would normally be seen in brains of individuals exposed to toxic inhalation, as might be expected from fighting fires. Dr. Heuser concluded the only plausible explanation at this time would be RF radiation exposure. Additionally, the TOVA testing revealed among the six fire fighters delayed reaction time, lack of impulse control, and difficulty in maintaining mental focus.

[back] 2. An international blue ribbon panel assembled by the National Institute of Environmental Health Sciences (NIEHS) designated power frequency electromagnetic fields (EMF) as "possible human carcinogens" on June 24, 1998. The panel's decision was based largely on the results of epidemiological studies of children exposed at home and workers exposed on the job. The evaluation of the EMF literature followed procedures developed by the International Agency for Research on Cancer (IARC), based in Lyon, France. The working group's report will be the basis for the NIEHS report to Congress on the EMF Research and Public Information Dissemination program (EMF RAPID). The National Radiological Protection Board (NRPB) of the United Kingdom noted that the views of its Advisory Group on Non-Ionizing Radiation are "consistent with those of the NIEHS expert panel."

June 26, 1998 statement of the National Radiological Protection Board, sited in Microwave News, July/August 1998

[back] 3. *World Health Organization; International Agency for Research on Cancer; IARC Monographs on the Evaluation of Carcinogenic Risks to Humans; Volume 80 Non-Ionizing Radiation, Part 1: Static and Extremely Low-Frequency (ELF) Electric and Magnetic Fields; 2002; 429 pages; ISBN 92 832 1280 0;* See http://www-cie.iarc.fr/htdocs/monographs/vol80/80. This IARC Monograph provides the rationale for its designation of ELF/EMF as a possible human carcinogen. It states that:

A few studies on genetic effects have examined chromosomal aberrations and micronuclei in lymphocytes from workers exposed to ELF electric and magnetic fields. In these studies, confounding by genotoxic agents (tobacco, solvents) and comparability between the exposed and control groups are of concern. Thus, the studies reporting an increased frequency of chromosomal aberrations and micronuclei are difficult to interpret.

Many studies have been conducted to investigate the effects of ELF magnetic fields on various genetic end-points. Although increased DNA strand breaks have been reported in brain cells of exposed rodents, the results are inconclusive; most of the studies show no effects in mammalian cells exposed to magnetic fields alone at levels below 50 µT. However, extremely strong ELF magnetic fields have caused adverse genetic effects in some studies. In addition, several groups have reported that ELF magnetic fields enhance the effects of known DNA- and chromosome-damaging agents such as ionizing radiation.

The few animal studies on cancer-related non-genetic effects are inconclusive. Results on the effects on in-vitro cell proliferation and malignant transformation are inconsistent, but some studies suggest that ELF magnetic fields affect cell proliferation and modify cellular responses to other factors such as melatonin. An increase in apoptosis following exposure of various cell lines to ELF electric and magnetic fields has been reported in several studies with different exposure conditions. Numerous studies have investigated effects of ELF magnetic fields on cellular end-points associated with signal transduction, but the results are not consistent.

[back] 4. The International Commission on Non-Ionizing Radiation Protection (ICNIRP) statement "Health Issues Related to the Use of Hand-Held Radiotelephones and Base Transmitters" of 1996 reads:

"Thermally mediated effects of RF fields have been studied in animals, including primates. These data suggest effects that will probably occur in humans subjected to whole body or localized heating sufficient to increase tissue temperatures by greater than 1C. They include the induction of opacities of the lens of the eye, possible effects on development and male fertility, various physiological and thermoregulatory responses to heat, and a decreased ability to perform mental tasks as body temperature increases. Similar effects have been reported in people subject to heat stress, for example while working in hot environments or by fever. The various effects are well established and form the biological basis for restricting occupational and public exposure to radiofrequency fields. In contrast, non-thermal effects are not well established and currently do not form a scientifically acceptable basis for restricting human exposure for frequencies used by hand-held radiotelephones and base stations."

International Commission on Non-Ionizing Radiation Protection, "Health Issues Related to the Use of Hand-Held Radiotelephones and Base Transmitters," Health Physics 70:587-593, 1996

The ANSI/IEEE Standard for Safety Levels of 1992 similarly states:

"An extensive review of the literature revealed once again that the most sensitive measurements of potentially harmful biological effects were based on the disruption of ongoing behavior associated with an increase of body temperature in the presence of electromagnetic fields. Because of the paucity of reliable data on chronic exposures, IEEE Subcommittee IV focused on evidence of behavioral disruption under acute exposures, even disruption of a transient and fully reversible nature."

IEEE Standards Coordinating committee 28 on Non-Ionizing Radiation Hazards: Standard for Safe Levels With Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 KHz to 300 GHz (ANSI/IEEE C95.1-1991), The Institute of Electrical and Electronics Engineers, New York, 1992.

[back]_5. Drs. Czerska, Casamento, Ning, and Davis (working for the Food and Drug Administration in 1997) using "a waveform identical to that used in digital cellular phones" at a power level within our current standards (SAR of 1.6 W/Kg, the maximum spatial peak exposure level recommended for the general population in the ANSI C95.1-1991 standard) found increases in cellular proliferation in human glioblastoma cells. This shows that "acceptable" levels of radiation can cause human cancer cells to multiply faster. The authors note that "because of reported associations between cellular phone exposure and the occurrence of a

brain tumor, glioblastoma, a human glioblastoma cell line was used" in their research.

E.M. Czerska, J. Casamento, J. T. Ning, and C. Davis, "Effects of Radiofrequency Electromagnetic Radiation on Cell Proliferation," [Abstract presented on February 7, 1997 at the workshop 'Physical Characteristics and Possible Biological Effects of Microwaves Applied in Wireless Communication, Rockville, MD] E. M. Czerska, J. Casamento Centers for Devices and Radiological Health, Food and Drug Administration, Rockville, Maryland 20857, USA; H. T. Ning, Indian Health Service, Rockville, Maryland 20857, USA; C. Davis, Electrical Engineering Dept., Univ. of Maryland, College Park, Maryland 20742, USA

[back] 6. Dr. Michael Repacholi (in 1997, currently the director of the International Electromagnetic Fields Project at the World Health Organization) took one hundred transgenic mice and exposed some to radiation for two 30 minute periods a day for up to 18 months. He found that the exposed mice developed lymphomas (a type of cancer) at twice the rate of the unexposed mice. While telecommunications industry spokespersons criticized the experiment for using mice with a mutation which predisposed them to cancer (transgenic) the researchers pointed out that "some individuals inherit mutations in other genes...that predispose them to develop cancer, and these individuals may comprise a subpopulation at special risk from agents that would pose an otherwise insignificant risk of cancer."

Dr. Repacholi stated "I believe this is the first animal study showing a true non-thermal effect." He repeated the experiment in 1998 using 50 Hz fields instead of the 900 MHz pulsed radiation (the type used by cellular phones) used in the original experiment and found no cancer risk. He stated that this new data had implications for his original cellular phone study: "the control groups for both our RF and 50 Hz field studies showed no statistical differences, which lessens the possibility that the RF/MW radiation study result was a chance event or due to errors in methodology."

It is extremely important to note that Dr. Michael Repacholi was Chairman of the ICNIRP at the time its Statement on Health Issues Related to the Use of Hand-Held Radiotelephones and Base Transmitters was developed in 1996.

M. Repacholi et al., "Lymphomas in Eμ-Pim1 Transgenic Mice Exposed to Pulsed 900 MHz Electromagnetic Fields," Radiation Research, 147, pp.631-640, May 1997

[back] 7. Dr. Ross Adey (Veterans Administration Hospital at Loma Linda University in 1996) found what appeared to be a protective effect in rats exposed to the type of radiation used in digital cellular phones. The rats were exposed to an SAR of 0.58-0.75 W/Kg 836 MHz pulsed radiation of the TDMA type two hours a day, four days a week for 23 months, with the signals turned on and off every 7.5 minutes, so total exposure was 4 hours a week. Interestingly this effect was not present when a non-digital, analog signal was used. Rats exposed developed cancer less often. This study shows that low power fields of the digital cellular frequency can influence cancer development. Whether they would protect or promote in our children is a question for further study.

Ross Adey of the Veterans Administration Hospital at Loma Linda University, CA presented the results of pulsed (digital cellular) radiation on June 13, 1996 at the 18th Annual Meeting of the Bioelectromagnetics Society in Victoria, Canada. He presented the findings of the analog

cellular phone radiation effect at the June 1997 2nd World Congress for Electricity and Magnetism in Biology and Medicine in Bologna, Italy. Reviews can be found in Microwave News issues July/August, 1996 and March/April 1997.

In recognition of his more than three decades of "fundamental contributions to the emerging science of the biological effects of electromagnetic fields," the authors of the November 2004 Report of the European Union's REFLEX Project (*Risk Evaluation of Potential Environmental Hazards From Low Frequency Electromagnetic Field Exposure Using Sensitive in vitro Methods*) chose to include Dr. Adey's personal views on Electromagnetic Field Exposure research as the Foreword to that report. To view the entire report, see: http://www.itis.ethz.ch/downloads/REFLEX_Final%20Report_171104.pdf
The following is taken from Dr. Adey's Foreword found on pages 1-3 of the REFLEX Report:

The Future of Fundamental Research in a Society Seeking Categoric Answers to Health Risks of New Technologies

In summary, we have become superstitious users of an ever-growing range of technologies, but we are now unable to escape the web that they have woven around us.

Media reporters in general are no better informed. Lacking either responsibility or accountability, they have created feeding frenzies from the tiniest snippets of information gleaned from scientific meetings or from their own inaccurate interpretation of published research. In consequence, the public has turned with pleading voices to government legislatures and bureaucracies for guidance . . .

We face the problem brought on by the blind leading the blind. Because of public pressure for rapid answers to very complex biological and physical issues, short-term research programs have been funded to answer specific questions about certain health risks.

In many countries, and particularly in the USA, the effects of such harassing and troublesome tactics on independent, careful fundamental research have been near tragic. Beguiled by health hazard research as the only source of funding, accomplished basic scientists have diverted from a completely new frontier in physical regulation of biological mechanisms at the atomic level. Not only have governments permitted corporate interests in the communications industry to fund this research, they have even permitted them to determine the research questions to be addressed and to select the institutions performing the research.

[back] 8. Dr. A. W. Guy reported an extensive investigation on rats chronically exposed from 2 up to 27 months of age to low-level pulsed microwaves at SARs up to 0.4 W/Kg. The exposed group was found to have a significantly higher incidence of primary cancers.

A. W. Guy, C. K. Chou, L. Kunz, L, Crowley, and J. Krupp, "Effects of Long-Term Low-Level Radiofrequency Radiation Exposure on Rats." Volume 9. Summary. Brooks Air Force Base, Texas, USAF School of Aerospace Medicine, USF-SAM-TR-85-11; 1985

[back] 9. Drs. Henry Lai and N. P. Singh of the University of Washington in Seattle have reported both single- and double-strand DNA breaks in the brains of rats exposed to radiofrequency electromagnetic radiation at an SAR of 1.2 W/Kg. DNA is the carrier of the

genetic information in all living cells. Cumulated DNA strand breaks in brain cells can lead to cancer or neurodegenerative diseases.

H. Lai and N. P. Singh, "Single- and Double-Strand DNA Breaks in Rat Brain Cells After Acute Exposure to Radiofrequency Electromagnetic Radiation," International Journal of Radiation Biology, Vol 69, No. 4, 513-521, 1996

[back] 10. Dr. Stanislaw Szmigielski has studied many thousands of Polish soldiers. He has found that those exposed to radiofrequency and microwave radiation in the workplace had more than double the cancer rate of the unexposed servicemen analyzing data from 1971-1985. He has presented further data suggesting a dose-response relationship with soldiers exposed to 100-200 W/cm^2 suffering 1.69 times as many cancers as the unexposed, and those exposed to 600-1000 W/cm^2 suffering 4.63 times as many cancers. The level considered safe for the public according to FCC regulations is 1000 W/cm^2. Occupational exposure up to 5000 W/cm^2 is allowed.

S. Szmigielski, "Cancer Morbidity in Subjects Occupationally Exposed to High Frequency (Radiofrequency and Microwave) Electromagnetic Radiation," The Science of the Total Environment 180:9-17, 1996

[back] 11. Dr. Bruce Hocking found an association between increased childhood leukemia incidence and mortality in the proximity of television towers. The power density ranged from 0.2-8.0 W/cm^2 nearer and 0.02 W/cm^2 farther from the towers.

B. Hocking, I. R. Gordon, H. L. Grain, and G. E. Hatfield, "Cancer Incidence and Mortality and Proximity to TV Towers," Medical Journal of Australia 165: 601-605; 1996

[back] 12. Drs. Mann and Röschke investigated the influence of pulsed high-frequency RF/MW radiation of digital mobile radio telephones on sleep in healthy humans. They found a hypnotic effect with shortening of sleep onset latency and a REM (Rapid Eye Movement) suppressive effect with reduction of duration and percentage of REM sleep. "REM sleep plays a special physiological role for information processing in the brain, especially concerning consolidation of new experiences. Thus the effects observed possibly could be associated with alterations of memory and learning functions."

K. Mann and J. Röschke, "Effects of Pulsed High-Frequency Electromagnetic Fields on Human Sleep," Neuropsychobiology 33:41-47, 1996

[back] 13. Dr. Allen Frey has been researching RF/MW radiation for over 3 decades. Here is the abstract on a paper concerning headaches and cellular phone radiation. "There have been numerous recent reports of headaches occurring in association with the use of hand-held cellular telephones. Are these reported headaches real? Are they due to emissions from telephones? There is reason to believe that the answer is "yes" to both questions. There are several lines of evidence to support this conclusion. First, headaches as a consequence of exposure to low intensity microwaves were reported in the literature 30 years ago. These were observed during the course of microwave hearing research before there were cellular telephones. Second, the blood-brain barrier appears to be involved in headaches, and low intensity microwave energy exposure affects the barrier. Third, the dopamine-opiate systems of

the brain appear to be involved in headaches, and low intensity electromagnetic energy exposure affects those systems. In all three lines of research, the microwave energy used was approximately the same--in frequencies, modulations, and incident energies--as those emitted by present day cellular telephones, Could the current reports of headaches be the canary in the coal mine, warning of biologically significant effects?"

A. H. Frey, "Headaches from Cellular Telephones: Are they Real and What Are the Implications?" Environmental Health Perspectives Volume 106, Number 3, pp.101-103, March 1998

[back] 14. Henry Lai's review of the literature concerning neurological effects of RF/MW radiation: Existing data indicate that RF/MW radiation of relatively low intensity can affect the nervous system. Changes in blood-brain barrier, morphology, electrophysiology, neurotransmitter functions, cellular metabolism, and calcium efflux, and genetic effects have been reported in the brain of animals after exposure to RF. These changes can lead to functional changes in the nervous system. Behavioral changes in animals after exposure to RR have been reported.

Even a temporary change in neural functions after RF/MW radiation exposure could lead to adverse consequences. For example, a transient loss of memory function or concentration could result in an accident when a person is driving. Loss of short term working memory has indeed been observed in rats after acute exposure to RF/MW radiation.

Research has also shown that the effects of RF/MW radiation on the nervous system can cumulate with repeated exposure. The important question is, after repeated exposure, will the nervous system adapt to the perturbation and when will homeostasis break down? Related to this is that various lines of evidence suggest that responses of the central nervous system to RF/MW radiation could be a stress response. Stress effects are well known to cumulate over time and involve first adaptation and then an eventual break down of homeostatic processes.

H. Lai, "Neurological Effects of Radiofrequency Electromagnetic Radiation Relating to Wireless Communication Technology," Paper presentation at the IBC-UK Conference: "Mobile Phones-Is There a Health Risk?" September 16-17, 1997, Brussels, Belgium

[back] 15. Blood-Brain-Barrier: The blood-brain-barrier (BBB) is primarily a continuous layer of cells lining the blood vessels of the brain. It is critical for regulation of the brain's activity. Lai notes that "Even though most studies indicate that changes in the BBB occurs only after exposure to RF/MW radiation of high intensities with significant increase in tissue temperature, several studies have reported increases in permeability after exposure to RF/MW radiation of relatively low intensities...Pulsed RF seems to be more potent than continuous wave RF." Pulsed RF/MW is the type used in digital cellular systems. Effects on the BBB were noted at the 0.2 W/cm^2 level, and even at SAR of 0.016-5 W/kg. These effects could lead to local changes in brain function.

H. Lai, Ibid

[back] 16. Cellular Morphology: RF/MW radiation induced morphological changes of the central nervous system cells and tissues have been shown to occur under relatively high intensity or

prolonged exposure to the RF/MW radiation. However, there are several studies which show that repeated exposure at relatively low power intensities caused morphological changes in the central nervous system. Again here pulsed (as in digital phone use) RF/MW radiation produced more pronounced effects. Certain drugs given to nonhuman primates sensitized them, for instance allowing eye damage to occur at very low power intensities. Dr Lai notes "Changes in morphology, especially cell death, could have an important implication on health. Injury-induced cell proliferation has been hypothesized as a cause of cancer." Some of these experiments were in the range of SAR 0.53 W/kg or even 0.26 W/kg.

H. Lai, Ibid

[back] 17. Neural Electrophysiology: Changes in neuronal electrophysiology, evoked potentials, and EEG have been reported. Some effects were observed at low intensities and after repeated exposure, suggesting cumulative effect. Energy density levels were as low as 50 W/cm^2.

H. Lai, Ibid

[back] 18. Neurotransmitters: Neurotransmitters are molecules which transmit information from one nerve cell to another. Early studies have reported changes in various neurotransmitters (catecholamines, serotonin, and acetylcholine) in the brain of animals only after exposure to high intensities of RF/MW radiation. However, there are more recent studies that show changes in neurotransmitter functions after exposure to low intensities of RF radiation. For example, effects were seen at 50 μW/cm^2 in one experiment. U.S. and Canadian RF/MW radiation safety policies allow exposures of 1000 μW/cm^2 at that frequency.

RF/MW radiation activates endogenous opioids in the brain. Endogenous opioids are neurotransmitters with morphine-like properties and are involved in many important physiological and behavioral functions, such as pain perception and motivation.

The response to RF/MW radiation depends on the area of the brain studied and on the duration of exposure. Exposure to RF/MW radiation has been shown to affect the behavioral actions of benzodiazepines (these are drugs such as Valium).

H. Lai, Ibid

[back] 19. Metabolic Changes in Neural Tissue: Several studies investigated the effects of RF/MW radiation exposure on energy metabolism in the rat brain. Surprisingly, changes were reported after exposure to relatively low intensity RF/MW radiation for a short duration of time (minutes). The effects depended on the frequency and modulation characteristics of the RF/MW radiation and did not seem to be related to temperature changes in the tissue.

Calcium ions play important roles in the functions of the nervous system, such as the release of neurotransmitters and the actions of some neurotransmitter receptors. Thus changes in calcium ion concentration could lead to alterations in neural functions. This is an area of considerable controversy because some researchers have also reported no significant effects of RF/MW radiation exposure on calcium efflux. However, when positive effects were observed, they occurred after exposure to RF/MW radiation of relatively low intensities and were dependent on the modulation and intensity of the RF/MW radiation studied (window effects). Some studies

had SARs as low as 0.05-0.005 W/Kg.

H. Lai, Ibid

[back] 20. Cytogenetic effects have been reported in various types of cells after exposure to RF/MW radiation. Recently, several studies have reported cytogenetic changes in brain cells by RF/MW radiation , and these results could have important implication for the health effects of RF/MW radiation . Genetic damage to glial cells can result in carcinogenesis. However, since neurons do not undergo mitosis, a more likely consequence of neuronal genetic damage is changes in functions and cell death, which could either lead to or accelerate the development of neurodegenerative diseases. Power densities of 1 mW/cm^2 were employed, a level considered safe for the public by the FCC.

RF/MW radiation -induced increases in single and double strand DNA breaks in rats can be blocked by treating the rats with melatonin or the spin-trap compound N-t-butyl--phenylnitrone. Since both compounds are potent free radical scavengers, these data suggest that free radicals may play a role in the genetic effect of RF. If free radicals are involved in the RF-induced DNA strand breaks in brain cells, results from this study could have an important implication on the health effects of RF exposure. Involvement of free radicals in human diseases, such as cancer and atherosclerosis, has been suggested. Free radicals also play an important role in the aging process, which has been ascribed to be a consequence of accumulated oxidative damage to body tissues, and involvement of free radicals in neurodegenerative diseases, such as Alzheimer's, Huntington, and Parkinson, has also been suggested. One can also speculate that some individuals may be more susceptible to the effects of RF/MW radiation exposure.

H. Lai, Ibid

[back] 21. Dr. A. A. Kolodynski and V. V. Kolodynska of the Institute of Biology, Latvian Academy of Sciences, presented the results of experiments on school children living in the area of the Skrunda Radio Location Station in Latvia. Motor function, memory, and attention significantly differed between the exposed and control groups. The children living in front of the station had less developed memory and attention and their reaction time was slower.

A. A. Kolodynski, V. V. Kolodynska, "Motor and Psychological Functions of School Children Living in the Area of the Skrunda Radio Location Station in Latvia," The Science of the Total Environment 180:87-93, 1996

[back] 22. Dr. H. Lai and colleagues in 1993 exposed rats to 45 minutes of pulsed high frequency RF/MW radiation at low intensity and found that the rats showed retarded learning, indicating a deficit in spatial "working memory" function.

H Lai, A. Horita, and A. W. Guy, "Microwave Irradiation Affects Radial-Arm Maze Performance in the Rat," Bioelectromagnetics 15:95-104, 1994

NOTE: *Dr. Lai's January 2005 compilation of published RF/MW radiation studies demonstrating biological effects of exposure to low-intensity RF/MW radiation is included as a Reference section at the end of this report.*

[back] 23. Dr. Stefan Braune reported a 5-10 mm Hg resting blood pressure rise during exposure to RF/MW radiation of the sort used by cellular phones in Europe. The Lancet, the British medical journal where the report appeared, stated that "Such an increase could have adverse effects on people with high blood pressure."

S. Braune, "Resting Blood Pressure Increase During Exposure to a Radio-Frequency Electromagnetic Field," The Lancet 351, pp. 1,857-1,858, 1998

[back] 24. Dr. Kues and colleagues (of Johns Hopkins University and the Food and Drug Administration) found that placing timolol and pilocarpine into the eyes of monkeys and then exposing them to low power density pulsed RF/MW radiation caused a significant reduction in the power-density threshold for causing damage to the cells covering the eye and the iris. In fact the power was reduced by a factor of 10, so that it entered the "acceptable, safe" level of the FCC, 1 mW/cm^2! Timolol and pilocarpine are commonly used by people suffering from glaucoma. This is a very important study, as it points to the fact that laboratory experiments under "ideal" conditions are rarely what one finds in real life. The "safe" level of RF/MW radiation exposure for healthy people is likely to be very different than for those of us who suffer from illness, take medications, or are perhaps simply younger or older than those in the experiments.

H. A. Kues, J. C. Monahan, S. A. D'Anna, D. S. McLeod, G. A. Lutty, and S. Koslov, "Increased Sensitivity of the Non-Human Primate Eye to Microwave Radiation Following Ophthalmic Drug Pretreatment," Bioelectromagnetics 13:379-393, 1992

[back] 25. The World Health Organization states that "concerns have been raised about the safety of cellular mobile telephones, electric power lines and police speed-control 'radar guns.' Scientific reports have suggested that exposure to electromagnetic fields emitted from these devices could have adverse health effects, such as cancer, reduced fertility, memory loss, and adverse changes in the behaviour and development of children." Therefore, "In May 1996, in response to growing public health concerns in many Member States over possible health effects from exposure to an ever-increasing number and diversity of EMF sources, the World Health Organization launched an international project to assess health and environmental effects of exposure to electric and magnetic fields, which became known as the International EMF Project. The International EMF Project will last for five years." "A number of studies at [frequencies above about 1 MHz] suggest that exposure to RF fields too weak to cause heating may have adverse health consequences, including cancer and memory loss. Identifying and encouraging coordinated research into these open questions is one of the major objectives of the International EMF Project."

World Health Organization Fact Sheet N181, "Electromagnetic Fields and Public Health, The International EMF Project," reviewed May 1998 and World Health Organization Fact Sheet N182, "Electromagnetic Fields and Public Health, Physical Properties and Effects on Biological Systems," reviewed May 1998,

[back] 26. The U. S. Food and Drug Administration in a January 14, 1998 letter to the House Telecommunications Subcommittee stated it "believes additional research in the area of RF is needed." In 1997 the FDA established the following priorities:

- Chronic (lifetime) animal exposures should be given the highest priority.
- Chronic animal exposures should be performed both with and without the application of chemical initiating agents to investigate tumor promotion in addition to tumorigenesis.
- Identification of potential risks should include end points other than brain cancer (e.g. ocular effects of RF radiation exposure).
- Replication of prior studies demonstrating positive biological effects work is needed. A careful replication of the Chou and Guy study (*Bioelectromagnetics, 13,* pp.469-496, 1992) which suggests that chronic exposure of rats to microwaves is associated with an increase in tumors, would contribute a great deal to the risk identification process for wireless communication products.
- Genetic toxicology studies should focus on single cell gel studies of DNA strand breakage and on induction of micronuclei.
- Epidemiology studies focused on approaches optimized for hazard identification are warranted.

Food and Drug Administration Recommendations quoted in Microwave News, March/April, 1997

[back] 27. The International Agency for Research on Cancer (IARC) is planning a multi-country, multi-million dollar study of cancer among users of wireless phones, beginning 1998. *Microwave News, January/February, 1998*

[back] 28. The Swedish Work Environmental Fund initiated a new epidemiological study on cellular phone radiation and brain tumors in 1997. *Microwave News, November/December, 1997*

[back] 29. The National Cancer Institute announced plans for a 5 year study of brain tumors and RF/MW radiation in 1993. *Microwave News, January/February, 1993*

[back] 30. The European Commission (EC) Expert Group on health effects of wireless phones called for a 5 year research program with a $20 million budget, reported 1997. *Microwave News , January/February, 1997*

[back] 31. A report commissioned by New Zealand's Ministry of Health stated that "It is imperative that the scientific issues be clarified as soon as possible, as there is much at stake." It called for more research to examine the potential health effects of RF radiation. *Microwave News, November/December, 1996*

[back] 32. The National Health and Medical Research Council of Australia announced its sponsorship of a 5 year, $3.5 million project on potential health effects of mobile phone technology in 1996. *Microwave News, November/December, 1996*

[back] 33. The Commonwealth Scientific Industrial Research Organization (CSIRO) of Australia concluded in 1995 that the safety of cellular telephones cannot be resolved "in the near future." Dr. Stan Barnett, a principal researcher of CSIRO, states that "My goal is to establish a national committee to approach this problem by coordinating relevant and focused research." He estimated a budget of $3 million over a 3 year period would be necessary.

Commonwealth Scientific Industrial Research Organization, "Status of Research on Biological Effects and Safety of Electromagnetic Radiation: Telecommunications Frequencies," a report prepared by Dr. Stan Barnett, as sited in Microwave News, September/October, 1995

[back] 34. In Canada, Expert Panels are formed in response to requests from governments and other organizations for guidance on public policy issues where specialized knowledge is required. The Royal Society of Canada (RSC) is the only national academic organization, encompassing all fields of study in the sciences, arts and humanities that provides, through its Committee on Expert Panels, a service to Canadians by convening Expert Panels that produce publicly disseminated, arms-length, third party reviews. The most recent Expert Panel report addressing RF/MW radiation examines new data on dosimetry and exposure assessment, thermoregulation, biological effects such as enzyme induction, and toxicological effects, including genotoxicity, carcinogenicity, and testicular and reproductive outcomes. Epidemiological studies of mobile phone users and occupationally exposed populations are examined, along with human and animal studies of neurological and behavioural effects. All of the authoritative reviews completed within the last two years have supported the need for further research to clarify the possible associations between RF fields and adverse health outcomes that have appeared in some reports. See: http://www.rsc.ca//index.php?lang_id=1&page_id=120.

Recent Advances in Research on Radiofrequency Fields and Health: 2001-2003; A Follow-up to The Royal Society of Canada, Report on the Potential Health Risks of Radiofrequency Fields from Wireless Telecommunication Devices, 1999

[back] 35. The European Union effort to address this issue is in the study *Risk Evaluation of Potential Environmental Hazards from Low Energy Electromagnetic Field Exposure Using Sensitive in vitro Methods* (REFLEX). Exposure to electromagnetic fields (EMF) in relation to health is a controversial topic throughout the industrial world. So far epidemiological and animal studies have generated conflicting data and thus uncertainty regarding possible adverse health effects. This situation has triggered controversies in communities especially in Europe with its high density of population and industry and the omnipresence of EMF in infrastructures and consumer products. These controversies are affecting the siting of facilities, leading people to relocate, schools to close or power lines to be re-sited, all at great expense. The European Union believes that causality between EMF exposure and disease can never be regarded as proven without knowledge and understanding of the basic mechanisms possibly triggered by EMF. To search for those basic mechanisms powerful technologies developed in toxicology and molecular biology were to be employed in the REFLEX project to investigate cellular and sub-cellular responses of living cells exposed to EMF in vitro.

The REFLEX data have made a substantial addition to the data base relating to genotoxic and phenotypic effects of both ELF-EMF and RF-EMF on *in vitro* cellular systems. While the data neither precludes nor confirms a health risk due to EMF exposure nor was the project designed for this purpose, the value lies in providing new data that will enable mechanisms of EMF effects to be studied more effectively than in the past. Furthermore, the REFLEX data provide new information that will be used for risk evaluation by WHO, IARC and ICNIRP. For further information on REFLEX see: http://europa.eu.int/comm/research/quality-of-life/ka4/ka4_electromagnetic_en.html

[back] 36. The Swedish Radiation Protections Institute (SSI) endeavors to ensure that human beings and the environment are protected from the harmful effects of radiation, both in the present and in the future. SSI has focused on epidemiological research on cancer and exposure from mobile phones and transmitters as well as experimental cancer research. In addition three selected topics were also discussed, namely blood-brain barrier, heat shock

proteins, and precautionary framework. For further information on SSI see: http://www.ssi.se/forfattning/eng_forfattlista.html

[back] 37. In the United Kingdom, the National Radiological Protection Board (NRPB) was created by the Radiological Protection Act 1970. The statutory functions of NRPB are to advance the acquisition of knowledge about the protection of mankind from radiation hazards through research and to provide information and advice to persons (including Government Departments) with responsibilities in the United Kingdom in relation to the protection from radiation hazards either of the community as a whole or of particular sections of the community. The NFPB believes that there is a need for better occupational studies rather than simply for more. In particular, the studies need to be of occupational groups for whom measurements show that there is genuinely a substantially raised exposure to RF fields. If the studies are to be more informative than those so far, a key requirement will be for improved exposure measurement (or improved estimation of exposure) for individuals, or at least for occupational groups. It would be desirable, as far as practical, that the studies should measure the intensity and timing of RF field exposures, and also that they should include some assessment of major RF field exposures from sources other than the current occupation. Ideally, exposure assessment needs to be anatomical site (organ)-specific, because some sources result in greatly differing doses to different parts of the body. It is a difficulty in these prescriptions, of course, that the appropriate exposure metric is unknown. For further information on NRPB see: http://www.nrpb.org/index.htm

[back] 38. On January 5, 2005, the EMF-Team Finland issued the Helsinki Appeal 2005 to members of the European Parliament. In it physicians and researchers call on the European Parliament to apply the Precautionary Principle to electromagnetic fields, especially in the radio- and microwave- frequency bands. They criticize the present RF/MW radiation safety standards that do not recognize the biological effects caused by non-thermal exposures to non-ionizing radiation [i.e., RF/MW radiation.] They also call for continued refunding of the REFLEX EMF research program. The text of the Helsinke Appeal 2005 is found at: http://www.emrpolicy.org/news/headlines/index.htm

[back] 39. On July 19, 1993 Dr. Elizabeth Jacobson, Deputy Director for Science, Center for Devices and Radiological Health, Food and Drug Administration criticized Thomas Wheeler, President of the Cellular Telecommunications Industry Association:

"I am writing to let you know that we were concerned about two important aspects of your press conference of July 16 concerning the safety of cellular phones, and to ask that you carefully consider the following comments when you make future statements to the press. First, both the written press statements and your verbal comments during the conference seemed to display an unwarranted confidence that these products will be found absolutely safe. In fact, the unremittingly upbeat tone of the press packet strongly implies that there can be no hazard, leading the reader to wonder why any further research would be needed at all.....More specifically, your press packet selectively quotes from our Talk Paper of February 4 in order to imply that FDA believes that cellular phones are "safe." ("There is no proof at this point that cellular phones are harmful.") In fact, the same Talk Paper also states, "There is not enough evidence to know for sure, either way." Our position, as we have stated it before, is this: Although there is no direct evidence linking cellular phones with harmful effects in humans, a few animal studies suggest that such effects could exist. It is simply too soon to assume that cellular phones are perfectly safe, or that they are hazardous--either assumption would be

premature. This is precisely why more research is needed."

Full text of letter can be found in Microwave News, July/August, 1993

[back] 40. In 1993 the Director of the Office of Radiation and Indoor Air of the Environmental Protection Agency suggested that the FCC not adopt the 1992 ANSI/IEEE standard "due to serious flaws," among them (1) "the ANSI/IEEE conclusion that there is no scientific data indicating that certain subgroups of the population are more at risk than others is not supported by NCRP and EPA reports" and (2) "the thesis that ANSI/IEEE recommendations are protective of all mechanisms of interaction is unwarranted because the adverse effects level in the 1992 ANSI/IEEE standard are based on a thermal effect."

Letter from Margo T. Oge, Director, Office of Radiation and Indoor Air to Thomas Stanley, Chief Engineer, Office of engineering and Technology, FCC, dated Nov 9, 1993

[back] 41. A brief sampling of the CSIRO report:

Problems in studies of human populations published to date include imprecise estimates of exposure. As a result, such epidemiological studies may underestimate any real risk. The likelihood of epidemiological studies providing useful information is questionable, particularly if the biological end point cannot be predicted. Its value in the short term (less than 10 years) must be negligible unless there was an enormous increase in the rate of cancer growth. Interestingly, the incidence of brain tumors in the EC countries has increased substantially in recent years.

RF safety cannot be assessed in the absence of reported serious effects when so little research has been aimed at the problem. It is somewhat surprising, and rather disappointing, to find that although the literature contains many hundreds of publications, there are very few areas of consensus....At low levels the absence of clear thresholds and [the] presence of intensity and frequency windows have created questions rather than provided answers.

There is no doubt that the interpretation of bioeffects data has been clouded by a preoccupation with thermally mediated processes. In fact, development of the ANSI/IEEE standard is based only on well-established thermal effects, and ignores the more subtle non-thermal processes that are more difficult to interpret and apply to human health.

Commonwealth Scientific Industrial Research Organization, "Status of Research on Biological Effects and Safety of Electromagnetic Radiation: Telecommunications Frequencies," a report prepared by Dr. Stan Barnett, as sited in Microwave News, September/October, 1995

[back] 42. Statement from the October 25-28, 1998 "*Symposium of Mobile Phones and Health - Workshop on Possible Biological and Health Effects of RF Electromagnetic Fields*" held at the University of Vienna, Austria.

The preferred terminology to be used in public communication: Instead of using the terms "athermal", "non-thermal" or "microthermal" effects, the term "low intensity biological effects" is more appropriate.

Preamble: The participants agreed that biological effects from low-intensity exposures are scientifically established. However, the current state of scientific consensus is inadequate to derive reliable exposure standards. The existing evidence demands an increase in the research efforts on the possible health impact and on an adequate exposure and dose assessment.

Base stations: How could satisfactory Public Participation be ensured: The public should be given timely participation in the process. This should include information on technical and exposure data as well as information on the status of the health debate. Public participation in the decision (limits, siting, etc.) should be enabled.

Cellular phones: How could the situation of the users be improved: Technical data should be made available to the users to allow comparison with respect to EMF-exposure. In order to promote prudent usage, sufficient information on the health debate should be provided. This procedure should offer opportunities for the users to manage reduction in EMF-exposure. In addition, this process could stimulate further developments of low-intensity emission devices.

[back] 43. Statement from the June 7-8, 2000 International Conference on Cell Tower Siting Linking Science and Public Health, Salzburg, Austria. The full report can be found at: www.land-sbg.gv.at/celltower

- It is recommended that development rights for the erection and for operation of a base station should be subject to a permission procedure. The protocol should include the following aspects:
    - Information ahead and active involvement of the local public
    - Inspection of alternative locations for the siting
    - Protection of health and wellbeing
    - Considerations on conservation of land- and townscape
    - Computation and measurement of exposure
    - Considerations on existing sources of HF-EMF exposure
    - Inspection and monitoring after installation

- It is recommended that a national database be set up on a governmental level giving details of all base stations and their emissions.

- It is recommended for existing and new base stations to exploit all technical possibilities to ensure exposure is as low as achievable (ALATA-principle) and that new base stations are planned to guarantee that the exposure at places where people spend longer periods of time is as low as possible, but within the strict public health guidelines.

- Presently the assessment of biological effects of exposures from base stations in the low-dose range is difficult but indispensable for protection of public health. There is at present evidence of no threshold for adverse health effects.
    - Recommendations of specific exposure limits are prone to considerable uncertainties and should be considered preliminary. For the total of all high frequency irradiation a limit value of 100 mW/m² (10 µW/cm²) is recommended.
    - For preventive public health protection a preliminary guideline level for the sum total of exposures from all ELF pulse modulated high-frequency facilities such as GSM base stations of 1 mW/m² (0.1 µW/cm²) is recommended.

[back] 44. Scientists attending the September 13-14, 2002 International Conference "State of the Research on Electromagnetic Fields – Scientific and Legal Issues," organized by ISPESL (National Institute for Prevention and Work Safety, Italy), the University of Vienna, and the City of Catania, held in Catania, Italy, agreed to the following:

- Epidemiological and *in vivo* and *in vitro* experimental evidence demonstrates the existence for electromagnetic field (EMF) induced effects, some of which can be adverse to health.
- We take exception to arguments suggesting that weak (low intensity) EMF cannot interact with tissue.
- There are plausible mechanistic explanations for EMF-induced effects which occur below present ICNIRP and IEEE guidelines and exposure recommendations by the EU.
- The weight of evidence calls for preventive strategies based on the precautionary principle. At times the precautionary principle may involve prudent avoidance and prudent use.
- We are aware that there are gaps in knowledge on biological and physical effects, and health risks related to EMF, which require additional independent research.

[back] 45. The Freiburger Appeal is a German based appeal by mainly medical practitioners who are concerned about the effects, they believe, from mobile phone technology including masts that are appearing in their patients. It started in Oct 2002 and with very little international publicity has got 50,000 signatories with at least 2000 medical signatures from across the world. Mast These physicians and scientists agreed to establish an international scientific commission to promote research for the protection of public health from EMF and to develop the scientific basis and strategies for assessment, prevention, management and communication of risk, based on the precautionary principle.

Excerpt:

On the basis of our daily experiences, we hold the current mobile communications technology

(introduced in 1992 and since then globally extensive) and cordless digital telephones (DECT standard) to be among the fundamental triggers for this fatal development. One can no longer evade these pulsed microwaves. They heighten the risk of already-present chemical/physical influences, stress the body–immune system, and can bring the body–still-functioning regulatory mechanisms to a halt. Pregnant women, children, adolescents, elderly and sick people are especially at risk.

Statement of the physicians and researchers of Interdisziplinäre Gesellschaft für Umweltmedizin e. V. (Interdisciplinary Association for Environmental Medicine) IGUMED, Sackingen, Germany, September 19, 2002. The Freiburger Appeal can be found at: http://www.mastsanity.org/doctors-appeals.html.

[back] 46. Report of the European Union's REFLEX Project (Risk Evaluation of Potential Environmental Hazards from Low Frequency Electromagnetic Field Exposure Using Sensitive *in vitro* Methods), November 2004. The Project studied ELF and RF exposures to various animal cell types. The report is found at: http://www.itis.ethz.ch/downloads/REFLEX_Final%20Report_171104.pdf

From the Summary: *[t]he omnipresence of EMF's in infrastructures and consumer products have become a topic of public concern. This is due to the fear of people that based on the many conflicting research data a risk to their health cannot be excluded with some certainty. Therefore, the overall objective of REFLEX was to find out whether or not the fundamental biological processes at the cellular and molecular level support such an assumption. For this purpose, possible effects of EMF's on cellular events controlling key functions, including those involved in carcinogenesis and in the pathogenesis of neurodegenerative disorders, were studied through focused research. Failure to observe the occurrence of such key critical events in living cells after EMF exposure would have suggested that further research efforts in this field could be suspended and financial resources be reallocated to the investigation of more important issues. But as clearly demonstrated, the results of the REFLEX project show the way into the opposite direction.*

[back] 47. From the Discussion section of the December 20, 2004 Second Annual Report of Sweden's Radiation Protection Board (SSI) entitled: *Recent Research on Mobile Telephony and Health Risks: Second Annual Report from SSI's Independent Expert Group on Electromagnetic Fields*. The complete report is available at: http://www.ssi.se/english/EMF_exp_Eng_2004.pdf

To date, little is known about the levels of radiofrequency radiation exposure in the general population from sources such as mobile phones being used by oneself or other people, mobile phone base stations, and radio and television transmitters. Measurements that have been performed have usually been made as a result of public concern about base station exposures or other specific sources, and have therefore been made at locations that could be assumed to have higher fields than would be the case if measurement locations were selected randomly. Furthermore, all measurements have been stationary, and there is today no knowledge about the level of exposure that an individual will have throughout the day.

There is need for information about the personal exposure to RF fields in the general population, to enhance the understanding of the relative importance of exposure from base stations close to the home, from radio and television transmitters, and from the use of mobile

phones . . . Studies with personal RF exposure measurements of randomly selected samples of the general population are strongly encouraged.

[back] 48. Released January 11, 2005, Mobile Phones and Health 2004: Report by the Board of NRPB Documents of the NRPB: Volume 15, No. 5. See: http://www.nrpb.org/publications/documents_of_nrpb/abstracts/absd15-5.htm

From the Executive Summary:

The Board notes that a central recommendation in the Stewart Report was that a precautionary approach to the use of mobile phone technologies be adopted until much more detailed and scientifically robust information on any health effects becomes available.

The Board considers that it is important to understand the signal characteristics and field strengths arising from new telecommunications systems and related technologies, to assess the RF exposure of people, and to understand the potential biological effects on the human body.

[back] 49. The ICNIRP exposure guidelines are only designed to protect against "known adverse health impacts," according to Dr. Jürgen Bernhardt, ICNIRP's chairman. Bernhardt reviewed the updated limits, which cover the spectrum from 1 Hz to 300 GHz, in a presentation at the *20th Annual Meeting of the Bioelectromagnetics Society* in St. Pete Beach, FL, on June 10. The limits protect against "short-term, immediate health effects" such as nerve stimulation, contact shocks and thermal insults, according to the guidelines, which appear in the April issue of *Health Physics* (*74*, pp.494-522, 1998). Despite "suggestive" evidence that power frequency magnetic fields can be carcinogenic, ICNIRP has concluded that this and other non-thermal health effects have not been "established." ICNIRP has long followed this approach to standard-setting. In his talk, Bernhardt noted that the guidelines include "no consideration regarding prudent avoidance" for health effects for which evidence is less than conclusive.

Microwave News, July/August 1998

Additional References and Studies

The following references reporting biological effects of radiofrequency radiation (RFR) at low intensities through January 2005 were compiled on 12/27/04 by Henry C. Lai PhD, Research Professor of Bioengineering, University of Washington, Seattle, WA

Balode *Sci Total Environ* 180(1):81-85, 1996 - blood cells from cows from a farm close and in front of a radar installation showed significantly higher level of severe genetic damage.

Boscol et al. *Sci Total Environ* 273(1-3):1-10, 2001 - RFR from radio transmission stations (0.005 mW/cm^2) affects immune system in women.

Chiang et al. *J. Bioelectricity* 8:127-131, 1989 - people who lived and worked near radio antennae and radar installations showed deficits in psychological and short-term memory tests.

de Pomerai et al. *Nature* 405:417-418, 2000. *Enzyme Microbial Tech* 30:73-79, 2002 - reported

an increase in a molecular stress response in cells after exposure to a RFR at a SAR of 0.001 W/kg. This stress response is a basic biological process that is present in almost all animals - including humans.

de Pomerai et al. (*FEBS Lett* 22;543(1-3):93-97, 2003 - RFR damages proteins at 0.015-0.020 W/kg.

D'Inzeo et al. *Bioelectromagnetics* 9(4):363-372, 1988 - very low intensity RFR (0.002 – 0.004 mW/cm^2) affects the operation of acetylcholine-related ion-channels in cells. These channels play important roles in physiological and behavioral functions.

Dolk et al. *Am J Epidemiol* 145(1):1-91997- a significant increase in adult leukemias was found in residents who lived near the Sutton Coldfield television (TV) and frequency modulation (FM) radio transmitter in England.

Dutta et al.*Bioelectromagnetics* 10(2):197-202 1989 - reported an increase in calcium efflux in cells after exposure to RFR at 0.005 W/kg. Calcium is an important component of normal cellular functions.

Fesenko et al. *Bioelectrochem Bioenerg* 49(1):29-35, 1999 - reported a change in immunological functions in mice after exposure to RFR at a power density of 0.001 mW/cm^2.

Hallberg O, Johansson O, (2004) concluded that continuous disturbance of cell repair mechanisms by body-resonant FM electromagnetic fields seems to amplify the carcinogenic effects resulting from cell damage caused e.g. by UV-radiation.

Hjollund et al. *Reprod Toxicol* 11(6):897, 1997 - sperm counts of Danish military personnel, who operated mobile ground-to-air missile units that use several RFR emitting radar systems (maximal mean exposure 0.01 mW/cm^2), were significantly lower compared to references.

Hocking et al. *Med J Aust* 165(11-12):601-605, 1996 - an association was found between increased childhood leukemia incidence and mortality and proximity to TV towers.

Ivaschuk et al. *Bioelectromagnetics* 18(3):223-229, 1999 - short-term exposure to cellular phone RFR of very low SAR (26 mW/kg) affected a gene related to cancer.

Kolodynski and Kolodynska, *Sci Total Environ* 180(1):87-93, 1996 - school children who lived in front of a radio station had less developed memory and attention, their reaction time was slower, and their neuromuscular apparatus endurance was decreased.

Kwee et al. *Electro- and Magnetobiology* 20: 141-152, 2001 - 20 minutes of cell phone RFR exposure at 0.0021 W/kg increased stress protein in human cells.

Lebedeva et al. *Crit Rev Biomed Eng* 28(1-2):323-337, 2000 - brain wave activation was observed in human subjects exposed to cellular phone RFR at 0.06 mW/cm^2.

Magras and Xenos *Bioelectromagnetics* 18(6):455-461, 1999 - reported a decrease in reproductive function in mice exposed to RFR at power densities of 0.000168 - 0.001053 mW/cm^2. Irreversible sterility was found in the fifth generation of offspring.

Mann et al. *Neuroendocrinology* 67(2):139-144, 1998 - a transient increase in blood cortisol was observed in human subjects exposed to cellular phone RFR at 0.02 mW/cm^2. Cortisol is a hormone involved in stress reaction.

Marinelli et al. *J Cell Physiol.* 198(2):324-332, 2004 - exposure to 900-MHz RFR at 0.0035 W/kg affected cell's self-defense responses.

Michelozzi et al. *Epidemiology* 9 (Suppl) 354p, 1998 - leukemia mortality within 3.5 km (5,863 inhabitants) near a high power radio-transmitter in a peripheral area of Rome was higher than expected.

Michelozzi et al. *Am J Epidemiol* 155(12):1096-1103, 2002 - childhood leukemia higher at a distance up to 6 km from a radio station.

Navakatikian and Tomashevskaya "Biological Effects of Electric and Magnetic Fields, Volume 1," D.O. Carpenter (ed) Academic Press, San Diego, CA, pp.333-342. 1994 - RFR at low intensities (0.01 - 0.1 mW/cm^2; 0.0027- 0.027 W/kg) induced behavioral and endocrine changes in rats. Decreases in blood concentrations of testosterone and insulin were reported.

Novoselova et al. *Bioelectrochem Bioenerg* 49(1):37-41, 1999 -low intensity RFR (0.001 mW/cm^2) affects functions of the immune system.

Park et al. *International Archives of Occupational and Environmental Health* 77(6):387-394, 2004 - higher mortality rates for all cancers and leukemia in some age groups in the area near the AM radio broadcasting towers.

Persson et al. *Wireless Network* 3:455-461, 1997 - reported an increase in the permeability of the blood-brain barrier in mice exposed to RFR at 0.0004 - 0.008 W/kg. The blood-brain barrier envelops the brain and protects it from toxic substances.

Phillips et al. *Bioelectrochem. Bioenerg.* 45:103-110, 1998 - reported DNA damage in cells exposed to RFR at SAR of 0.0024 - 0.024 W/kg.

Polonga-Moraru et al. *Bioelectrochemistry* 56(1-2):223-225, 2002 - change in membrane of cells in the retina (eye) after exposure to RFR at 15 μW/cm^2.

Pyrpasopoulou et al. *Bioelectromagnetics* 25(3):216-227, 2004 - exposure to cell phone radiation during early gestation at SAR of 0.0005 W/kg (5 μW/cm^2) affected kidney development in rats.

Salford et al. *Environ Health Persp* Online January 29, 2003 - Nerve cell damage in mammalian brain after exposure to microwaves from GSM mobile phones signal at 0.02 W/kg.

Santini et al. *Pathol Biol* (Paris) 50(6):369-373, 2002 - increase in complaint frequencies for tiredness, headache, sleep disturbance, discomfort, irritability, depression, loss of memory, dizziness, libido decrease, in people who lived within 300 m of mobile phone base stations.

Sarimov et al. *IEEE Trans Plasma Sci* 32:1600-1608, 2004 - GSM microwaves affect human lymphocyte chromatin similar to stress response at 0.0054 W/kg.

Schwartz et al. *Bioelectromagnetics* 11(4):349-358, 1990 - calcium movement in the heart affected by RFR at SAR of 0.00015 W/kg. Calcium is important in muscle contraction. Changes in calcium can affect heart functions.

Somosy et al. *Scanning Microsc* 5(4):1145-1155, 1991 - RFR at 0.024 W/kg caused molecular and structural changes in cells of mouse embryos.

Stagg et al. *Bioelectromagnetics* 18(3):230-236, 1997- glioma cells exposed to cellular phone RFR at 0.0059 W/kg showed significant increases in thymidine incorporation, which may be an indication of an increase in cell division.

Stark et al. *J Pineal Res* 22(4):171-176, 1997 - a two- to seven-fold increase of salivary melatonin concentration was observed in dairy cattle exposed to RFR from a radio transmitter antenna.

Tattersall et al. *Brain Res* 904(1):43-53, 2001 - low-intensity RFR (0.0016 - 0.0044 W/kg) can modulate the function of a part of the brain called the hippocampus, in the absence of gross thermal effects. The changes in excitability may be consistent with reported behavioral effects of RFR, since the hippocampus is involved in learning and memory.

Vangelova et al. *Cent Eur J Public Health* 10(1-2):24-28, 2002 - operators of satellite station exposed to low dose (0.1127 J/kg) of RFR over a 24-hr shift showed an increased excretion of stress hormones.

Velizarov et al. *Bioelectrochem Bioenerg* 48(1):177-180, 1999 - showed a decrease in cell proliferation (division) after exposure to RFR of 0.000021 - 0.0021 W/kg.

Veyret et al. *Bioelectromagnetics* 12(1):47-56, 1991 - low intensity RFR at SAR of 0.015 W/kg

affects functions of the immune system.

Wolke et al. *Bioelectromagnetics* 17(2):144-153, 1996 - RFR at 0.001W/kg affects calcium concentration in heart muscle cells of guinea pigs.

To: Eastvale City Planning Commission, at their regular Meeting on Wednesday June 15, 2016, at 6:00 PM at Rosa Parks Elementary School, 13830 Whispering Hills Drive, Eastvale, California 92880

Summary Background: The Background for Project is on the back side of this petition.
On Wednesday, June 15, 2016, at 6:00 PM the City of Eastvale Planning Commission will make a vote regarding the installation of a new 50-foot-high wireless telecommunications tower, disguised as a "monopalm,"with ancillary equipment in a 17-foot by 19-foot lease area at 8306 Grapewin Street with an access easement on the adjacent parcel to the north of the project site. Verizon has submitted information that was incorrect and apparently intended to mislead the Citizens and Planning Commission.
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Name Annie Chen	Signature Annie Chen
Address 6455 High Country Cir. Corona CA 92880	
Name Ray Rugg	Signature Raymond D. Rugg
Address 14232 Sunny Brook Lane Eastvale Ca 92880	
Name EDUARDO MAGAÑA	Signature
Address 7644 VILLA ROSA. CT.	EASTVALE 92880
Name Etienne SELOW	Signature
Address 8249 Genelbird St	Eastvale 92880
Name Wulfe de Graaf	Signature
Address 8150 Grapewin ST.	Eastvale Ca. 92880
Name Beverly Fountain	Signature
Address 5883 Redhaven St,	Eastvale 92880
Name ~~Joanne~~ Joanne L. Peacock	Signature Joanne L. Peacock
Address 8312 Grapewin Rd,	Eastvale, Ca 92880
Name	Signature
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Name John Gratzer	Signature
Address 8216 Grapewin St. Corona, CA 92880	
Name Louann Walton	Signature
Address 8196 Grapewin St Eastvale Ca 92880	
Name FRANK WALTON	Signature
Address 8196 Grapewin ST EASTVALE	
Name Rose Gratzer	Signature
Address 8216 Grapewin St, Eastvale, CA 92880	
Name 19921 Westaly Dr	Signature Corona Calif 92508
Address	
Name DAVID FONTES	Signature
Address 31943 BITTERROOT COURT	
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Name Carol Shick	Signature Carol Shick
Address 11236 63rd ST Mira Loma	
Name Everett Shick	Signature Everett H. Shick
Address 11236 63rd ST Mira Loma	
Name	Signature
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Name Tanzhen Sun	Signature
Address 8172 River Bluffs Ln, Eastvale, CA 92880	
Name WILLIAM HOUNG	Signature
Address 8142 RIVER BLUFFS LN, EASTVALE CA. 92880	
Name ROGER WHITENHILL	Signature
Address 14171 SUGARCREEK EASTVALE 92880	
Name Lithia Whitenhill	Signature
Address 14171 SUGAR CREEK EAST VALE 92880	
Name Brenda Quezada	Signature
Address 14174 Sugarcreek cir Eastvale, CA 92880	
Name Lilia Zazueta	Signature
Address 14174	
Name Juan Quezada	Signature
Address 14174 Sugar creek cir Eastvale CA 92880	
Name 8076 Bluff View Ln	Signature
Address Joanne Casillas	
Name Victor Casillas	Signature
Address 8076 Bluff View Ln Eastvale 92880	
Name Leonard Lopez	Signature
Address 8086 Bluff View Lane	
Name Daniel R Casillas	Signature
Address 8076 Bluff View Ln	

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Name HO TRANG	Signature
Address	
Name ML LIGANS	Signature
Address 7686 CASTA DE MARIA CT EASTVALE 92880	
Name AL JIMENEZ	Signature
Address 8269 BALD EAGLE DR. EASTVALE	
Name MITCHEL WINDSOR	Signature
Address 7140 LONETREE COURT, EASTVALE	
Name LAURA WINDSOR	Signature
Address 7140 LONETREE CT. EASTVALE	
Name ANGELINA CHAVEZ	Signature
Address 305	
Name Mike Chavez	Signature
Address	
Name WILLIAM J. ZEASON JR	Signature
Address 14143 COLD BROOK CIR, EASTVALE 92880	
Name SURINDER MADAHAR	Signature
Address 13869 HAIDER Court Eastvale 92880	
Name Cassie Remala	Signature
Address 7890 Serenity Falls Eastvale 92880	
Name Jolene Doktorczyk	Signature
Address 14091 Wandering Rill Ct. Eastvale, CA 92880	

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Name ANTHONY FULLER	Signature
Address	
Name STEVE EMFINGER	Signature
Address 7426 LOWER CREEK STREET. EASTVALE	
Name Tamra Figueroa	Signature
Address 7499 Lower Creek St, Eastvale	
Name " "	Signature
Address " "	
Name Nicole Emfinger	Signature
Address 7426 Lower Creek St. Eastvale	
Name Darren Puthress	Signature
Address	
Name Justin HARRIS	Signature
Address 14949 BURROWS WAY EASTVALE	
Name Kelly Harris	Signature
Address 14949 Burrows Way Eastvale	
Name LYLE SMITH	Signature
Address 8222 GRAPEWIN EASTVALE	
Name MAJA Bollen	Signature
Address 8170 Grapewin Eastvale, CA 92880	
Name	Signature
Address	

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Name Jennifer Tayag	Signature
Address 8398 Lost River Road Eastvale, Ca. 92880	
Name Karin Hakim.	Signature
Address 13982 Deerbrook Eastvale CA 92880	
Name TIM SPOSIC.	Signature
Address 8237 Angeline Falls Way	
Name DANIEL PONG	Signature
Address 13580 HIDDEN VALLEY ST.	
Name JOHN TURNER.	Signature
Address 14884 OAK LEAF DR	
Name ELISEO IBARRA	Signature
Address 14414 HEALY LANE ST. EASTVALE	
Name Ariel Burgin	Signature
Address 8397 Stonebrook Dr, Eastvale	
Name Richard Burgin	Signature
Address 8397 Stonebrook Dr, Eastvale.	
Name Richard Horan	Signature
Address 7314 Westerly Way., Eastvale	
Name RAJEAN HOLLOWAY	Signature
Address 6370 EMERALD RIDGE WAY, MIRALOMA 91752	
Name Gilberto. Marin	Signature
Address	

Number of Signatures for Page	

To: Eastvale City Planning Commission, at their regular Meeting on Wednesday June 15, 2016, at 6:00 PM at Rosa Parks Elementary School, 13830 Whispering Hills Drive, Eastvale, California 92880

Summary Background: The Background for Project is on the back side of this petition.
On Wednesday, June 15, 2016, at 6:00 PM the City of Eastvale Planning Commission will make a vote regarding the installation of a new 50-foot-high wireless telecommunications tower, disguised as a "monopalm,"with ancillary equipment in a 17-foot by 19-foot lease area at 8306 Grapewin Street with an access easement on the adjacent parcel to the north of the project site. Verizon has submitted information that was incorrect and apparently intended to mislead the Citizens and Planning Commission.
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We, the undersigned residents of the **City of Eastvale**, call on the Eastvale City Planning Commission to Decline the Verizon Project #15-1662, and request that Verizon find a location that is not going to adversely impact a community neighborhood .

Name JOSE F. PEREZ	Signature
Address 7533 Walnut Grove Eastvale CA 92880	
Name SEAN PARILLA	Signature
Address 14215 ROLLING STREAM EASTVALE CA 92880	
Name Manuel Castro	Signature
Address 14196 Creek Sand Ct. Eastvale CA 92880	
Name Valerie Castro	Signature
Address 14196 Creek Sand Ct Eastvale CA 92880	
Name ERIC LOUDON	Signature
Address 6892 Gertrudis Ct. Eastvale CA 92880	
Name	Signature
Address	
Name	Signature
Address	
Name	Signature
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Name	Signature
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Name	Signature
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Name	Signature
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Name Brad Peacock	Signature
Address 8312 Grapewin St	
Name ANTONIO FRUSTACI	Signature
Address 14230 SHADY CREEK CIRCLE	
Name Trinai Trigne	Signature
Address 7460 Valley Meadow Ave	
Name Lissette Cornel	Signature
Address 8330 Archibald St	
Name	Signature
Address	
Name	Signature
Address	
Name	Signature
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Name	Signature
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Name Annie Chen	Signature Annie Chen
Address 6455 High Country Cir. Corona CA 92880	
Name Ray Rugg	Signature Raymond D. Rugg
Address 14232 Sunny Brook Lane Eastvale Ca 92880	
Name EDUARDO MAGAÑA	Signature
Address 7644 VILLA ROSA. CT.	EASTVALE 92880
Name Etienne SELOW	Signature
Address 8249 Genelbird St	Eastvale 92880
Name Wulfe de Graaf	Signature
Address 8150 Grapewin ST.	Eastvale Ca. 92880
Name Beverly Fountain	Signature
Address 5883 Redhaven St,	Eastvale 92880
Name ~~Joanne~~ Joanne L. Peacock	Signature Joanne L. Peacock
Address 8312 Grapewin Rd,	Eastvale, Ca 92880
Name	Signature
Address	
Name	Signature
Address	
Name	Signature
Address	
Name	Signature
Address	

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Name John Gratzer	Signature
Address 8216 Grapewin St. Corona, CA 92880	
Name Louann Walton	Signature
Address 8196 Grapewin St Eastvale Ca 92880	
Name FRANK WALTON	Signature
Address 8196 Grapewin ST EASTVALE	
Name Rose Gratzer	Signature
Address 8216 Grapewin St, Eastvale, CA 92880	
Name 19921 Westaly Dr	Signature Corona Calif 92508
Address	
Name DAVID FONTES	Signature
Address 31943 BITTERROOT COURT	
Name	Signature
Address	
Name	Signature
Address	
Name	Signature
Address	
Name	Signature
Address	
Name	Signature
Address	

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Name Carol Shick	Signature Carol Shick
Address 11236 63rd ST Mira Loma	
Name Everett Shick	Signature Everett H. Shick
Address 11236 63rd ST Mira Loma	
Name	Signature
Address	
Name	Signature
Address	
Name	Signature
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Name Tanzhen Sun	Signature
Address 8172 River Bluffs Ln, Eastvale, CA 92880	
Name WILLIAM HOUNG	Signature
Address 8142 RIVER BLUFFS LN, EASTVALE CA. 92880	
Name ROGER WHITENHILL	Signature
Address 14171 SUGARCREEK EASTVALE 92880	
Name Lithia Whitenhill	Signature
Address 14171 SUGAR CREEK EAST VALE 92880	
Name Brenda Quezada	Signature
Address 14174 Sugarcreek cir Eastvale, CA 92880	
Name Lilia Zazueta	Signature
Address 14174	
Name Juan Quezada	Signature
Address 14174 Sugar creek cir Eastvale CA 92880	
Name 8076 Bluff View Ln	Signature
Address Joanne Casillas	
Name Victor Casillas	Signature
Address 8076 Bluff View Ln Eastvale 92880	
Name Leonard Lopez	Signature
Address 8086 Bluff View Lane	
Name Daniel R Casillas	Signature
Address 8076 Bluff View Ln	

Number of Signatures for Page	

Signatures

Name	Location	Date
Sean McMullin	, United States	2016-06-07
Lisa Yee	Corona, CA, United States	2016-06-07
Will McMullin	Chino, CA, United States	2016-06-07
MIchael Sweet	Corona, CA, United States	2016-06-07
Heidi McMullin	Corona, CA, United States	2016-06-07
Diana Sweet	Corona, CA, United States	2016-06-07
Christopher Bodnar	Jurupa Valley, CA, United States	2016-06-07
Clinton Yee	Corona, CA, United States	2016-06-08
michelle chen chen	Corona, CA, United States	2016-06-08
Tyler Okamoto	Corona, CA, United States	2016-06-08
Melissa Webb	Corona, CA, United States	2016-06-08
Jeff Stodgel	Corona, CA, United States	2016-06-08
Antoinette Johnson	Corona, CA, United States	2016-06-08
Natalie Tatum	Corona, CA, United States	2016-06-08
Krystal Pruitt	Corona, CA, United States	2016-06-08
Gisela Avila	Mira Loma, CA, United States	2016-06-08
Santiago Cadena	Harambe, Turkey	2016-06-08
Andrea Watson	Jurupa Valley, CA, United States	2016-06-08
Faith Kim	Eastvale, CA, United States	2016-06-08
Matthew Sage	Corona, CA, United States	2016-06-09
Courtney Hundley	Corona, CA, United States	2016-06-09
Allen Jolley	Corona, CA, United States	2016-06-09
Ryan Marquis	Corona, CA, United States	2016-06-09
Nina Ayala	Jurupa Valley, CA, United States	2016-06-09
Tony Potter	Corona, CA, United States	2016-06-09
Kevin Tolley	Corona, CA, United States	2016-06-09
John Baxter	Corona, CA, United States	2016-06-09
Linda Armes	Corona, CA, United States	2016-06-09
Daniel Williamson	Corona, CA, United States	2016-06-09
Kirk Cardon	Jurupa Valley, CA, United States	2016-06-09

Name	Location	Date
Jason Goettsche	Corona, CA, United States	2016-06-09
Matt Halterman	Corona, CA, United States	2016-06-09
Robert Price	Corona, CA, United States	2016-06-09
Ashli Caldwell	Corona, CA, United States	2016-06-09
Bradley Caldwell	Corona, CA, United States	2016-06-09
Amber Sage	Corona, CA, United States	2016-06-09
Sean Morse	Corona, CA, United States	2016-06-09
Matt Clark	Corona, CA, United States	2016-06-09
Larry Westover	Corona, CA, United States	2016-06-10
Rebecca Williamson	Corona, CA, United States	2016-06-10
Shauna Warrick	Corona, CA, United States	2016-06-10
Forbert Candiff	Corona, CA, United States	2016-06-11
Carlos Cervante	Fontana, CA, United States	2016-06-11
Suzanne Mason	Corona, CA, United States	2016-06-11
Ashley Cardenas	Corona, CA, United States	2016-06-11
Maria Camarillo	Corona, CA, United States	2016-06-11
Lisa Bingham	Corona, CA, United States	2016-06-12
Robert Hundley	Corona, CA, United States	2016-06-12

Comments

Name	Location	Date	Comment
MIchael Sweet	Corona, CA	2016-06-07	Though this is on the opposite side of the city from where I live, I don't believe cell phone towers should be placed so close to residences. Please find a park, commercial, or industrial area to place towers.
Natalie Tatum	Corona, CA	2016-06-08	No more radiation!!!
Matt Sage	Corona, CA	2016-06-09	There are enough commercial sites available that a residential home should not be used.
Linda Armes	Corona, CA	2016-06-09	Cell towers should not be placed so close to family residences. It would be an eyesore also to the view of the river..
Bradley Caldwell	Corona, CA	2016-06-09	Commercial equipment should be installed on commercial property, NOT private property.
Forbert Candiff	Corona, CA	2016-06-11	Having a tower placed on personal property near families that will have to be subjected to constant RF energy is unconscionable.
Carlos Cervante	Fontana, CA	2016-06-11	I want to
Maria Camarillo	Corona, CA	2016-06-11	I dislike the idea

Kanika Kith

From: Courtney Standridge <Courtney.Standridge@sacw.com>
Sent: Tuesday, May 17, 2016 10:35 AM
Cc: Collier, Jane M; Kanika Kith
Subject: FW: Verizon facility at 8306 Grapewin Street; Minor Development Plan No. 15-1662
Attachments: Grapewin RF Report 05122016.pdf

To whom it may concern,

Please see the additional information below and attached materials pertaining to the RF Study conducted for Minor Development Plan No. 15-1662 (Verizon Monopalm, Site Name: Grapewin).

Thank you,

Courtney Standridge
SAC Wireless

From: Kevin Sullivan [mailto:ksullivan@sanlawyers.com]
Sent: Monday, May 16, 2016 10:46 AM
To: JCavanaugh@EastvaleCA.gov
Cc: MWeintraub@EastvaleCA.gov; RGomez@EastvaleCA.gov
Subject: Verizon facility at 8306 Grapewin Street; Minor Development Plan No. 15-1662

Good morning John –

I left a message with your office this morning. I'm outside counsel for Verizon Wireless on its proposed facility at 8306 Grapewin Street in Eastvale, Minor Development Plan No. 15-1662. The project is on the City Planning Commission Agenda for consideration this Wednesday, May 18.

I understand that some public opposition to the project is centered on radio frequency (RF) health safety concerns. Based on that, this message provides additional information and materials to the City about the health safety of Verizon's proposed Grapewin facility. Given the demonstrated safety of the facility, RF concerns cannot be used in the permitting decisions about the site. (47 U.S.C. Section 332(c)(7)(B)(iv)).

The materials and information are:

1. **RF Safety Report for the Site**.

   Attached is the May 12, 2016 RF Safety Report for the site prepared by engineers at Hammett & Edison, Inc. The Report explains that the site fully complies with the FCC regulations about health safety.

   Even using very conservative "worst case" assumptions, RF levels on the ground near the facility are **93.5% below or under** the FCC health safety standard (exposure limit), and RF levels at a 2nd story elevation of any nearby residence (the nearest of which was presumed in the Report to be at least 110 feet away, even though the City Staff Report confirms that the nearest residence is about 288 feet away) is **97% below or under** the FCC health safety standard. (Report, pages 2-3).

2. **Verizon's Facility Complies With All Health Safety Regulations And Is Safe.**

Verizon's Facility is required to comply, and will comply, with all laws and regulations on health safety. General Compliance Item No. 1 in the proposed permit requires Verizon's facility to comply with all FCC regulations about health safety.

In addition, the Federal Communications Commission ("FCC") and other organizations have determined, based on a consensus review of many scientific studies, that telecommunications service base stations (antenna sites) are safe. Information about the health safety of such facilities includes:

- American Cancer Society - *http://www.cancer.org/cancer/cancercauses/othercarcinogens/athome/cellular-phone-towers* ("Public exposure to radio waves from cell phone tower antennas is slight for several reasons. The power levels are relatively low, the antennas are mounted high above ground level, and the signals are transmitted intermittently, rather than constantly. At ground level near typical cellular base stations, the amount of RF energy is thousands of times less than the limits for safe exposure set by the US Federal Communication Commission (FCC) and other regulatory authorities. It is very unlikely that a person could be exposed to RF levels in excess of these limits just by being near a cell phone tower.")

- FCC Radio Frequency Safety - *http://www.fcc.gov/general/radio-frequency-safety-0* and *https://www.fcc.gov/engineering-technology/electromagnetic-compatibility-division/radio-frequency-safety/faq/rf-safety#Q15* ("The RF emissions from cellular or PCS base station antennas are generally directed toward the horizon in a relatively narrow pattern in the vertical plane. In the case of sector (panel) antennas, the pattern is fan-shaped, like a wedge cut from a pie. As with all forms of electromagnetic energy, the power density from the antenna decreases rapidly as one moves away from the antenna. Consequently, ground-level exposures are much less than exposures if one were at the same height and directly in front of the antenna.")

- World Health Organization - *http://www.who.int/peh-emf/about/WhatisEMF/en/index1.html* (Telecommunications base stations add little to the total ambient radio frequency signals as signal strengths are typically similar to or lower than signal strengths from distant radio and TV stations.)

3. **Verizon's Facility Is Consistent With National Policies To Promote The Development Of Wireless Communications Networks Within The City.**

Approval of Verizon's proposed stealthed Facility is consistent with many laws and policies that promote the rapid and broad development of wireless communications networks, including:

- As of 2011, the FCC found that **about 70% of all E911 calls originated from wireless devices**, and that percentage will continue to increase. (FCC Consumer and Governmental Affairs Bureau, Wireless 911 Services Fact Sheet (originally issued Feb. 1, 2011) (updated version found at https://transition.fcc.gov/cgb/consumerfacts/wireless911srvc.pdf). One of the main reasons that many people own a wireless phone is the ability to call 911 for help in an emergency.

- A U.S. Department of Health and Human Services report found, as of 2013, that 41% of U.S. homes had only wireless telephones, up from 30% in 2010. (FCC Report and Order No. 14-153 (October 21, 2014) page 4, notes 3-4, and http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201407.pdf). Further, Hispanic adults and African American adults are more likely than other adult groups to be living in homes with only wireless telephones. (http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201407.pdf, pages 2-3 and Table 2).

  According to U.S. Census Bureau demographic data linked on the City's website, the City has a large number of Hispanic (40%) and African American (10%) residents. These City residents are

disproportionately and adversely affected by inadequate telecommunications service caused by delays in needed network expansion.

- The FCC determined that the volume of consumer data transmissions utilizing carriers' national mobile networks **will increase by almost 800% between 2013 and 2018**. The growing consumer capacity demands demonstrate the importance of wireless broadband communications networks to the U.S.'s economic growth, global competitiveness, and civic life. (FCC Report and Order No. 14-153 (October 21, 2014) page 4, notes 6 and 8, and http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless201407.pdf).

Please include this message and the related information and materials as part of the administrative record for Minor Development Plan No. 15-1662.

Also, after you review the materials, please call me to discuss the proposed facility. Thank you. Kevin Sullivan. 619 238-5849.

Kevin P. Sullivan, Partner
LAND USE AND ENVIRONMENTAL PERMITTING AND LITIGATION,
REAL ESTATE

Schwartz Hyde & Sullivan, LLP
401 "B" Street, Ste. 2400
San Diego, CA 92101-4200
619 696-3500 (recpt.)
619 696-3555 (fax)

This message is confidential and intended to be sent only to the designated recipient, and may be legally privileged. If the reader of this message is not the intended recipient, then you are notified that any distribution or copying of this message is prohibited. If you have received this message in error, then please re-send this message to the sender and delete the original and any copy of it from your computer system. Thank you

Verizon Wireless • Proposed Base Station (Site No. "Grapewin")
8306 Grapewin Street • Eastvale, California

Statement of Hammett & Edison, Inc., Consulting Engineers

The firm of Hammett & Edison, Inc., Consulting Engineers, has been retained on behalf of Verizon Wireless, a personal wireless telecommunications carrier, to evaluate the base station (Site No. "Grapewin") proposed to be located at 8306 Grapewin Street in Eastvale, California, for compliance with appropriate guidelines limiting human exposure to radio frequency ("RF") electromagnetic fields.

Executive Summary

Verizon proposes to install directional panel antennas on a tall pole, configured to resemble a palm tree, to be sited behind the residence located at 8306 Grapewin Street in Eastvale. The proposed operation will comply with the FCC guidelines limiting public exposure to RF energy.

Prevailing Exposure Standards

The U.S. Congress requires that the Federal Communications Commission ("FCC") evaluate its actions for possible significant impact on the environment. A summary of the FCC's exposure limits is shown in Figure 1. 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. The most restrictive FCC limit for exposures of unlimited duration to radio frequency energy for several personal wireless services are as follows:

Wireless Service	Frequency Band	Occupational Limit	Public Limit
Microwave (Point-to-Point)	5–80 GHz	5.00 mW/cm^2	1.00 mW/cm^2
WiFi (and unlicensed uses)	2–6	5.00	1.00
BRS (Broadband Radio)	2,600 MHz	5.00	1.00
WCS (Wireless Communication)	2,300	5.00	1.00
AWS (Advanced Wireless)	2,100	5.00	1.00
PCS (Personal Communication)	1,950	5.00	1.00
Cellular	870	2.90	0.58
SMR (Specialized Mobile Radio)	855	2.85	0.57
700 MHz	700	2.40	0.48
[most restrictive frequency range]	30–300	1.00	0.20

General Facility Requirements

Base stations typically consist of two distinct parts: the electronic transceivers (also called "radios" or "channels") that are connected to the traditional wired telephone lines, and the passive antennas that send the wireless signals created by the radios out to be received by individual subscriber units. The transceivers are often located at ground level and are connected to the antennas by coaxial cables. A small antenna for reception of GPS signals is also required, mounted with a clear view of the sky.

Because of the short wavelength of the frequencies assigned by the FCC for wireless services, the antennas require line-of-sight paths for their signals to propagate well and so are installed at some height above ground. The antennas are designed to concentrate their energy toward the horizon, with very little energy wasted toward the sky or the ground. This means that it is generally not possible for exposure conditions to approach the maximum permissible exposure limits without being physically very near the antennas.

Computer Modeling Method

The FCC provides direction for determining compliance in its Office of Engineering and Technology Bulletin No. 65, "Evaluating Compliance with FCC-Specified Guidelines for Human Exposure to Radio Frequency Radiation," dated August 1997. Figure 2 describes the calculation methodologies, reflecting the facts that a directional antenna's radiation pattern is not fully formed at locations very close by (the "near-field" effect) and that at greater distances the power level from an energy source decreases with the square of the distance from it (the "inverse square law"). The conservative nature of this method for evaluating exposure conditions has been verified by numerous field tests.

Site and Facility Description

Based upon information provided by Verizon, including zoning drawings by W-T Communication Design Group, LLC, dated March 23, 2016, it is proposed to install twelve Andrew Model SBNHH-1D65C directional panel antennas on a 48-foot steel pole, configured to resemble a palm tree, to be sited in the rear of the fenced area behind the residence located at 8306 Grapewin Street in Eastvale. The antennas would employ no downtilt, would be mounted at an effective height of about 40 feet above ground, and would be oriented in groups of four toward 110°T, 230°T, and 350°T, to provide service in all directions. The maximum effective radiated power in any direction would be 10,780 watts, representing simultaneous operation at 4,240 watts for AWS, 3,890 watts for PCS, and 2,650 watts for 700 MHz service; no operation on cellular frequencies is presently proposed from this site. Also proposed to be located on the same pole is a microwave "dish" antenna, for interconnection of this site with others in the Verizon network.

Study Results

For a person anywhere at ground, the maximum RF exposure level due to the proposed Verizon operation, including the contribution of the microwave antenna, is calculated to be 0.063 mW/cm^2, which is 6.5% of the applicable public exposure limit. The maximum calculated level at the second-floor elevation of any nearby residence* is 3.1% of the public exposure limit. It should be noted that

* Located at least 110 feet away, based on photographs from Google Maps.

these results include several "worst-case" assumptions and therefore are expected to overstate actual power density levels from the proposed operation.

No Recommended Mitigation Measures

Due to their mounting height, the Verizon antennas would not be accessible to unauthorized persons, and so no mitigation measures are necessary to comply with the FCC public exposure guidelines. It is presumed that Verizon will, as an FCC licensee, take adequate steps to ensure that its employees or contractors receive appropriate training and comply with FCC occupational exposure guidelines whenever work is required near the antennas themselves.

Conclusion

Based on the information and analysis above, it is the undersigned's professional opinion that operation of the base station proposed by Verizon Wireless at 8306 Grapewin Street in Eastvale, California, will comply with the prevailing standards for limiting public exposure to radio frequency energy and, therefore, will not for this reason cause a significant impact on the environment. The highest calculated level in publicly accessible areas is much less than the prevailing standards allow for exposures of unlimited duration. This finding is consistent with measurements of actual exposure conditions taken at other operating base stations.

Authorship

The undersigned author of this statement is a qualified Professional Engineer, holding California Registration Nos. E-13026 and M-20676, which expire on June 30, 2017. This work has been carried out under his direction, and all statements are true and correct of his own knowledge except, where noted, when data has been supplied by others, which data he believes to be correct.

REGISTERED PROFESSIONAL ENGINEER
WILLIAM F. HAMMETT
E-13026
M-20676
Exp. 6-30-2017
ELECTRICAL
MECHANICAL
STATE OF CALIFORNIA

William F. Hammett, P.E.
707/996-5200

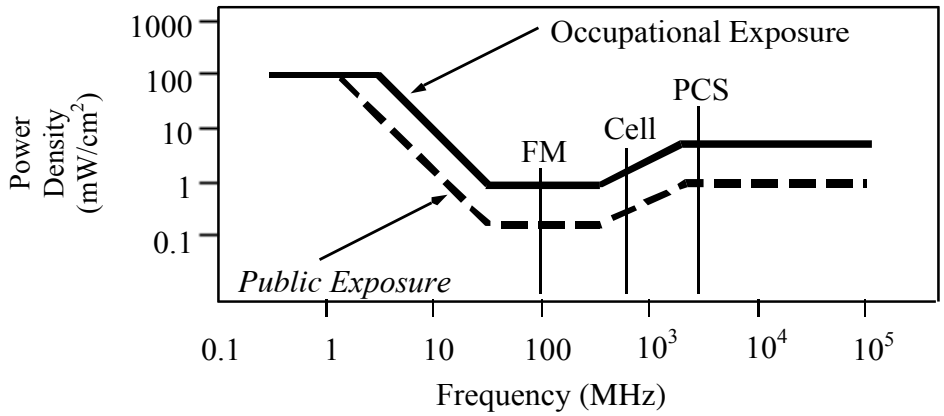
May 12, 2016

FCC Radio Frequency Protection Guide

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The FCC adopted the limits from Report No. 86, "Biological Effects and Exposure Criteria for Radiofrequency Electromagnetic Fields," published in 1986 by the Congressionally chartered National Council on Radiation Protection and Measurements ("NCRP"). Separate limits apply for occupational and public exposure conditions, with the latter limits generally five times more restrictive. The more recent standard, developed by the Institute of Electrical and Electronics Engineers and approved as American National Standard ANSI/IEEE C95.1-2006, "Safety Levels with Respect to Human Exposure to Radio Frequency Electromagnetic Fields, 3 kHz to 300 GHz," includes similar limits. These limits apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health.

As shown in the table and chart below, separate limits apply for occupational and public exposure conditions, with the latter limits (in *italics* and/or dashed) up to five times more restrictive:

Frequency	Electromagnetic Fields (f is frequency of emission in MHz)					
Applicable Range (MHz)	Electric Field Strength (V/m)		Magnetic Field Strength (A/m)		Equivalent Far-Field Power Density (mW/cm^2)	
0.3 – 1.34	614	*614*	1.63	*1.63*	100	*100*
1.34 – 3.0	614	*823.8/ f*	1.63	*2.19/ f*	100	*180/ f^2*
3.0 – 30	1842/ f	*823.8/ f*	4.89/ f	*2.19/ f*	900/ f^2	*180/ f^2*
30 – 300	61.4	*27.5*	0.163	*0.0729*	1.0	*0.2*
300 – 1,500	$3.54\sqrt{f}$	*$1.59\sqrt{f}$*	$\sqrt{f}/106$	*$\sqrt{f}/238$*	f/300	*f/1500*
1,500 – 100,000	137	*61.4*	0.364	*0.163*	5.0	*1.0*



Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits, and higher levels also are allowed for exposures to small areas, such that the spatially averaged levels do not exceed the limits. However, neither of these allowances is incorporated in the conservative calculation formulas in the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) for projecting field levels. Hammett & Edison has built those formulas into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radio sources. The program allows for the description of buildings and uneven terrain, if required to obtain more accurate projections.

RFR.CALC™ Calculation Methodology

Assessment by Calculation of Compliance with FCC Exposure Guidelines

The U.S. Congress required (1996 Telecom Act) the Federal Communications Commission ("FCC") to adopt a nationwide human exposure standard to ensure that its licensees do not, cumulatively, have a significant impact on the environment. The maximum permissible exposure limits adopted by the FCC (see Figure 1) apply for continuous exposures from all sources and are intended to provide a prudent margin of safety for all persons, regardless of age, gender, size, or health. Higher levels are allowed for short periods of time, such that total exposure levels averaged over six or thirty minutes, for occupational or public settings, respectively, do not exceed the limits.

Near Field.

Prediction methods have been developed for the near field zone of panel (directional) and whip (omnidirectional) antennas, typical at wireless telecommunications base stations, as well as dish (aperture) antennas, typically used for microwave links. The antenna patterns are not fully formed in the near field at these antennas, and the FCC Office of Engineering and Technology Bulletin No. 65 (August 1997) gives suitable formulas for calculating power density within such zones.

For a panel or whip antenna, power density $S = \frac{180}{\theta_{BW}} \times \frac{0.1 \times P_{net}}{\pi \times D \times h}$, in mW/cm^2,

and for an aperture antenna, maximum power density $S_{max} = \frac{0.1 \times 16 \times \eta \times P_{net}}{\pi \times h^2}$, in mW/cm^2,

where θ_{BW} = half-power beamwidth of the antenna, in degrees, and
P_{net} = net power input to the antenna, in watts,
D = distance from antenna, in meters,
h = aperture height of the antenna, in meters, and
η = aperture efficiency (unitless, typically 0.5-0.8).

The factor of 0.1 in the numerators converts to the desired units of power density.

Far Field.

OET-65 gives this formula for calculating power density in the far field of an individual RF source:

$$\text{power density} \quad S = \frac{2.56 \times 1.64 \times 100 \times RFF^2 \times ERP}{4 \times \pi \times D^2}, \text{ in } mW/cm^2,$$

where ERP = total ERP (all polarizations), in kilowatts,
RFF = relative field factor at the direction to the actual point of calculation, and
D = distance from the center of radiation to the point of calculation, in meters.

The factor of 2.56 accounts for the increase in power density due to ground reflection, assuming a reflection coefficient of 1.6 (1.6 x 1.6 = 2.56). The factor of 1.64 is the gain of a half-wave dipole relative to an isotropic radiator. The factor of 100 in the numerator converts to the desired units of power density. This formula has been built into a proprietary program that calculates, at each location on an arbitrary rectangular grid, the total expected power density from any number of individual radiation sources. The program also allows for the description of uneven terrain in the vicinity, to obtain more accurate projections.

Defining RSRP Level

- **RSRP(Radio Signal Receive Power) level of > -85 is considered good coverage**. Users in this signal range can expect reliable coverage while on the streets and within their homes. As the amount of users without landlines increases, customers are using their mobile device as their home phone. **It is important to have reliable cellular coverage in-building for improved user experience as well as access to emergency services.**

- **RSRP(Radio Signal Receive Power) level of -85 to -95 would be considered moderate coverage.** If a user has a signal within this range they are able to reliably hold a network connection on the street level while mobile, this signal strength is strong enough to provide users service through the attenuation from their vehicle. Coverage will be weaker in-building and may not be as reliable as the in-vehicle service. Attenuation is the reduction of radio signal strength after passing through a material. In contrast, a home is much larger; users in the center of the home , garage , basement will not have the same service reliability due to further attenuation created by the structure. Even users near the window may have poor signal depending on the location of the cell site. If the site is facing the north-west corner of the home and a user is near the south-east window, then the signal is being attenuated by multiple walls of the home before reaching the user.

- **RSRP(Radio Signal Receive Power) level of -95 to -105 would be considered marginal coverage.** The signal is weak, but a user can hold a connection to the network at this signal range if outdoors. Users at the highest end of this signal range may even be able to hold a network connection in their vehicle in some very unique scenarios where terrain / dense foliage / multi-level homes or buildings are not an issue. In-building coverage is typically extremely weak to non-existent. Issues covered in the -105 and lower signal range are also experienced at this level.

- **RSRP(Radio Signal Receive Power) level of -105 to -110 is the lowest possible signal range allowable to connect to the network if the user can connect at all.** When a connection is this fragile not only will the user experience very slow data speeds, but the slightest level of additional attenuation will cause a connection drop / failure. Customer experience suffers in a poor signal area as well as the network as a whole. Data speeds slow in low coverage areas because the cell site has difficulty communicating to the mobile to transmit information which causes the site to send redundant packages over and over again until the mobile has all the packets necessary to fulfil a typical user request such as loading a map or web page.

Coverage Gap vs Capacity

There are two main drivers that prompt the need for a new cell site. One is coverage and the other is capacity.

Coverage is the need to expand wireless service into an area that either has no service or bad service. The request for service often comes from customers or emergency personnel. Expansion of service could mean improving the signal levels in a large apartment complex or new residential community. It could also mean providing new service along a newly built highway.

Capacity is the need for more wireless resources. Cell sites have a limited amount of resources to handle voice calls, data connections, and data volume. When these limits are reached, user experience quickly degrades. This could mean customers may no longer be able to make/receive calls nor be able to browse the internet. It could also mean that webpages will be very slow to download.

The proposed wireless facility “Grapewin” is needed to offload existing wireless facilities such as Kimballl,Selby which is exhausted. It is also needed to provide new coverage to surrounding areas previously underserved, as well as improve the network coverage along Grapewin, Archibald Ave.

Dear City Councils,

This letter is in reference to the proposed VZW telecommunications facility named “Grapewin.” Verizon Wireless has identified a deficiency in its wireless services along Grapewin Street, Archibald Ave, and surrounding residential neighborhoods. The deficiency in service was based on modeled propagation maps and traffic data from neighboring sites. Signal from the neighboring sites such as Kimball and Selby do not provide adequate or reliable coverage to Grapewin Street, Archibald Ave, and surrounding residential neighborhoods. The poor signal quality that serves this area degrades the user experience by providing slow data speeds, unreliable network access and frequent connection drops. The Verizon Wireless “Grapewin” project was strategically placed to resolve the coverage deficiencies and improve network reliability to the Verizon Wireless customers in the area.

Figure 1 – Vicinity Map

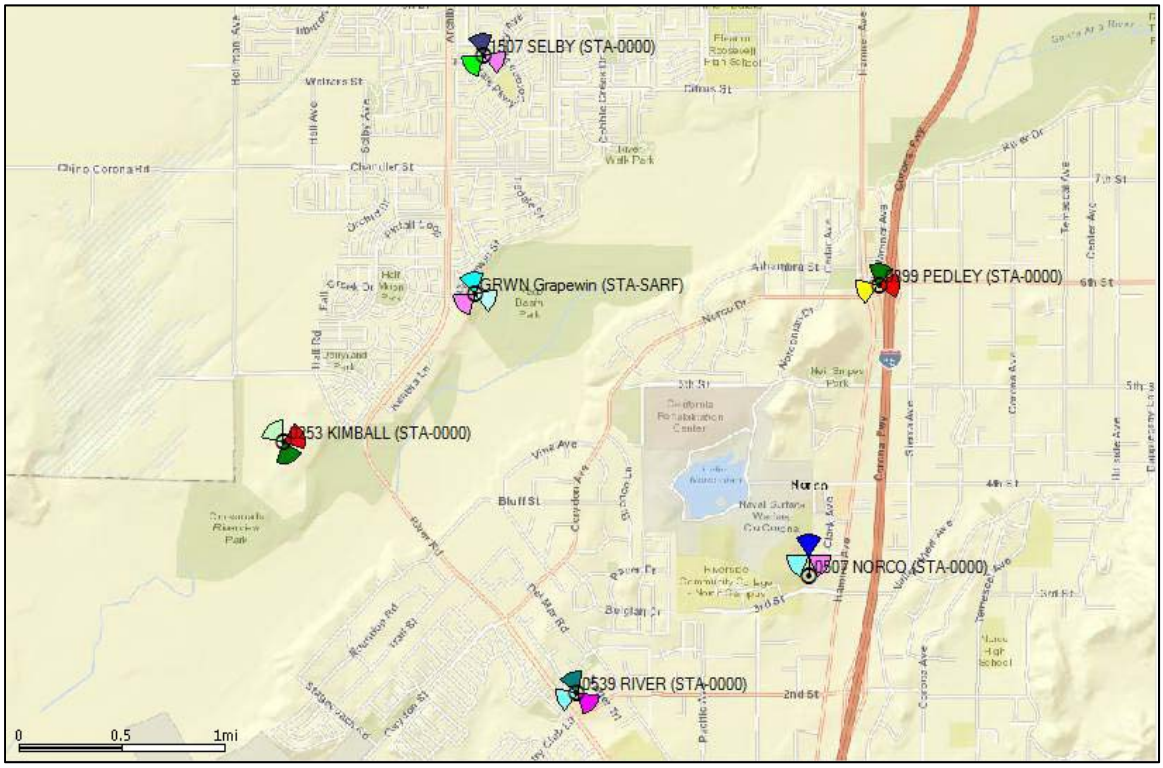


Figure 2 – Existing Coverage

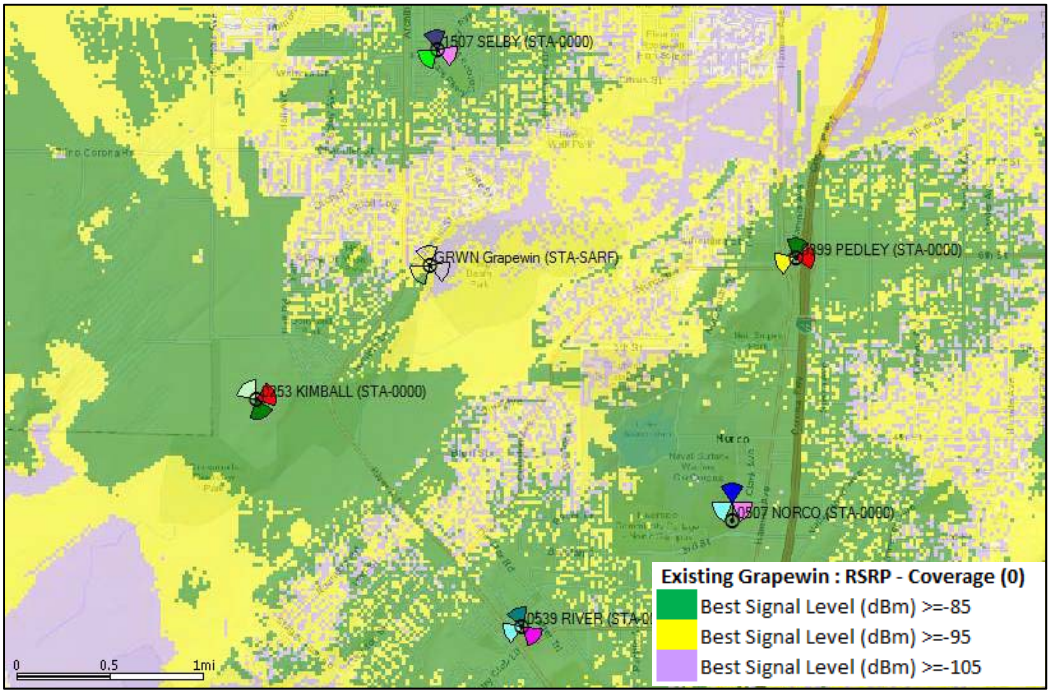
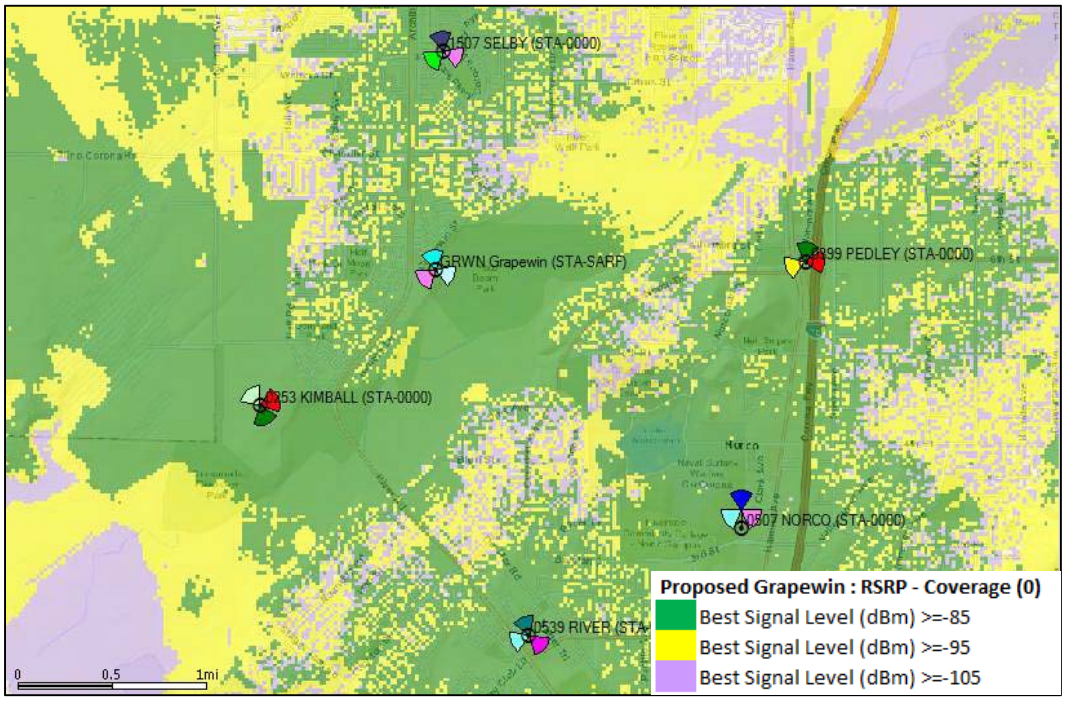


Figure 3 – Proposed Coverage



Capacity

In addition to the unreliability and poor performance observed by the users in weak/poor signal conditions, it also puts a stress on the effective capacity of the surrounding sites. When a cell site serves a mobile/device in poor coverage conditions, it must use up more time and spectrum resources in order to try and deliver the user content reliably. This uses up the limited physical resources quickly and can deprive other users connected to the site form gaining access to those resources impacting user experience for all customers in the area. Currently, Verizon Wireless has modified its adjacent facilities in an effort to maximize the available capacity; however, increased demand for voice and data services has already outstripped the capacity of adjacent sites such as "Kimball" and "Selby". The current "Grapewin" candidate was the only viable solution to provide the required signal level and quality to effectively offload the neighboring sites. Achieving capacity exhaustion severely compromises the Verizon Wireless network, leading to failed call attempts, dropped calls, poor quality and slow data speeds (the "Capacity Gap").

Summary

As an RF Engineer with over 20 years of experience, I have spent over 20 years working in the LA market where I designed and analyzed siting considerations for over 200 telecommunications facility sites After analyzing the traffic & performance data, coverage plots and local knowledge of the area, it is my professional judgment that the current location and design of the "Grapewin" project is vital for improving the network reliability service and performance to Monroe St, Monticello, California Ave, and the surrounding residential areas.

Regards,
Carlos Herrera
Senior RF Design Engineer
Verizon

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Cellular Phone Towers

Cellular (cell) phones first became widely available in the United States in the 1990s, but since then their use has increased dramatically. The widespread use of cell phones has led to cell phone towers being placed in many communities. These towers, also called *base stations*, have electronic equipment and antennas that receive and transmit radiofrequency (RF) signals.

How do cellular phone towers work?

Cell phone base stations may be free-standing towers or mounted on existing structures, such as trees, water tanks, or tall buildings. The antennas need to be high enough to adequately cover the area. Base stations are usually from 50-200 feet high.

Cell phones communicate with nearby cell towers mainly through radiofrequency (RF) waves, a form of energy in the electromagnetic spectrum between FM radio waves and microwaves. Like FM radio waves, microwaves, visible light, and heat, they are forms of non-ionizing radiation. This means they cannot cause cancer by directly damaging DNA. RF waves are different from stronger types of radiation such as x-rays, gamma rays, and ultraviolet (UV) light, which can break the chemical bonds in DNA.

At very high levels, RF waves can heat up body tissues. (This is the basis for how microwave ovens work.) But the levels of energy used by cell phones and towers are much lower.

When a person makes a cell phone call, a signal is sent from the phone's antenna to the nearest base station antenna. The base station responds to this signal by assigning it an available radiofrequency channel. RF waves transfer the voice information to the base station. The voice signals are then sent to a switching center, which transfers the call to its destination. Voice signals are then relayed back and forth during the call.

How are people exposed to the energy from cellular phone towers?

As people use cell phones to make calls, signals are transmitted back and forth to the base station. The RF waves produced at the base station are given off into the environment, where people can be exposed to them.

The energy from a cellular phone tower antenna, like that of other telecommunication antennas, is directed toward the horizon (parallel to the ground), with some downward scatter. Base station antennas use higher power levels than other types of land-mobile antennas, but much lower levels than those from radio and television broadcast stations. The amount of energy decreases rapidly as the distance from the antenna increases. As a result, the level of exposure to radio waves at ground level is very low compared to the level close to the antenna.

Public exposure to radio waves from cell phone tower antennas is slight for several reasons. The power levels are relatively low, the antennas are mounted high above ground level, and the signals are transmitted intermittently, rather than constantly.

At ground level near typical cellular base stations, the amount of RF energy is thousands of times less than the limits for safe exposure set by the US Federal Communication Commission (FCC) and other regulatory authorities. It is very unlikely that a person could be exposed to RF levels in excess of these limits just by being near a cell phone tower.

When a cellular antenna is mounted on a roof, it is possible that a person on the roof could be exposed to RF levels greater than those typically encountered on the ground. But even then, exposure levels approaching or exceeding the FCC safety guidelines are only likely to be found very close to and directly in front of the antennas. If this is the case, access to these areas should be limited.

The level of RF energy inside buildings where a base station is mounted is typically much lower than the level outside, depending on the construction materials of the building. Wood or cement block reduces the exposure level of RF radiation by a factor of about 10. The energy level *behind* an antenna is hundreds to thousands of times lower than in front. Therefore, if an antenna is mounted on the side of a building, the exposure level in the room directly behind the wall is typically well below the recommended exposure limits.

Do cellular phone towers cause cancer?

Some people have expressed concern that living, working, or going to school near a cell phone tower might increase the risk of cancer or other health problems. At this time, there is very little evidence to support this idea. In theory, there are some important points that would argue against cellular phone towers being able to cause cancer.

First, the energy level of radiofrequency (RF) waves is relatively low, especially when compared with the types of radiation that are known to increase cancer risk, such as gamma rays, x-rays, and ultraviolet (UV) light. The energy of RF waves given off by cell phone towers is not enough to break chemical bonds in DNA molecules, which is how these stronger forms of radiation may lead to cancer.

A second issue has to do with wavelength. RF waves have long wavelengths, which can only be concentrated to about an inch or two in size. This makes it unlikely that the energy from RF waves could be concentrated enough to affect individual cells in the body.

Third, even if RF waves were somehow able to affect cells in the body at higher doses, the level of RF waves present at ground level is very low – well below the recommended limits. Levels of energy from RF waves near cell phone towers are not significantly different from the background levels of RF radiation in urban areas from other sources, such as radio and television broadcast stations.

For these reasons, most scientists agree that cell phone antennas or towers are unlikely to cause cancer.

Studies in people

Very few human studies have focused specifically on cellular phone towers and cancer risk.

In one large study, British researchers compared a group of more than 1,000 families of young children with cancer against a similar group of families of children without cancer. They found no link between a mother's exposure to the towers during pregnancy (based on the distance from the home to the nearest tower and on the amount of energy given off by nearby towers) and the risk of early childhood cancer.

In another study, researchers compared a group of more than 2,600 children with cancer to a group of similar children without cancer. They found that those who lived in a town that could have exposed them to higher than average RF radiation from cellular phone towers in the previous 5 years had a slightly higher risk of cancer, although not of any certain type of cancer (like leukemia or brain tumors). This study estimated the children's possible exposure based on the number of towers in their town and how strong the signals were from the towers. It did not look at actual exposure of any individual child based on how far their home or school was from a tower. This limitation reduces confidence in the results of the study.

One study looked for signs of DNA and cell damage in blood cells as a possible indicator of cancer-causing potential. They found that the damage was no worse in people who lived near a cell phone tower as compared with those didn't.

The amount of exposure from living near a cell phone tower is typically many times lower than the exposure from using a cell phone. About 30 studies have looked at possible links between cell phone use and tumors in people. Most studies to date have not found a link between cell phone use and the development of tumors, although these studies have had some important limitations. This is an area of active research. For more information, see the document, ***Cellular Phones***.

Studies done in the lab

Laboratory studies have looked at whether the types of RF waves used in cell phone communication can cause DNA damage. Most of these studies have supported the idea that the RF waves given off by cell phones and towers don't have enough energy to damage DNA directly.

Some scientists have reported that the RF waves may produce other effects in human cells (in lab dishes) that might possibly help tumors grow. However, these studies have not been verified, and these effects weren't seen in a study that looked at the blood cells from people living near a cellular phone tower.

Several studies in rats and mice have looked at whether RF energy might promote the development of tumors caused by other known carcinogens (cancer-causing agents). These studies did not find evidence of tumor promotion. Research in this area continues.

What expert agencies say

About cell phone towers

The 3 expert agencies that usually classify cancer-causing exposures (carcinogens) – the International Agency for Research on Cancer (IARC), the National Toxicology Program (NTP), and the US Environmental Protection Agency (EPA) – have not classified cell phone towers as to their cancer-causing potential.

The **US Federal Communications Commission** (FCC) has said this about cell phone towers near homes or schools:

"Radiofrequency emissions from antennas used for cellular and PCS [personal communications service] transmissions result in exposure levels on the ground that are typically thousands of times below safety limits. These safety limits were adopted by the FCC based on the recommendations of expert organizations and endorsed by agencies of the Federal Government responsible for health and safety. Therefore, there is no reason to believe that such towers could constitute a potential health hazard to nearby residents or students."

About RF radiation

Some of the agencies that classify cancer-causing exposures have, however, made statements about radiofrequency radiation.

The **International Agency for Research on Cancer (IARC)** has classified RF fields as "possibly carcinogenic to humans," based on limited evidence of a possible increase in risk for brain tumors among cell phone users, and inadequate evidence for other types of cancer. (For more information on the IARC classification system, see our document, ***Known and Probable Human Carcinogens.)*** IARC also noted that exposure to the brain from RF fields from cell phone base stations (mounted on roofs or towers) is less than 1/100th the exposure to the brain from mobile devices such as cell phones.

The **Environmental Protection Agency** (EPA) states:

"At very high levels, RF energy is dangerous. It can heat the body's tissues rapidly. However, such high levels are found only near certain equipment, such as powerful long-distance transmitters. Cellphones and wireless networks produce RF, but not at levels that cause significant heating. In addition, RF energy decreases quickly over distance. At ground level, exposure to RF from sources like cellphone towers is usually very low.

Some people are concerned about potential health effects, especially on the developing brains and bodies of children. Some studies suggest that heavy long-term use of cellphones could have health effects. Other studies don't find any health effects from cellphone use. Long-term studies on animals exposed to the RF found in wireless networks (Wi-Fi) have, so far, found no health effects. Scientists continue to study the effects of long-term exposure to low levels of RF."

Can I limit my exposure?

Cell phone towers are not known to cause any health effects. But if you are concerned about possible exposure from a cell phone tower near your home or office, you can ask a government agency or private firm to measure the RF field strength near the tower (where a person could be exposed) to ensure that it is within the acceptable range.

What should I do if I've been exposed to cellular phone towers?

There is no test to measure whether you have been exposed to RF radiation from cellular phone towers. But as noted above, most researchers and regulatory authorities do not believe that cell phone towers pose health risks under ordinary conditions. If you have additional health concerns, you might want to talk with your doctor.

Additional resources

More information from your American Cancer Society

The following related information may also be helpful to you. These materials may be viewed on our Web site or ordered from our toll-free number, at 1-800-227-2345.

Cellular Phones

Does This Cause Cancer?

Known and Probable Human Carcinogens

Microwaves, Radio Waves, and Other Types of Radiofrequency Radiation

National organizations and Web sites*

In addition to the American Cancer Society, other sources of information and support include:

Environmental Protection Agency
Home page: **www.epa.gov**
Understanding radiation: **www.epa.gov/radiation/understanding-radiation-overview.html**

Federal Communications Commission
RF Safety Program, Office of Engineering and Technology
Web site: **www.fcc.gov/oet/rfsafety**

Food and Drug Administration
Home page: **www.fda.gov**
Radiation-emitting products: Cell phones: **www.fda.gov/Radiation-EmittingProducts/RadiationEmittingProductsandProcedures/HomeBusinessandEntertainment/CellPhones/default.htm**

National Cancer Institute
Toll-free number: 1-800-422-6237 (1-800-4-CANCER)
Home page: **www.cancer.gov**
Cellular telephone use and cancer risk: **www.cancer.gov/cancertopics/factsheet/Risk/cellphones**

National Institute of Environmental Health Sciences
Home page: **www.niehs.nih.gov**
Electric and magnetic fields: **www.niehs.nih.gov/health/topics/agents/emf/index.cfm**

World Health Organization
Electromagnetic fields and public health: base stations and wireless technologies
Web site: **www.who.int/mediacentre/factsheets/fs304/en/index.html**

** Inclusion on this list does not imply endorsement by the American Cancer Society*

No matter who you are, we can help. Contact us anytime, day or night, for information and support. Call us at 1-800-227-2345 or visit **www.cancer.org**.

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Last Medical Review: 12/02/2014
Last Revised: 12/02/2014

European Commission

Does electromagnetic field exposure endanger health?

New SCENIHR opinion examines latest data on health impact of latest technologies

→ WHAT ARE ELECTROMAGNETIC FIELDS?

An electromagnetic field (EMF) is a physical field produced by stationary, spinning or moving electrically charged particles. EMF is not a recent phenomenon of our cell phone and computer culture: electric and magnetic fields exist in nature. Although they are invisible, you can see proof of their existence in a bolt of lightning and the spinning of a compass needle. EMF is also a by-product of electric devices and new technologies. It is the omnipresence of these new technologies (including laptops, cell phones, induction cooktops and Wi-Fi) that has raised concerns about how EMF exposure might impact our health.

→ ARE THERE DIFFERENT TYPES OF EMF?

The term EMF generally refers to electromagnetic frequencies lower than that of visible light, which are the focus of this fact sheet. The entire electromagnetic spectrum, however, ranges from extremely low frequencies (like electric power) to higher frequencies (like microwaves, optical frequencies and, even higher, x-rays). The frequency is related to the wavelength: the shorter the wavelength, the higher the frequency.

→ IS EMF EXPOSURE DANGEROUS FOR YOUR HEALTH?

The results of current scientific research show that there are no evident adverse health effects if exposure remains below the levels set by current standards.

Some studies suggested an association of EMF produced by mobile phones with an increased risk of cancer of the auditory vestibular (acoustic) nerve and of brain tumours. However, other studies did not confirm this association and one finding in particular suggests precaution on the interpretation of this association: the rates of incidence of the corresponding tumours have not increased since the introduction of cell phones.

Previous studies also suggested an association of EMF with an increased risk of Alzheimer's disease. New studies on that subject did not confirm this link.

Epidemiological studies link exposure to Extremely Low Frequency (ELF) fields, from long-term living in close proximity to power lines for example, to a higher rate of childhood leukaemia, which is a rare blood cancer. This correlation has neither been explained nor supported by animal and cellular studies. So far, research findings were not able to find a possible mechanism to explain this association. More research is needed to confirm or exclude a possible causal association.

→ CAN SOME PEOPLE BE ESPECIALLY SENSITIVE TO EMF?

Some people attribute symptoms such as headache, sleep disturbance and fatigue to EMF exposure. While their health concerns are valid, there is for the moment no conclusive scientific evidence that any of their symptoms are caused by exposure to EMF.

→ IS EXPOSURE TO EMF CONTINUALLY INCREASING?

Not necessarily. While the number of sources is increasing, new telephones, appliances and other EMF sources can emit much lower levels of EMFs than earlier models. This could mean that the amount of exposure could actually be decreasing. However, it is evident that overall exposure depends on one's lifestyle and location.

→ WHAT IS THE SCIENTIFIC COMMITTEES' VIEW IN SUMMARY?

The Scientific Committees do not *conduct* scientific research, but *review* all relevant scientific data, carrying out metadata analyses to put forth an opinion on various topics pertaining to public health. Thorough examination of all pertinent, recent data has not produced any conclusive evidence about EMF being dangerous, which is reassuring. However, further research should be conducted, particularly as pertains to very long-term exposure and potential risks of exposure to multiple sources.

This fact sheet is based on the opinion of the independent Scientific Committee on Emerging and Newly Identified Health Risks (SCENIHR): «Potential health effects of exposure to electromagnetic fields (EMF)». March, 2015

This opinion is available at: http://ec.europa.eu/health/scientific_committees/emerging/opinions/index_en.htm

National Health Interview Survey
Early Release Program

Wireless Substitution: Early Release of Estimates From the National Health Interview Survey, July–December 2014

Stephen J. Blumberg, Ph.D., and Julian V. Luke
Division of Health Interview Statistics, National Center for Health Statistics

Overview

Preliminary results from the July–December 2014 National Health Interview Survey (NHIS) indicate that the number of American homes with only wireless telephones continues to grow. More than two in every five American homes (45.4%) had only wireless telephones (also known as cellular telephones, cell phones, or mobile phones) during the second half of 2014—an increase of 4.4 percentage points since the second half of 2013. More than one-half of all adults aged 18-44 and of children under 18 were living in wireless-only households. This report presents the most up-to-date estimates available from the federal government concerning the size and characteristics of these populations.

NHIS Early Release Program

This report is published as part of the NHIS Early Release Program. Twice each year, the Centers for Disease Control and Prevention's (CDC) National Center for Health Statistics (NCHS) releases selected estimates of telephone coverage for the civilian noninstitutionalized U.S. population based on data from NHIS, along with comparable estimates from NHIS for the previous 3 years. The estimates are based on in-person interviews that are conducted throughout the year to collect information on health status, health-related behaviors, and health care access and utilization. The survey also includes information about household telephones and whether anyone in the household has a wireless telephone.

To provide access to the most recent information from NHIS, estimates using the July–December 2014 data are being released prior to final data editing and final weighting. These estimates should be considered preliminary. Estimates produced using the final data files may differ slightly from those presented here.

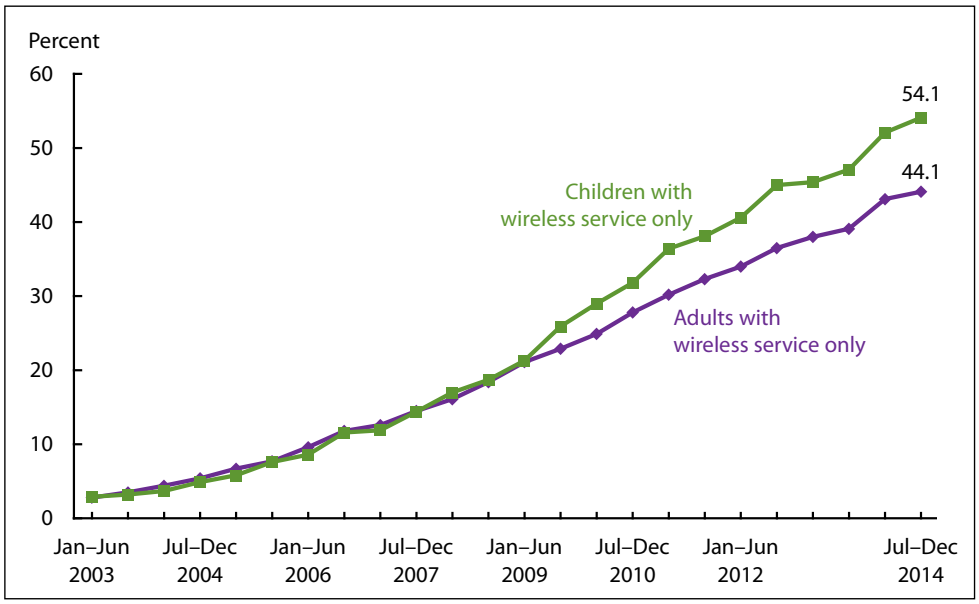
Methods

For many years, NHIS has asked respondents to provide residential telephone numbers, to permit the recontacting of survey participants. Starting in 2003, additional questions were asked to determine whether a family had a landline telephone. An NHIS family was considered to have landline telephone service if the survey respondent for the family reported that there was "at least one phone inside your home that is currently working and is not a cell phone." (To avoid possible confusion with cordless landline telephones, the word "wireless" was not used in the survey.)

An NHIS "family" is an individual or a group of two or more related persons living together in the same housing unit (a "household"). Thus, a family can consist of only one person, and more than one family can live in a household (including, for example, a household where there are multiple single-person families, as when unrelated roommates are living together).

The survey respondent for each family was also asked whether "anyone in your family has a working cellular telephone." Families are identified as "wireless families" if respondents reported that someone in the family had a working cell phone at the time of interview. This

Figure. Percentages of adults and children living in households with only wireless telephone service: United States, 2003–2014



NOTE: Adults are aged 18 and over; children are under age 18.
DATA SOURCE: CDC/NCHS, National Health Interview Survey.

person (or persons) could be a civilian adult, a member of the military, or a child.

Households are identified as "wireless-only" if they include at least one wireless family and if there are no families with landline telephone service in the household. Persons are identified as wireless-only if they live in a wireless-only household. A similar approach is used to identify adults living in households with no telephone service (neither wireless nor landline). Household telephone status (rather than family telephone status) is used in this report because most telephone surveys do not attempt to distinguish among families when more than one family lives in the same household.

From July through December 2014, information on household telephone status was obtained for 22,023 households that included at least one civilian adult or child. These households included 41,160 civilian adults aged 18 and over, and 13,754 children under age 18. Analyses of telephone status are presented separately for households, adults, and children in **Table 1**.

Analyses of demographic characteristics are based on data from the NHIS Person and Household Files. Demographic data for all civilian adults living in interviewed households were used in these analyses. "Household income" is the sum of the family incomes in the household. Estimates stratified by household poverty status are based on reported income only because imputed income values are not available until a few months after the annual release of NHIS microdata. Household poverty status was unknown for 25.2% of adults in these analyses.

Analyses of selected health measures are based on data from the NHIS Sample Adult File. Health-related data for one randomly selected civilian adult in each family (the "sample adult") were used in these analyses. From July through December 2014, data on household telephone status and selected health measures were collected from 18,250 of these sample adults.

Because NHIS is conducted throughout the year and the sample is designed to yield a nationally representative sample each month, data can be analyzed quarterly. Weights are created for each calendar quarter of the NHIS sample. NHIS data weighting procedures are described in more detail in a previous NCHS report (Parsons et al., 2014).

Point estimates and 95% confidence intervals were calculated using SUDAAN software (RTI International, Research Triangle Park, NC) to account for the complex sample design of NHIS. Differences between percentages were evaluated using two-sided significance tests at the 0.05 level. Terms such as "more likely" and "less likely" indicate a statistically significant difference. Lack of comment regarding the difference between any two estimates does not necessarily mean that the difference was tested and found to be not significant. Because of small sample sizes, estimates based on less than 1 year of data may have large variances, and caution should be used in interpreting such estimates.

Telephone Status

In the second 6 months of 2014, more than two in every five households (45.4%) did not have a landline telephone but did have at least one wireless telephone (**Table 1**). Approximately 106 million adults (44.1% of all adults) lived in households with only wireless telephones; about 40 million children (54.1% of all children) lived in households with only wireless telephones.

The percentage of households that are wireless-only and the percentages of adults and children living in wireless-only households have been steadily increasing. The 4.4-percentage-point increase from the second 6 months of 2013 through the second 6 months of 2014 was statistically significant. The 5.0-percentage-point increase for adults from the second 6 months of 2013 through the second 6 months of 2014 and the 7.0-percentage-point increase for children over the same period were also significant (**Figure**). However, the increases from the first 6 months to the second 6 months of 2014 were smaller than have been observed over other recent 6-month periods and were not statistically significant.

The percentages of adults and children living without any telephone service have increased slightly but significantly over the past 3 years (**Table 1**). Approximately 3.2% of households had no telephone service (neither wireless nor landline). About 7.0 million adults (2.9%) and 2.5 million children (3.4%) lived in these households.

Demographic Differences

The percentage of U.S. civilian noninstitutionalized adults living in wireless-only households is shown, by selected demographic characteristics and survey time period, in **Table 2**. For July–December 2014, there are six demographic groups in which the majority live in households with only wireless telephones: adults aged 18–44, adults living only with unrelated adult roommates, adults living with children, adults renting their home, adults living in poverty or near poverty, and Hispanic adults.

- More than two-thirds of adults aged 25–29 (69.2%) and aged 30-34 (67.4%) lived in households with only wireless telephones. These rates are greater than the rate for those 18–24 (57.8%). The percentage of adults living with only wireless telephones decreased as age increased beyond 35 years: 53.7% for those 35–44; 36.8% for those 45–64; and 17.1% for those 65 and over.
- Four in five adults living only with unrelated adult roommates (81.3%) were in households with only wireless telephones. This rate is higher than the rates for adults living alone (49.5%), adults living only with spouses or other adult family members (35.8%), and adults living with children (50.8%).
- Two in three adults living in rented homes (66.2%) had only wireless telephones. This rate is twice the rate for adults living in homes owned by a household member (33.1%).
- Adults living in poverty (59.4%) were more likely than those living near poverty (51.1%) and higher income adults (42.5%) to be living in households with only wireless telephones. (Footnote 3 in **Table 2** gives definitions of these categories.)

- Hispanic adults (58.6%) were more likely than non-Hispanic white (40.3%) or non-Hispanic black (45.7%) adults to be living in households with only wireless telephones.

Geographic differences were also noted. Adults living in the Midwest (48.0%), South (47.0%), and West (46.9%) were more likely than those living in the Northeast (29.5%) to be living in households with only wireless telephones. Adults living in metropolitan areas (45.7%) were more likely than those living in nonmetropolitan areas (37.6%) to be living in wireless-only households.

Demographic Distributions

The demographic differences noted in the previous section are based on the distribution of household telephone status within each demographic group. When examining the population of wireless-only adults, some readers may instead wish to consider the distribution of various demographic characteristics within the wireless-only adult population.

Table 3 gives the percent distributions of selected demographic characteristics for adults living in households with only wireless telephones, by survey time period. The estimates in this table reveal that the distributions of selected demographic characteristics changed little over the 3-year period shown. The exceptions were related to age and home ownership status.

- The proportion of wireless-only adults who were aged 35 and over has increased steadily, from 49.6% in the second 6 months of 2011 to 56.2% in the second 6 months of 2014.
- The proportion of wireless-only adults living in homes owned by a household member increased from 44.2% in the second 6 months of 2011 to 49.5% in the second 6 months of 2014.

Selected Health Measures by Household Telephone Status

Many health surveys, political polls, and other types of research are conducted using random-digit-dial (RDD) telephone surveys. Despite operational challenges, most major survey research organizations include wireless telephone numbers when conducting RDD surveys. If they did not, the exclusion of households with only wireless telephones (along with the small proportion of households that have no telephone service) could bias results. This bias—known as coverage bias—could exist if there are differences between persons with and without landline telephones for the substantive variables of interest.

The NHIS Early Release Program updates and releases estimates for 15 key health indicators every 3 months. **Table 4** presents estimates by household telephone status (landline, wireless-only, or phoneless) for all but two of these measures. ("Pneumococcal vaccination" and "personal care needs" were not included because these indicators are limited to older adults aged 65 and over.) For July–December 2014:

- Regarding alcohol consumption, the percentage of adults who had at least one heavy drinking day in the past year was substantially higher among wireless-only adults (30.3%) than among adults living in landline households (19.6%). Wireless-only adults were also more likely to be current smokers.
- Compared with adults living in landline households, wireless-only adults were less likely to have ever been diagnosed with diabetes.
- The percentage without health insurance coverage at the time of interview among wireless-only adults under age 65 (18.7%) was greater than the percentage among adults in that age group living in landline households (10.9%).
- Compared with adults living in landline households, wireless-only adults were more likely to have experienced financial barriers to obtaining needed health care, and they were less likely to have a usual place to go for medical care. Wireless-only adults were also less likely to have received an influenza vaccination during the previous year
- Wireless-only adults (44.2%) were more likely than adults living in landline households (31.5%) to have ever been tested for human immunodeficiency virus (HIV), the virus that causes AIDS.

The potential for bias due to undercoverage remains a real threat to health surveys that do not include sufficient representation of households with only wireless telephones.

Wireless-mostly Households

The potential for bias due to undercoverage is not the only threat to surveys conducted only on landline telephones. Researchers are also concerned that some people living in households with landlines cannot be reached on those landlines because they rely on wireless telephones for all or almost all of their calls.

In 2007, a question was added to NHIS for persons living in families with both landline and cellular telephones. The respondent for the family was asked to consider all of the telephone calls his or her family receives and to report whether "all or almost all calls are received on cell phones, some are received on cell phones and some on regular phones, or very few or none are received on cell phones." This question permits the identification of persons living in "wireless-mostly" households—defined as households with both landline and cellular telephones in which all families receive all or almost all calls on cell phones.

Among households with both landline and wireless telephones, 34.8% received all or almost all calls on wireless telephones, based on data for July–December 2014. These wireless-mostly households make up 14.9% of all households. During the second 6 months of 2014, about 40 million adults (16.9%) lived in wireless-mostly households.

Table 5 gives the percentage of adults living in wireless-mostly households, by demographic characteristics and survey time period. For July–December 2014:

- Adults with college degrees (20.8%) were more likely to be living in wireless-mostly households than were high school graduates (14.5%) or adults with less education (11.0%).
- Adults living with children (20.0%) were more likely than adults living alone (9.3%), with roommates (5.5%), or with only adult relatives (17.3%) to be living in wireless-mostly households.
- Adults living in poverty (8.4%) and adults living near poverty (12.0%) were less likely than higher-income adults (19.4%) to be living in wireless-mostly households.
- Adults living in rented homes (11.0%) were less likely to be living in wireless-mostly households than were adults living in homes owned by a household member (19.9%).

Research by Boyle, Lewis, and Tefft (2009) suggests that the majority of adults living in wireless-mostly households are reachable using their landline telephone number. NHIS data cannot be used to estimate the proportion of wireless-mostly adults who are unreachable or to estimate the potential for bias due to their exclusion from landline surveys.

References and Other Sources of Information

For more information about the potential implications for health surveys that are based on landline telephone interviews, see

- Blumberg SJ, Luke JV. Reevaluating the need for concern regarding noncoverage bias in landline surveys. Am J Public Health 99(10):1806–10. 2009. Available from: http://ajph.aphapublications.org/cgi/content/abstract/99/10/1806.
- Boyle JM, Lewis F, Tefft B. Cell phone mainly households: Coverage and reach for telephone surveys using RDD landline samples. Surv Pract 2(9). 2009. Available from: http://surveypractice.wordpress.com/2009/12/09/cell-phone-and-landlines/.

When including wireless telephone numbers in RDD surveys, researchers have many methodological, statistical, operational, legal, and ethical issues to consider. These issues have been described in a report from a task force of the American Association for Public Opinion Research (AAPOR). That task force included staff from CDC, and its report is available online:

- AAPOR Cell Phone Task Force. New considerations for survey researchers when planning and conducting RDD telephone surveys in the U.S. with respondents reached via cell phone numbers. Deerfield, IL: American Association for Public Opinion Research. 2010. Available from: http://www.aapor.org/AAPORKentico/Education-Resources/Reports/Cell-Phone-Task-Force-Report.aspx.

The potential for bias may differ from one state to another because the prevalence of wireless-only households varies substantially across states. For more information about prevalence estimates at the state level, see

- NCHS. Modeled estimates (with standard errors) of the percent distribution of household telephone status for adults aged 18 and over, by state: United States, 2013. 2014. Available from: http://www.cdc.gov/nchs/data/nhis/earlyrelease/wireless_state_201412.pdf.
- Blumberg SJ, Ganesh N, Luke JV, Gonzales G. Wireless substitution: State-level estimates from the National Health Interview Survey, 2012. National health statistics reports; no 70. Hyattsville, MD: National Center for Health Statistics. 2013. Available from: http://www.cdc.gov/nchs/data/nhsr/nhsr070.pdf.

Other NHIS Early Release Program Products

Two additional reports are published regularly as part of the NHIS Early Release Program. *Early Release of Selected Estimates Based on Data From the National Health Interview Survey* is published quarterly and provides estimates for 15 selected measures of health. *Health Insurance Coverage: Early Release of Estimates From the National Health Interview Survey* is also published quarterly and provides additional estimates regarding health insurance coverage. Other Early Release Program products are released as needed. For more information about NHIS and the NHIS Early Release Program, or to find other Early Release Program products, see

- NHIS home page at http://www.cdc.gov/nchs/nhis.htm.
- Early Release Program home page at http://www.cdc.gov/nchs/nhis/releases.htm.
- Parsons VL, Moriarity CL, Jonas K, et al. Design and estimation for the National Health Interview Survey: 2006–2015. National Center for Health Statistics. Vital Health Stat 2(165). 2014. Available from: http://www.cdc.gov/nchs/data/series/sr_02/sr02_165.pdf.

Suggested Citation

Blumberg SJ, Luke JV. Wireless substitution: Early release of estimates from the National Health Interview Survey, July–December 2014. National Center for Health Statistics. June 2015. Available from: http://www.cdc.gov/nchs/nhis.htm.

Table 1. Percent distribution of household telephone status for households, adults, and children, by date of interview: United States, July 2011–December 2014

Date of interview	Number of households (unweighted)	Household telephone status						
		Landline with wireless	Landline without wireless	Landline with unknown wireless	Nonlandline with unknown wireless	Wireless-only	Phoneless	Total
Households								
July–December 2011	19,311	53.4	10.2	0.2	0.0	34.0	2.2	100.0
January–June 2012	20,608	52.5	9.4	0.2	0.0	35.8	2.1	100.0
July–December 2012	21,709	50.8	8.6	0.2	0.1	38.2	2.1	100.0
January–June 2013	19,765	49.5	8.5	0.1	0.0	39.4	2.3	100.0
July–December 2013	21,512	47.7	8.6	0.1	0.1	41.0	2.5	100.0
January–June 2014	22,438	44.7	8.5	0.1	0.0	44.0	2.6	100.0
July–December 2014	22,023	42.7	8.4	0.2	0.1	45.4	3.2	100.0
95% confidence interval[1]	…	41.54–43.88	7.84–9.05	0.10–0.24	0.05–0.14	44.21–46.63	2.85–3.61	…
Adults								
July–December 2011	36,564	57.3	8.3	0.2	0.0	32.3	1.9	100.0
January–June 2012	38,896	56.1	7.8	0.2	0.0	34.0	1.9	100.0
July–December 2012	40,839	54.4	7.0	0.2	0.1	36.5	1.9	100.0
January–June 2013	37,268	52.8	6.9	0.1	0.0	38.0	2.2	100.0
July–December 2013	40,173	51.5	7.0	0.1	0.1	39.1	2.2	100.0
January–June 2014	42,262	47.3	7.0	0.1	0.1	43.1	2.4	100.0
July–December 2014	41,160	45.8	7.1	0.1	0.1	44.1	2.9	100.0
95% confidence interval[1]	…	44.61–46.94	6.56–7.61	0.08–0.21	0.05–0.16	42.92–45.26	2.53–3.22	…
Children								
July–December 2011	13,028	54.7	4.8	0.1	0.0	38.1	2.2	100.0
January–June 2012	13,905	52.7	4.5	0.1	–	40.6	2.2	100.0
July–December 2012	14,083	49.5	3.4	0.1	0.1	45.0	1.9	100.0
January–June 2013	12,932	48.3	3.6	0.1	0.0	45.4	2.6	100.0
July–December 2013	13,714	46.4	3.8	0.1	0.0	47.1	2.5	100.0
January–June 2014	14349	41.7	3.5	–	0.0	52.1	2.7	100.0
July–December 2014	13,754	39.1	3.3	0.1	0.0	54.1	3.4	100.0
95% confidence interval[1]	…	37.48–40.82	2.70–3.92	0.02–0.56	0.01–0.12	52.33–55.85	2.88–3.95	…

0.0 Quantity more than zero but less than 0.05.

… Category not applicable.

– Quantity zero.

[1]Refers to July–December 2014.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2011–December 2014.

Table 2. Percentage of adults living in wireless-only households, by selected demographic characteristics and calendar half-years: United States, July 2011–December 2014

Demographic characteristic	July–December 2011	January–June 2012	July–December 2012	January–June 2013	July–December 2013	January–June 2014	July–December 2014	95% confidence interval[1]
Race/ethnicity								
Hispanic or Latino, any race(s)	43.3	46.5	50.5	49.9	53.1	56.1	58.6	56.26–60.86
Non-Hispanic white, single race	29.0	30.4	32.9	35.1	35.1	39.6	40.3	38.88–41.72
Non-Hispanic black, single race	36.8	37.7	39.0	39.4	42.7	44.9	45.7	43.06–48.38
Non-Hispanic Asian, single race	31.6	33.4	34.4	35.2	38.1	41.3	42.3	38.73–45.86
Non-Hispanic other, single race	44.1	43.4	43.9	50.1	51.7	52.4	54.8	44.92–64.31
Non-Hispanic multiple race	36.7	40.2	45.3	46.2	45.7	52.5	53.3	46.94–59.57
Age (years)								
18–24	48.6	49.5	53.2	54.3	53.0	57.8	58.0	55.45–60.58
25–29	59.6	60.1	62.1	65.6	65.7	69.3	69.2	66.42–71.82
30–34	50.9	55.1	56.7	59.9	59.7	64.9	67.4	65.20–69.49
35–44	36.8	39.1	43.5	44.5	47.8	52.5	53.7	51.85–55.56
45–64	23.8	25.8	28.4	29.8	31.4	35.7	36.8	35.50–38.21
65 and over	8.5	10.5	11.6	12.6	13.6	15.7	17.1	15.79–18.43
Sex								
Male	33.7	35.2	38.0	39.7	40.4	44.3	45.7	44.39–46.94
Female	30.9	32.9	35.1	36.5	37.9	41.9	42.6	41.44–43.81
Education								
Some high school or less	34.7	36.4	42.4	41.7	41.8	46.6	46.5	44.45–48.51
High school graduate or GED[2]	32.7	33.9	35.9	37.2	38.8	43.3	44.2	42.40–46.00
Some post-high school, no degree	35.1	36.7	38.3	40.6	41.7	45.6	47.1	45.61–48.52
4-year college degree or higher	27.8	30.1	32.2	34.5	35.5	39.0	40.3	38.64–42.06
Employment status last week								
Working at a job or business	36.8	38.4	41.4	43.5	44.4	48.9	49.9	48.61–51.24
Keeping house	32.7	34.0	38.6	39.4	40.5	47.6	47.2	44.63–49.88
Going to school	40.8	41.9	46.0	48.1	46.3	49.7	53.8	48.93–58.69
Something else (incl. unemployed)	22.3	23.6	25.1	25.2	27.0	29.1	29.7	28.35–31.00
Household structure								
Adult living alone	41.3	43.0	43.9	46.4	46.6	48.3	49.5	47.46–51.58
Unrelated adults, no children	77.5	75.9	76.2	74.7	76.1	73.9	81.3	75.31–86.10
Related adults, no children	25.1	27.0	28.2	29.6	31.0	35.3	35.8	34.44–37.26
Adult(s) with children	35.4	37.2	42.2	43.6	44.8	49.8	50.8	49.00–52.59
Household poverty status[3]								
Poor	51.4	51.8	54.3	54.7	56.2	59.1	59.4	56.58–62.21
Near-poor	39.6	42.3	45.9	47.5	46.1	50.8	51.1	48.67–53.47
Not-poor	28.9	30.7	33.2	35.3	36.6	40.8	42.5	41.09–43.83

See footnotes at end of table.

Table 2. Percentage of adults living in wireless-only households, by selected demographic characteristics and calendar half-years: United States, July 2011–December 2014—*Continued*

Demographic characteristic	July–December 2011	January–June 2012	July–December 2012	January–June 2013	July–December 2013	January–June 2014	July–December 2014	95% confidence interval[1]
Geographic region[4]								
Northeast	20.6	23.1	23.6	27.1	24.9	27.8	29.5	26.93–32.11
Midwest	35.2	37.5	40.6	39.6	43.7	46.9	48.0	45.62–50.44
South	35.9	37.2	39.7	41.8	41.9	47.3	47.0	45.01–49.09
West	33.0	34.0	37.8	39.0	41.2	43.8	46.9	44.86–49.05
Metropolitan statistical area status								
Metropolitan	33.6	35.7	38.1	39.5	40.5	43.9	45.7	44.37–47.03
Not metropolitan	27.2	27.1	30.5	32.4	33.7	39.8	37.6	35.28–39.89
Home ownership status[5]								
Owned or being bought	21.2	23.2	25.4	27.2	28.5	32.9	33.1	31.95–34.18
Renting	56.0	58.2	59.7	61.5	61.7	64.6	66.2	64.54–67.84
Other arrangement	40.7	37.7	49.1	42.6	49.3	52.2	49.2	42.80–55.65
Number of wireless-only adults in survey sample (unweighted)	12,350	13,724	15,589	14,512	16,436	18,380	18,740	…

… Category not applicable.

[1]Refers to July–December 2014.

[2]GED is General Educational Development high school equivalency diploma.

[3]Based on household income and household size using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those below the poverty threshold. "Near-poor" persons have incomes of 100% to less than 200% of the poverty threshold. "Not-poor" persons have incomes of 200% of the poverty threshold or greater. Early Release estimates stratified by poverty status are based on reported income only and may differ from similar estimates produced later that are based on both reported and imputed income. NCHS imputes income when income is unknown, but the imputed income file is not available until a few months after the annual release of National Health Interview Survey microdata. For households with multiple families, household income and household size were calculated as the sum of the multiple measures of family income and family size.

[4]In the geographic classification of the U.S. population, states are grouped into the following four regions used by the U.S. Census Bureau: *Northeast* includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; *Midwest* includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *South* includes Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; and *West* includes Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

[5]For households with multiple families, home ownership status was determined by considering the reported home ownership status for each family. If any family reported owning the home, then the household-level variable was classified as "Owned or being bought" for all persons living in the household. If one family reported renting the home and another family reported "other arrangement," then the household-level variable was classified as "Other arrangement" for all persons living in the household.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2011–December 2014.

Table 3. Percent distributions of selected demographic characteristics for adults living in wireless-only households, by date of interview: United States, July 2011–December 2014

Demographic characteristic	July–December 2011	January–June 2012	July–December 2012	January–June 2013	July–December 2013	January–June 2014	July–December 2014	95% confidence interval[1]
Race/ethnicity								
Hispanic or Latino, any race(s)	19.1	20.3	20.6	19.7	20.5	19.8	20.3	18.77–22.02
Non-Hispanic white, single race	61.0	59.6	59.7	61.0	59.2	60.4	60.0	58.29–61.62
Non-Hispanic black, single race	13.1	12.7	12.3	12.0	12.6	12.1	12.1	11.15–13.19
Non-Hispanic Asian, single race	4.7	5.1	4.9	5.0	5.2	5.2	5.3	4.75–5.85
Non-Hispanic other, single race	0.9	0.8	0.8	0.9	1.0	0.9	0.7	0.54–1.01
Non-Hispanic multiple race	1.3	1.5	1.6	1.5	1.4	1.6	1.5	1.29–1.82
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	…
Age (years)								
18–24	19.4	18.9	18.9	18.4	17.4	17.1	16.6	15.67–17.65
25–29	17.0	15.5	14.8	15.2	14.8	14.1	13.9	13.14–14.69
30–34	14.0	14.0	13.4	13.5	13.3	13.1	13.2	12.53–14.00
35–44	19.2	19.5	20.0	19.7	20.4	20.3	20.1	19.30–20.99
45–64	25.8	26.7	27.1	27.2	27.8	28.6	28.8	27.73–29.86
65 and over	4.6	5.5	5.7	6.0	6.4	6.8	7.3	6.73–7.93
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	…
Sex								
Male	50.7	49.8	50.1	50.3	49.7	49.6	49.9	49.28–50.59
Female	49.3	50.2	49.9	49.7	50.3	50.4	50.1	49.41–50.72
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	…
Education								
Some high school or less	15.2	15.2	16.1	15.0	14.5	14.7	13.9	13.11–14.82
High school graduate or GED[2]	28.2	27.1	27.4	26.7	26.9	27.2	26.9	25.71–28.04
Some post-high school, no degree	32.7	33.3	31.8	32.6	32.4	32.2	31.9	30.96–32.83
4-year college degree or higher	23.9	24.5	24.6	25.8	26.2	25.9	27.3	26.05–28.60
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	…
Employment status last week								
Working at a job or business	69.0	69.3	68.9	69.7	70.1	69.3	70.1	69.14–71.10
Keeping house	5.6	5.3	5.8	5.9	5.7	6.4	6.0	5.59–6.42
Going to school	4.0	4.3	4.0	4.4	3.6	4.1	4.0	3.46–4.52
Something else (incl. unemployed)	20.6	20.2	20.5	19.2	19.8	19.5	19.1	18.18–19.99
Unknown, not reported	0.7	0.9	0.9	0.7	0.8	0.9	0.9	0.64–1.14
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	…
Household structure								
Adult living alone	19.8	18.9	18.6	18.8	18.6	17.0	17.5	16.59–18.51
Unrelated adults, no children	4.0	3.8	3.1	3.2	2.9	2.5	2.9	2.33–3.68
Related adults, no children	35.8	36.9	35.7	35.8	36.9	38.8	37.9	36.66–39.24
Adult(s) with children	40.5	40.4	42.6	42.2	41.6	41.8	41.6	40.14–43.07
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	…

See footnotes at end of table.

Table 3. Percent distribution of selected demographic characteristics for adults living in wireless-only households, by date of interview: United States, July 2011–December 2014—*Continued*

Demographic characteristic	July–December 2011	January–June 2012	July–December 2012	January–June 2013	July–December 2013	January–June 2014	July–December 2014	95% confidence interval[1]
Household poverty status[3]								
Poor	15.9	15.0	15.4	13.9	14.1	13.0	13.6	12.62–14.63
Near-poor	18.2	17.7	18.0	17.8	16.6	16.7	15.9	15.00–16.84
Not-poor	46.2	47.1	46.1	48.5	47.8	49.4	49.3	47.80–50.70
Unknown, not reported	19.8	20.2	20.6	19.7	21.5	20.8	21.3	19.92–22.65
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	…
Geographic region[4]								
Northeast	11.7	12.4	11.7	12.6	11.3	11.1	12.0	10.59–13.51
Midwest	25.2	24.5	24.8	23.1	25.1	25.0	24.3	22.46–26.22
South	39.9	40.4	40.1	40.8	39.9	41.1	39.9	37.83–42.01
West	23.3	22.8	23.4	23.6	23.8	22.9	23.8	22.13–25.62
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	…
Metropolitan statistical area status								
Metropolitan	82.3	83.9	82.6	82.8	82.6	81.6	83.1	81.36–84.78
Not metropolitan	17.7	16.1	17.4	17.2	17.4	18.4	16.9	15.22–18.64
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	…
Home ownership status[5]								
Owned or being bought	44.2	46.5	46.6	48.0	48.5	51.1	49.5	47.80–51.16
Renting	53.3	51.2	50.9	49.6	49.1	46.4	48.4	46.78–50.08
Other arrangement	2.5	2.3	2.6	2.4	2.4	2.6	2.1	1.75–2.51
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	…
Number of wireless-only adults in survey sample (unweighted)	12,350	13,724	15,589	14,512	16,436	18,380	18,740	…

… Category not applicable.

[1]Refers to July–December 2014.

[2]GED is General Educational Development high school equivalency diploma.

[3]Based on household income and household size using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those below the poverty threshold. "Near-poor" persons have incomes of 100% to less than 200% of the poverty threshold. "Not-poor" persons have incomes of 200% of the poverty threshold or greater. Early Release estimates stratified by poverty status are based on reported income only and may differ from similar estimates produced later that are based on both reported and imputed income. NCHS imputes income when income is unknown, but the imputed income file is not available until a few months after the annual release of National Health Interview Survey microdata. For households with multiple families, household income and household size were calculated as the sum of the multiple measures of family income and family size.

[4]In the geographic classification of the U.S. population, states are grouped into the following four regions used by the U.S. Census Bureau: *Northeast* includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; *Midwest* includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *South* includes Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; and *West* includes Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

[5]For households with multiple families, home ownership status was determined by considering the reported home ownership status for each family. If any family reported owning the home, then the household-level variable was classified as "Owned or being bought" for all persons living in the household. If one family reported renting the home and another family reported "other arrangement," then the household-level variable was classified as "Other arrangement" for all persons living in the household.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2011–December 2014.

Table 4. Prevalence rates (and 95% confidence intervals) for selected measures of health-related behaviors, health status, health care service use, and health care access for adults aged 18 and over, by household telephone status: United States, July–December 2014

Measure	Landline[1]	Wireless-only	Phoneless
Health-related behaviors			
At least one heavy drinking day in past year[2]	19.6 (18.28-20.91)	30.3 (28.67-32.04)	25.4 (20.86-30.63)
Current smoker[3]	12.7 (11.55-13.93)	20.2 (18.96-21.49)	21.3 (16.75-26.66)
Met the 2008 federal physical activity guidelines for aerobic activity through leisure-time aerobic activity[4]	34.7 (33.23-36.19)	41.0 (39.47-42.65)	34.8 (29.88-39.97)
Health status			
Health status described as excellent or very good[5]	59.3 (57.87-60.72)	64.1 (62.51-65.71)	61.3 (55.85-66.48)
Experienced serious psychological distress in past 30 days[6]	3.0 (2.54-3.58)	3.4 (2.99-3.96)	3.5 (2.14-5.79)
Obese (adults aged 20 and over)[7]	30.7 (29.30-32.07)	29.1 (27.74-30.58)	21.8 (17.68-26.54)
Asthma episode in past year[8]	3.3 (2.84-3.77)	3.4 (2.94-3.91)	*2.6 (1.19-5.72)
Ever diagnosed with diabetes[9]	11.2 (10.27-12.11)	6.5 (5.85-7.17)	8.8 (6.51-11.88)
Health care service use			
Received influenza vaccine during past year[10]	48.5 (46.98-49.95)	34.5 (32.99-36.09)	34.3 (28.95-40.05)
Ever been tested for HIV[11]	31.5 (30.02-33.07)	44.2 (42.56-45.89)	38.3 (32.92-44.06)
Health care access			
Has a usual place to go for medical care[12]	90.8 (89.90-91.59)	80.2 (78.98-81.45)	79.7 (74.88-83.73)
Failed to obtain needed medical care in past year due to financial barriers[13]	4.9 (4.28-5.59)	8.8 (8.03-9.68)	9.0 (6.34-12.52)
Currently uninsured (adults aged 18–64)[14]	10.9 (9.66-12.21)	18.7 (17.40-20.05)	19.7 (15.68-24.39)
Number of adults in survey sample (unweighted)	8,954	8,714	582

* Estimate has a relative standard error greater than 30% and does not meet standards for reliability or precision.

[1]Includes households that also have wireless telephone service.

[2]Before 2014, the alcohol consumption estimates presented in Early Release Program reports were for the percentage of adults aged 18 and over who had five or more drinks in 1 day at least once in the past year, regardless of sex. However, in 2014, the survey questions were changed; male and female respondents were asked about a different quantity of alcoholic drinks consumed in a day in the past year. As a result, the estimates presented here are for men aged 18 and over who had five or more drinks in 1 day at least once in the past year and women aged 18 and over who had four or more drinks in 1 day at least once in the past year. A year is defined as the 12 months prior to interview. The analyses excluded adults with unknown alcohol consumption (about 2%).

[3]A person who had smoked more than 100 cigarettes in his or her lifetime and now smokes every day or some days. The analyses excluded adults with unknown smoking status (about 2%).

[4]This measure reflects an estimate of regular leisure-time aerobic activity motivated by the 2008 federal *Physical Activity Guidelines for Americans* (http://www.health.gov/paguidelines/), which are being used in setting Healthy People 2020 objectives (http://www.healthypeople.gov). The 2008 guidelines refer to any kind of aerobic activity, but estimates in this table are limited to leisure-time physical activity only. These leisure-time aerobic activity estimates may therefore underestimate the percentage of adults who met the 2008 guidelines for aerobic activity. The 2008 federal guidelines recommend that for substantial health benefits, adults perform at least 150 minutes a week of moderate-intensity aerobic physical activity, or 75 minutes a week of vigorous-intensity aerobic physical activity, or an equivalent combination of moderate- and vigorous-intensity aerobic activity. The 2008 guidelines also state that aerobic activity should be performed in episodes of at least 10 minutes and preferably should be spread throughout the week. The analyses excluded adults with unknown physical activity participation (about 3%).

[5]Health status data were obtained by asking respondents to assess their own health and that of family members living in the same household as excellent, very good, good, fair, or poor. The analyses excluded persons with unknown health status (about 0.2%).

[6]Six psychological distress questions are included in the National Health Interview Survey. These questions ask how often during the past 30 days a respondent experienced certain symptoms of psychological distress (feeling so sad that nothing could cheer you up, nervous, restless or fidgety, hopeless, worthless, that everything was an effort). The response codes (0–4) of the six items for each person were weighted equally and summed. A value of 13 or more for this scale indicates that at least one symptom was experienced "most of the time" or "all of the time" and is used here to define serious psychological distress. The analyses excluded adults with unknown serious psychological distress status (about 3%).

[7]Obesity is defined as a body mass index (BMI) of 30 kg/m^2 or more. The measure is based on self-reported height and weight. The analyses excluded adults with unknown height or weight (about 6%). Estimates of obesity are presented for adults aged 20 and over because the Healthy People 2020 objectives (http://www.healthypeople.gov) for healthy weight among adults define adults as persons aged 20 and over.

[8]Information on an episode of asthma or an asthma attack during the past year is self-reported by adults aged 18 and over. A year is defined as the 12 months prior to interview. The analyses excluded persons with unknown asthma episode status (about 0.1%).

[9]Prevalence of diagnosed diabetes is based on self-report of ever having been diagnosed with diabetes by a doctor or other health professional. Persons reporting "borderline" diabetes status and women reporting diabetes only during pregnancy were not coded as having diabetes in the analyses. The analyses excluded adults with unknown diabetes status (about 0.1%).

[10]Receipt of flu shots and receipt of nasal spray flu vaccinations were included in the calculation of flu vaccination estimates. Responses to these two flu vaccination questions do not indicate when the subject received the flu vaccination during the 12 months preceding the interview. In addition, estimates are subject to recall error, which will vary depending on when the question is asked because the receipt of a flu vaccination is seasonal. The analyses excluded adults with unknown flu vaccination status (about 3%).

[11]Individuals who received human immunodeficiency virus (HIV) testing solely as a result of blood donation were considered not to have been tested for HIV. The analyses excluded adults with unknown HIV test status (about 5%).

[12]Does not include a hospital emergency room. The analyses excluded persons with an unknown usual place to go for medical care (about 5%).

[13]A year is defined as the 12 months prior to interview. The analyses excluded persons with unknown responses to the question on failure to obtain needed medical care due to cost (about 0.2%).

[14]A person was defined as uninsured if he or she did not have any private health insurance, Medicare, Medicaid, Children's Health Insurance Program (CHIP), state-sponsored or other government-sponsored health plan, or military plan at the time of interview. A person was also defined as uninsured if he or she had only Indian Health Service coverage or had only a private plan that paid for one type of service such as accidents or dental care. The data on health insurance status were edited using an automated system based on logic checks and keyword searches. The analyses excluded adults with unknown health insurance status (about 1%).

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July–December 2014.

Table 5. Percentage of adults living in wireless-mostly households, by selected demographic characteristics and calendar half-years: United States, July 2011–December 2014

Demographic characteristic	July–December 2011	January–June 2012	July–December 2012	January–June 2013	July–December 2013	January–June 2014	July–December 2014	95% confidence interval[1]
Total	17.8	17.6	18.0	17.7	18.3	16.6	16.9	16.06–17.70
Race/ethnicity								
Hispanic or Latino, any race(s)	17.0	16.1	17.4	16.4	16.6	14.6	14.2	12.76–15.78
Non-Hispanic white, single race	17.9	17.6	17.7	17.4	18.6	16.8	17.2	16.17–18.32
Non-Hispanic black, single race	17.1	17.6	18.6	19.0	18.2	16.9	17.5	15.76–19.34
Non-Hispanic Asian, single race	20.3	21.5	22.2	20.9	20.4	19.5	19.4	16.91–22.24
Non-Hispanic other, single race	15.6	15.1	12.5	22.7	14.1	11.0	*10.3	5.52–18.30
Non-Hispanic, multiple race	21.7	18.7	18.0	18.0	16.9	16.3	17.0	12.69–22.37
Age (years)								
18–24	18.9	20.1	18.2	18.6	20.0	18.1	17.7	15.79–19.88
25–29	15.8	15.0	17.0	14.8	14.5	11.8	13.5	11.62–15.60
30–44	21.2	20.7	21.2	20.7	20.0	17.6	17.2	16.07–18.33
45–64	19.9	19.3	20.3	19.8	21.6	20.0	20.6	19.56–21.77
65 and over	8.9	8.9	9.1	10.3	10.3	10.2	10.6	9.60–11.59
Sex								
Male	18.3	17.9	18.3	17.8	18.6	16.7	17.1	16.22–17.99
Female	17.3	17.3	17.7	17.6	18.0	16.5	16.7	15.84–17.50
Education								
Some high school or less	11.7	11.9	11.6	12.8	12.4	12.4	11.0	9.47–12.65
High school graduate or GED[2]	15.7	15.5	16.3	16.0	16.5	14.3	14.5	13.45–15.70
Some post-high school, no degree	19.4	19.1	19.3	18.6	18.9	17.3	17.7	16.58–18.93
4-year college degree or higher	21.4	21.0	21.5	20.7	22.3	20.1	20.8	19.55–22.21
Employment status last week								
Working at a job or business	20.9	20.6	21.1	20.2	21.4	18.9	19.5	18.49–20.51
Keeping house	16.6	15.5	17.5	19.0	16.9	15.9	16.8	14.96–18.87
Going to school	20.0	23.7	18.2	22.2	21.1	20.5	19.0	15.89–22.52
Something else (incl. unemployed)	11.4	10.8	11.6	11.7	11.4	11.2	10.9	10.06–11.82
Household structure								
Adult living alone	10.1	10.2	9.8	9.5	9.4	9.3	9.3	8.36–10.27
Unrelated adults, no children	10.3	13.0	12.3	12.9	11.2	9.2	5.5	3.11–9.63
Related adults, no children	16.9	16.2	17.4	17.0	18.1	15.9	17.3	16.21–18.50
Adult(s) with children	22.5	22.4	22.4	22.2	22.6	20.8	20.0	18.68–21.45
Household poverty status[3]								
Poor	8.8	10.8	8.6	10.8	9.1	9.1	8.4	7.09–9.88
Near-poor	13.5	11.1	12.7	12.0	12.0	10.6	12.0	10.54–13.74
Not-poor	21.9	21.5	21.8	21.4	22.1	20.0	19.4	18.36–20.44

See footnotes at end of table.

Table 5. Percentage of adults living in wireless-mostly households, by selected demographic characteristics and calendar half-years: United States, July 2011–December 2014—*Continued*

Demographic characteristic	July–December 2011	January–June 2012	July–December 2012	January–June 2013	July–December 2013	January–June 2014	July–December 2014	95% confidence interval[1]
Geographic region[4]								
Northeast	17.9	18.9	20.0	18.2	20.1	18.7	21.4	19.41–23.57
Midwest	16.6	15.5	15.3	16.7	16.2	14.5	14.6	12.95–16.45
South	17.7	17.3	17.7	17.0	18.0	16.0	16.2	14.93–17.65
West	19.1	18.9	19.3	19.4	19.3	18.1	16.5	15.13–17.95
Metropolitan statistical area status								
Metropolitan	18.2	17.9	18.5	17.9	18.7	16.9	17.0	16.13–17.95
Not metropolitan	16.4	16.4	15.8	17.0	16.7	15.5	16.2	14.45–18.20
Home ownership status[5]								
Owned or being bought	19.9	19.9	20.1	20.0	21.0	19.0	19.9	18.88–20.99
Renting	13.5	12.7	13.0	12.8	12.4	11.1	11.0	9.94–12.06
Other arrangement	11.7	13.8	17.3	17.0	14.8	12.8	12.1	8.58–16.71
Number of adults in survey sample who live in landline households with wireless telephones (unweighted)	20,184	21,100	21,194	19,106	22,879	19,608	18,040	…

* Estimate has a relative standard error greater than 30% and does not meet standards for reliability or precision.

… Category not applicable.

[1]Refers to July–December 2014.

[2]GED is General Educational Development high school equivalency diploma.

[3]Based on household income and household size using the U.S. Census Bureau's poverty thresholds. "Poor" persons are defined as those below the poverty threshold. "Near-poor" persons have incomes of 100% to less than 200% of the poverty threshold. "Not-poor" persons have incomes of 200% of the poverty threshold or greater. Early Release estimates stratified by poverty status are based on reported income only and may differ from similar estimates produced later that are based on both reported and imputed income. NCHS imputes income when income is unknown, but the imputed income file is not available until a few months after the annual release of National Health Interview Survey microdata. For households with multiple families, household income and household size were calculated as the sum of the multiple measures of family income and family size.

[4]In the geographic classification of the U.S. population, states are grouped into the following four regions used by the U.S. Census Bureau: *Northeast* includes Connecticut, Maine, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, and Vermont; *Midwest* includes Illinois, Indiana, Iowa, Kansas, Michigan, Minnesota, Missouri, Nebraska, North Dakota, Ohio, South Dakota, and Wisconsin; *South* includes Alabama, Arkansas, Delaware, District of Columbia, Florida, Georgia, Kentucky, Louisiana, Maryland, Mississippi, North Carolina, Oklahoma, South Carolina, Tennessee, Texas, Virginia, and West Virginia; and *West* includes Alaska, Arizona, California, Colorado, Hawaii, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington, and Wyoming.

[5]For households with multiple families, home ownership status was determined by considering the reported home ownership status for each family. If any family reported owning the home, then the household-level variable was classified as "Owned or being bought" for all persons living in the household. If one family reported renting the home and another family reported "other arrangement," then the household-level variable was classified as "Other arrangement" for all persons living in the household.

NOTE: Data are based on household interviews of a sample of the civilian noninstitutionalized population.

DATA SOURCE: CDC/NCHS, National Health Interview Survey, July 2011–December 2014.

Federal
Communications
Commission

Local and State
Government
Advisory
Committee

A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance

June 2, 2000

A Local Government Official's Guide to Transmitting Antenna RF Emission Safety: Rules, Procedures, and Practical Guidance

Over the past two years, the Federal Communications Commission (FCC) and its Local and State Government Advisory Committee (LSGAC) have been working together to prepare a voluntary guide to assist state and local governments in devising efficient procedures for ensuring that the antenna facilities located in their communities comply with the FCC's limits for human exposure to radiofrequency (RF) electromagnetic fields. The attached guide is the product of this joint effort.

We encourage state and local government officials to consult this guide when addressing issues of facilities siting within their communities. This guide contains basic information, in a form accessible to officials and citizens alike, that will alleviate misunderstandings in the complex area of RF emissions safety. This guide is not intended to replace OET Bulletin 65, which contains detailed technical information regarding RF issues, and should continue to be used and consulted for complex sites. The guide contains information, tables, and a model checklist to assist state and local officials in identifying sites that do not raise concerns regarding compliance with the Commission's RF exposure limits. In many cases, the model checklist offers a quick and effective way for state and local officials to establish that particular RF facilities are unlikely to exceed specific federal guidelines that protect the public from the environmental effects of RF emissions. Thus, we believe this guide will facilitate federal, state, and local governments working together to protect the public while bringing advanced and innovative communications services to consumers as rapidly as possible. We hope and expect that use of this guide will benefit state and local governments, service providers, and, most importantly, the American public.

We wish all of you good luck in your facilities siting endeavors.

William E. Kennard, Chairman
Federal Communications Commission

Kenneth S. Fellman, Chair
Local and State Government
Advisory Committee

A LOCAL GOVERNMENT OFFICIAL'S GUIDE TO TRANSMITTING ANTENNA RF EMISSION SAFETY: RULES, PROCEDURES, AND PRACTICAL GUIDANCE

A common question raised in discussions about the siting of wireless telecommunications and broadcast antennas is, "Will this tower create any health concerns for our citizens?" We have designed this guide to provide you with information and guidance in devising efficient procedures for assuring that the antenna facilities located in your community comply with the Federal Communication Commission's (FCC's) limits for human exposure to radiofrequency (RF) electromagnetic fields.[1]

We have included a checklist and tables to help you quickly identify siting applications that do not raise RF exposure concerns. Appendix A to this guide contains a checklist that you may use to identify "categorically excluded" facilities that are unlikely to cause RF exposures in excess of the FCC's guidelines. Appendix B contains tables and figures that set forth, for some of the most common types of facilities, "worst case" distances beyond which there is no realistic possibility that exposure could exceed the FCC's guidelines.

As discussed below, FCC rules require transmitting facilities to comply with RF exposure guidelines. The limits established in the guidelines are designed to protect the public health with a very large margin of safety. These limits have been endorsed by federal health and safety agencies such as the Environmental Protection Agency and the Food and Drug Administration. The FCC's rules have been upheld by a Federal Court of Appeals.[2] As discussed below, most facilities create maximum exposures that are only a small fraction of the limits. Moreover, the limits themselves are many times below levels that are generally accepted as having the potential to cause adverse health effects. Nonetheless, it is recognized that any instance of noncompliance with the guidelines is potentially very serious, and the FCC has therefore implemented procedures to enforce compliance with its rules. At the same time, state and local governments may wish to verify compliance with the FCC's exposure limits in order to protect their own citizens. As a state or local government official, you can play an important role in ensuring that innovative and beneficial communications services are provided in a manner that is consistent with public health and safety.

This document addresses only the issue of compliance with RF exposure limits established by the FCC. It does not address other issues such as construction, siting, permits, inspection, zoning, environmental review, and placement of antenna facilities within communities. Such issues fall generally under the jurisdiction of states and local governments, within the limits imposed for personal wireless service facilities by Section 332(c)(7) of the Communications Act.[3]

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[1] This guide is intended to complement, but not to replace, the FCC's OET Bulletin 65, "Evaluating Compliance with FCC Guidelines for Human Exposure to Radiofrequency Electromagnetic Fields," August 1997. Bulletin 65 can be obtained from the FCC's Office of Engineering and Technology (phone: 202-418-2464 or e-mail: rfsafety@fcc.gov). Bulletin 65 can also be accessed and downloaded from the FCC's "RF Safety" website: http://www.fcc.gov/oet/rfsafety.

[2] See *Cellular Phone Taskforce v. FCC*, 205 F.3d 82 (2d Cir. 2000).

This document is not intended to provide legal guidance regarding the scope of state or local government authority under Section 332(c)(7) or any other provision of law. Section 332(c)(7)[4] generally preserves state and local authority over decisions regarding the placement, construction, and modification of personal wireless service facilities,[5] subject to specific limitations set forth in Section 332(c)(7). Among other things, Section 332(c)(7) provides that "[n]o State or local government or instrumentality thereof may regulate the placement, construction, and modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the [FCC's] regulations concerning such emissions." The full text of Section 332(c)(7) is set forth in Appendix C.

State and local governments and the FCC may differ regarding the extent of state and local legal authority under Section 332(c)(7) and other provisions of law. To the extent questions arise regarding such authority, they are being addressed by the courts. Rather than address these legal questions, this document recognizes that, as a practical matter, state and local governments have a role to play in ensuring compliance with the FCC's limits, and it provides guidance to assist you in effectively fulfilling that role. The twin goals of this document are: (1) to define and promote locally-adaptable procedures that will provide you, as a local official concerned about transmitting antenna emissions, with adequate assurance of compliance, while (2), at the same time, avoiding the imposition of unnecessary burdens on either the local government process or the FCC's licensees.

First, we'll start with a summary of the FCC's RF exposure guidelines and some background information that you'll find helpful. Next, we'll review the FCC's procedures for verifying compliance with the guidelines and enforcing its rules. Finally, we'll offer you some practical guidance to help you determine if personal wireless service facilities may raise compliance concerns. Note, however, that this guide is only intended to help you distinguish sites that are unlikely to raise compliance concerns from those that may raise compliance concerns, not to identify sites that are out of compliance. Detailed technical information necessary to determine compliance for individual sites is contained in the FCC's OET Bulletin 65 (see footnote 1, above).

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[3] 47 U.S.C. § 332(c)(7). Under limited circumstances, the FCC also plays a role in the siting of wireless facilities. Specifically, the FCC reviews applications for facilities that fall within certain environmental categories under the National Environmental Policy Act of 1969 (NEPA), *see* 47 C.F.R. § 1.1307(a). Antenna structures that are over 200 feet in height or located near airport runways must be marked or lighted as specified by the Federal Aviation Administration and must be registered with the FCC, *see* 47 C.F.R. Part 17.

[4] Section 332(c)(7) of the Communications Act is identical to Section 704(a) of the Telecommunications Act of 1996.

[5] "Personal wireless services" generally includes wireless telecommunications services that are interconnected with the public telephone network and are offered commercially to the public. Examples include cellular and similar services (such as Personal Communications Service or "PCS"), paging and similar services, certain dispatch services, and services that use wireless technology to provide telephone service to a fixed location such as a home or office.

Before we start, however, let's take a short tour of the radiofrequency spectrum. RF signals may be transmitted over a wide range of frequencies. The frequency of an RF signal is expressed in terms of cycles per second or "Hertz," abbreviated "Hz." One kilohertz (kHz) equals one thousand Hz, one megahertz (MHz) equals one million Hz, and one gigahertz (GHz) equals one billion Hz. In the figure below, you'll see that AM radio signals are at the lower end of the RF spectrum, while other radio services, such as analog and digital TV (DTV), cellular and PCS telephony, and point-to-point microwave services are much higher in frequency.

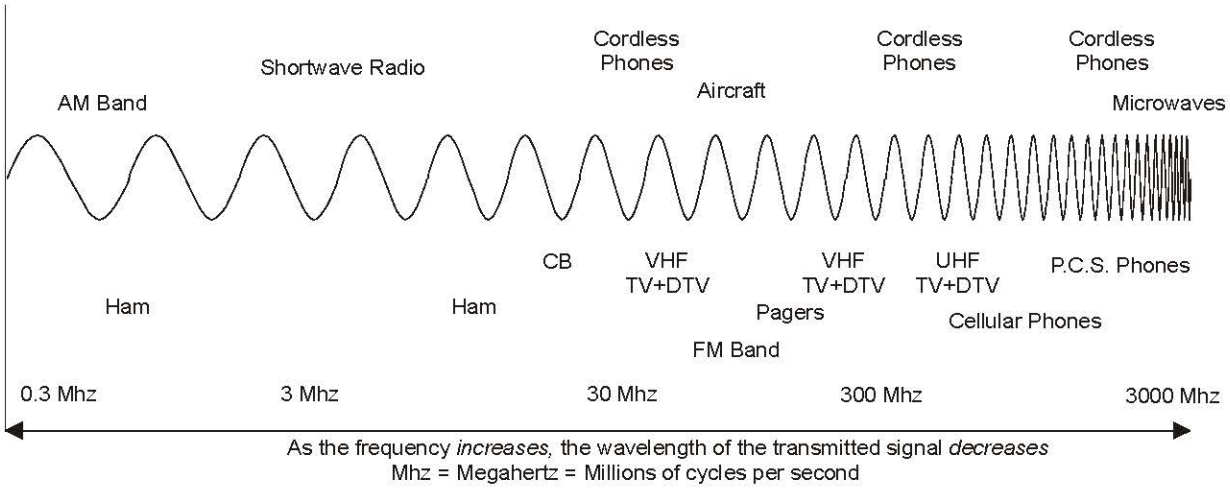

Illustration 1

The FCC's limits for maximum permissible exposure (MPE) to RF emissions depend on the frequency or frequencies that a person is exposed to. Different frequencies may have different MPE levels. Later in this document we'll show you how this relationship of frequency to MPE limit works.

I. The FCC's RF Exposure Guidelines and Rules.

Part 1 of the FCC's Rules and Regulations contains provisions implementing the National Environmental Policy Act of 1969 (NEPA). NEPA requires all federal agencies to evaluate the potential environmental significance of an agency action. Exposure to RF energy has been identified by the FCC as a potential environmental factor that must be considered before a facility, operation or transmitter can be authorized or licensed. The FCC's requirements dealing with RF exposure can be found in Part 1 of its rules at 47 C.F.R. § 1.1307(b). The exposure limits themselves are specified in 47 C.F.R. § 1.1310 in terms of frequency, field strength, power density and averaging time. Facilities and transmitters licensed and authorized by the FCC must either comply with these guidelines or else an applicant must file an Environmental Assessment (EA) with the FCC as specified in 47 C.F.R. § 1.1301 *et seq.* An EA is an official document required by the FCC's rules whenever an action may have a significant environmental impact (see discussion below). In practice, however, a potential environmental RF exposure problem is typically resolved before an EA would become necessary. Therefore, compliance with the FCC's RF guidelines constitutes a *de facto* threshold for obtaining FCC approval to construct or operate a station or transmitter. The FCC guidelines are based on exposure criteria

recommended in 1986 by the National Council on Radiation Protection and Measurements (NCRP) and on the 1991 standard developed by the Institute of Electrical and Electronics Engineers (IEEE) and later adopted as a standard by the American National Standards Institute (ANSI/IEEE C95.1-1992).

The FCC's guidelines establish separate MPE limits for "general population/uncontrolled exposure" and for "occupational/controlled exposure." The general population/uncontrolled limits set the maximum exposure to which most people may be subjected. People in this group include the general public not associated with the installation and maintenance of the transmitting equipment. Higher exposure limits are permitted under the "occupational/controlled exposure" category, but only for persons who are exposed as a consequence of their employment (*e.g.*, wireless radio engineers, technicians). To qualify for the occupational/controlled exposure category, exposed persons must be made fully aware of the potential for exposure (*e.g.*, through training), and they must be able to exercise control over their exposure. In addition, people passing through a location, who are made aware of the potential for exposure, may be exposed under the occupational/controlled criteria. The MPE limits adopted by the FCC for occupational/controlled and general population/uncontrolled exposure incorporate a substantial margin of safety and have been established to be well below levels generally accepted as having the potential to cause adverse health effects.

Determining whether a potential health hazard could exist with respect to a given transmitting antenna is not always a simple matter. Several important factors must be considered in making that determination. They include the following: (1) What is the frequency of the RF signal being transmitted? (2) What is the operating power of the transmitting station and what is the actual power radiated from the antenna? [6] (3) How long will someone be exposed to the RF signal at a given distance from the antenna? (4) What other antennas are located in the area, and what is the exposure from those antennas? We'll explore each of these issues in greater detail below.

For all frequency ranges at which FCC licensees operate, Section 1.1310 of the FCC's rules establishes maximum permissible exposure (MPE) limits to which people may be exposed. The MPE limits vary by frequency because of the different absorptive properties of the human body at different frequencies when exposed to whole-body RF fields. Section 1.1310 establishes MPE limits in terms of "electric field strength," "magnetic field strength," and "far-field equivalent power density" (power density). For most frequencies used by the wireless services, the most relevant measurement is power density. The MPE limits for power density are given in terms of "milliwatts per square centimeter" or mW/cm^2. One milliwatt equals one thousandth of one watt (1/1000 of a watt).[7] In terms of power density, for a given frequency the FCC MPE limits can be interpreted as specifying the maximum rate that energy can be transferred (*i.e.*, the power) to a square centimeter of a person's body over a period of time (either 6 or 30 minutes, as explained

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[6] Power travels from a transmitter through cable or other connecting device to the radiating antenna. "Operating power of the transmitting station" refers to the power that is fed from the transmitter (transmitter output power) into the cable or connecting device. "Actual power radiated from the antenna" is the transmitter output power minus the power lost (power losses) in the connecting device plus an apparent increase in power (if any) due to the design of the antenna. Radiated power is often specified in terms of "effective radiated power" or "ERP" or "effective isotropic radiated power" or "EIRP" (see footnote 14).

[7] Thus, by way of illustration, it takes 100,000 milliwatts of power to fully illuminate a 100 watt light bulb.

below). In practice, however, since it is unrealistic to measure separately the exposure of each square centimeter of the body, actual compliance with the FCC limits on RF emissions should be determined by "spatially averaging" a person's exposure over the projected area of an adult human body (this concept is discussed in the FCC's OET Bulletin 65).

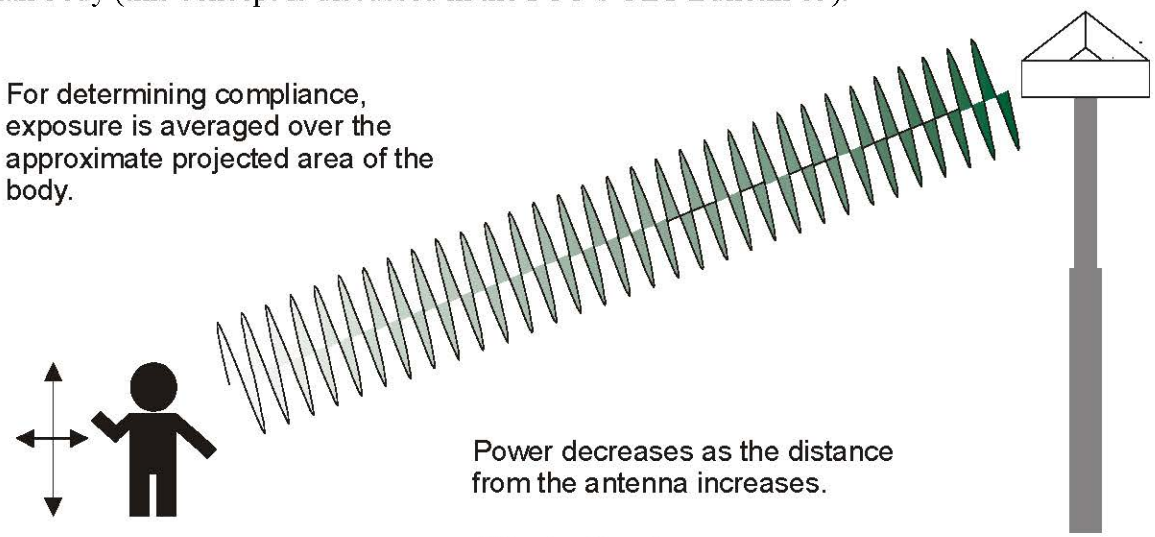

Illustration 2

Electric field strength and magnetic field strength are used to measure "near field" exposure. At frequencies below 300 MHz, these are typically the more relevant measures of exposure, and power density values are given primarily for reference purposes. However, evaluation of far-field equivalent power density exposure may still be appropriate for evaluating exposure in some such cases. For frequencies above 300 MHz, only one field component need be evaluated, and exposure is usually more easily characterized in terms of power density. Transmitters and antennas that operate at 300 MHz or lower include radio broadcast stations, some television broadcast stations, and certain personal wireless service facilities (*e.g.*, some paging stations). Most personal wireless services, including all cellular and PCS, as well as some television broadcast stations, operate at frequencies above 300 MHz. (See Illustration 1.)

As noted above, the MPE limits are specified as time-averaged exposure limits. This means that exposure can be averaged over the identified time interval (30 minutes for general population/uncontrolled exposure or 6 minutes for occupational/controlled exposure). However, for the case of exposure of the general public, time averaging is usually not applied because of uncertainties over exact exposure conditions and difficulty in controlling time of exposure. Therefore, the typical conservative approach is to assume that any RF exposure to the general public will be continuous. The FCC's limits for exposure at different frequencies are shown in Illustration 3, below:

Illustration 3. ***FCC Limits for Maximum Permissible Exposure (MPE)***

(A) Limits for Occupational/Controlled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	$(900/f^2)$*	6
30-300	61.4	0.163	1.0	6
300-1500	--	--	f/300	6
1500-100,000	--	--	5	6

(B) Limits for General Population/Uncontrolled Exposure

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm^2)	Averaging Time $\|E\|^2$, $\|H\|^2$ or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	$(180/f^2)$*	30
30-300	27.5	0.073	0.2	30
300-1500	--	--	f/1500	30
1500-100,000	--	--	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

NOTE 1: Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational/controlled limits apply provided he or she is made aware of the potential for exposure.

NOTE 2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or cannot exercise control over their exposure.

Finally, it is important to understand that the FCC's limits apply cumulatively to all sources of RF emissions affecting a given area. A common example is where two or more wireless operators have agreed to share the cost of building and maintaining a tower, and to place their antennas on that joint structure. In such a case, the total exposure from the two facilities taken together must be within the FCC guidelines, or else an EA will be required.

A. Categorically Excluded Facilities

The Commission has determined through calculations and technical analysis that due to their low power or height above ground level, many facilities by their very nature are highly unlikely to

cause human exposures in excess of the guideline limits, and operators of those facilities are exempt from routinely having to determine compliance. Facilities with these characteristics are considered "categorically excluded" from the requirement for routine environmental processing for RF exposure.

Section 1.1307(b)(1) of the Commission's rules sets forth which facilities are categorically excluded.[8] If a facility is categorically excluded, an applicant or licensee may ordinarily assume compliance with the guideline limits for exposure. However, an applicant or licensee must evaluate and determine compliance for a facility that is otherwise categorically excluded if specifically requested to do so by the FCC.[9] If potential environmental significance is found as a result, an EA must be filed with the FCC.

No radio or television broadcast facilities are categorically excluded. Thus, broadcast applicants and licensees must affirmatively determine their facility's compliance with the guidelines before construction, and upon every facility modification or license renewal application. With respect to personal wireless services, a cellular facility is categorically excluded if the total effective radiated power (ERP) of all channels operated by the licensee at a site is 1000 watts or less. If the facility uses sectorized antennas, only the total effective radiated power in each direction is considered. Examples of a 3 sector and a single sector antenna array are shown below:

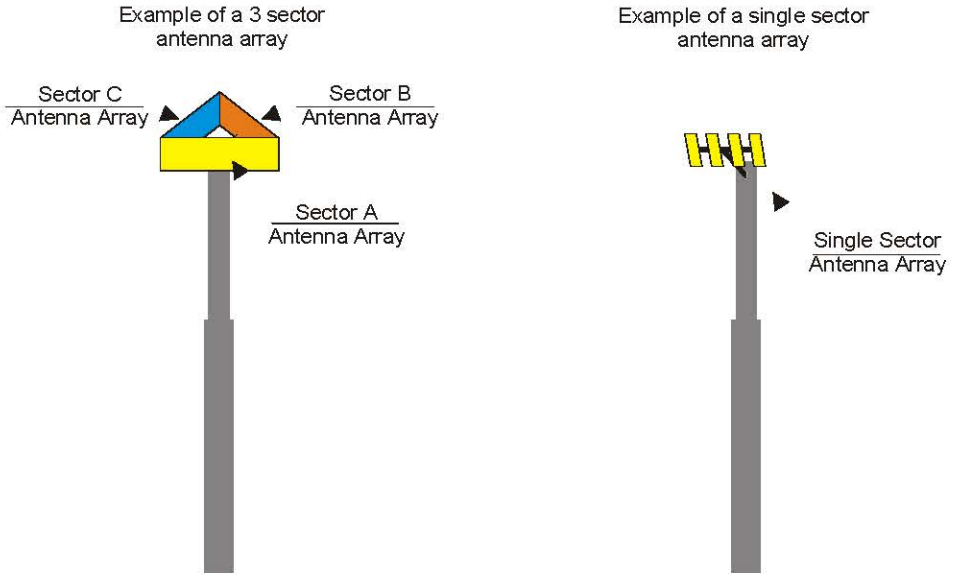

Illustration 4

[8] "The appropriate exposure limits . . . are generally applicable to all facilities, operations and transmitters regulated by the Commission. However, a determination of compliance with the exposure limits . . . (routine environmental evaluation), and preparation of an EA if the limits are exceeded, is necessary only for facilities, operations and transmitters that fall into the categories listed in table 1 [of §1.1307], or those specified in paragraph (b)(2) of this section. All other facilities, operations and transmitters are categorically excluded from making studies or preparing an EA . . ."

[9] See 47 C.F.R §1.1307(c) and (d).

In addition, a cellular facility is categorically excluded, regardless of its power, if it is not mounted on a building and the lowest point of the antenna is at least 10 meters (about 33 feet) above ground level. A broadband PCS antenna array is categorically excluded if the total effective radiated power of all channels operated by the licensee at a site (or all channels in any one direction, in the case of sectorized antennas) is 2000 watts or less. Like cellular, another way for a broadband PCS facility to be categorically excluded is if it is not mounted on a building and the lowest point of the antenna is at least 10 meters (about 33 feet) above ground level. The power threshold for categorical exclusion is higher for broadband PCS than for cellular because broadband PCS operates at a higher frequency where exposure limits are less restrictive. For categorical exclusion thresholds for other personal wireless services, consult Table 1 of Section 1.1307(b)(1).[10]

For your convenience, we have developed the checklist in Appendix A that may be used to streamline the process of determining whether a proposed facility is categorically excluded. You are encouraged to adopt the use of this checklist in your jurisdiction, although such use is not mandatory.

B. What If An Applicant Or Licensee Wants To Exceed The Limits Shown In Illustration 3?

Any FCC applicant or licensee who wishes to construct or operate a facility that, by itself or in combination with other sources of emissions (*i.e.*, other transmitting antennas), may cause human exposures in excess of the guideline limits must file an Environmental Assessment (EA) with the FCC. Where more than one antenna is collocated (for example, on a single tower or rooftop or at a hilltop site), the applicant must take into consideration all of the RF power transmitted by all of the antennas when determining maximum exposure levels. Compliance at an existing site is the shared responsibility of all licensees whose transmitters produce exposure levels in excess of 5% of the applicable exposure limit. A new applicant is responsible for compliance (or submitting an EA) at a multiple-use site if the proposed transmitter would cause non-compliance and if it would produce exposure levels in excess of 5% of the applicable limit.[11]

An applicant or licensee is not permitted to construct or operate a facility that would result in exposure in excess of the guideline limits until the FCC has reviewed the EA and either found no significant environmental impact, or pursued further environmental processing including the preparation of a formal Environmental Impact Statement. As a practical matter, however, this process is almost never invoked for RF exposure issues because applicants and licensees normally undertake corrective actions to ensure compliance with the guidelines before submitting an application to the FCC.

Unless a facility is categorically excluded (explained above), the FCC's rules require a licensee to evaluate a proposed or existing facility's compliance with the RF exposure guidelines and to

[10] Table 1 of §1.1307(b)(1) is reproduced in Appendix A to this guide.

[11] For more information, see OET Bulletin 65, or see 47 CFR §1.1307(b)(3).

determine whether an EA is required. In the case of broadcast licensees, who are required to obtain a construction permit from the FCC, this evaluation is required before the application for a construction permit is filed, or the facility is constructed. In addition, if a facility requires the filing of an EA for any reason other than RF emissions, the RF evaluation must be performed before the EA is filed. Factors other than RF emissions that may require the filing of an EA are set out in 47 C.F.R. § 1.1307(a). Otherwise, new facilities that do not require FCC-issued construction permits should be evaluated before they are placed in operation. The FCC also requires its licensees to evaluate existing facilities and operations that are not categorically excluded if the licensee seeks to modify its facilities or renew its license. These requirements are intended to enhance public safety by requiring periodic site compliance reviews.

All facilities that were placed in service before October 15, 1997 (when the current RF exposure guidelines became effective) are expected to comply with the current guidelines no later than September 1, 2000, or the date of a license renewal, whichever is earlier.[12] If a facility cannot meet the September 1, 2000, date, the licensee of that facility must file an EA by that date. Section 1.1307(b) of the FCC's rules requires the licensee to provide the FCC with technical information showing the basis for its determination of compliance upon request.

II. How the FCC Verifies Compliance with and Enforces Its Rules.

A. Procedures Upon Initial Construction, Modification, and Renewal.

The FCC's procedures for verifying that a new facility, or a facility that is the subject of a facility modification or license renewal application, will comply with the RF exposure rules vary depending upon the service involved. Applications for broadcast services (for example, AM and FM stations, and television stations) are reviewed by the FCC's Mass Media Bureau (MMB). As part of every relevant application, the MMB requires an applicant to submit an explanation of what steps will be taken to limit RF exposure and comply with FCC guidelines. The applicant must certify that RF exposure procedures will be coordinated with all collocated entities (usually other stations at a common transmitter site or hill or mountain peak). If the submitted explanation does not adequately demonstrate a facility's compliance with the guidelines, the MMB will require additional supporting data before granting the application.

The Wireless Telecommunications Bureau (WTB) reviews personal wireless service applications (for cellular, PCS, SMR, etc.). For those services that operate under blanket area licenses, including cellular and PCS, the license application and renewal form require the applicant to certify whether grant of the application would have a significant environmental impact so as to require submission of an EA. The applicant's answer to this question covers all of the facilities sites included within the area of the license.

For those services that continue to be licensed by site (*e.g.*, certain paging renewals), the WTB requires a similar certification on the application form for each site. To comply with the FCC's rules, an applicant must determine its own compliance before completing this certification for

[12] Prior to October 15, 1997, the Commission applied a different set of substantive guidelines.

every site that is not categorically excluded. The WTB does not, however, routinely require the submission of any information supporting the determination of compliance.

B. Procedures For Responding To Complaints About Existing Facilities.

The FCC frequently receives inquiries from members of the public as to whether a particular site complies with the RF exposure guidelines. Upon receiving these inquiries, FCC staff may ask the inquiring party to describe the site at issue. In many instances, the information provided by the inquiring party does not raise any concern that the site could exceed the limits in the guidelines. FCC staff will then inform the inquiring party of this determination.

In some cases, the information provided by the inquiring party does not preclude the possibility that the limits could be exceeded. Under these circumstances, FCC staff may ask the licensee who operates the facility to supply information demonstrating its compliance. FCC staff may also inspect the site to determine whether it is accessible to the public, and examine other relevant physical attributes. Usually, the information obtained in this manner is sufficient to establish compliance. If compliance is established in this way, FCC staff will inform the inquiring party of this determination.

In some instances, a licensee may be unable to provide information sufficient to establish compliance with the guideline limits. In these cases, FCC staff may test the output levels of individual facilities and evaluate the physical installation. Keep in mind, however, that instances in which physical testing is necessary to verify compliance are relatively rare.

If a site is found to be out of compliance with the RF guidelines, the FCC will require the licensees at the site to remedy the situation. Depending on the service and the nature and extent of the violation, these remedies can include, for example, an immediate reduction in power, a modification of safety barriers, or a modification of the equipment or its installation. Actions necessary to bring a site into compliance are the shared responsibility of all licensees whose facilities cause exposures in that area that exceed 5% of the applicable MPE limit. In addition, licensees may be subject to sanctions for violating the FCC's rules and/or for misrepresentation.

The FCC is committed to responding fully, promptly, and accurately to all inquiries regarding compliance with the RF exposure guidelines, and to taking swift and appropriate action whenever the evidence suggests potential noncompliance. To perform this function effectively, however, the FCC needs accurate information about potentially problematic situations. By applying the principles discussed in this guide about RF emissions, exposure and the FCC's guidelines, state and local officials can fulfill a vital role in identifying and winnowing out situations that merit further attention.

III. Practical Guidance Regarding Compliance.

This section is intended to provide some general guidelines that can be used to identify sites that should <u>not</u> raise serious questions about compliance with FCC RF exposure guidelines. Sites that don't fall into the categories described here may still meet the guidelines, but the determination

of compliance will not be as straightforward. In such cases, a detailed review may be required. The tables and graphs shown in Appendix B are intended only to assist in distinguishing sites that should not raise serious issues from sites that may require further inquiry. They are not intended for use in identifying sites that are out of compliance. As noted above, the factors that can affect exposure at any individual site, particularly a site containing multiple facilities, are too numerous and subtle to be practically encompassed within this framework.

Applying the basic principles discussed in this guide should allow you to eliminate a large number of sites from further consideration with respect to health concerns. You may find it useful to contact a qualified radio engineer to assist you in your inquiry. Many larger cities and counties, and most states, have radio engineers on staff or under contract. In smaller jurisdictions, we recommend you seek initial assistance from other jurisdictions, universities that have RF engineering programs, or perhaps the engineer in charge of your local broadcast station(s).

We'll exclude any discussion of broadcast sites. As explained before, broadcast licensees are required to submit site-specific information on each facility to the FCC for review, and that information is publicly available at the station as long as the application is pending. The focus in this section is on personal wireless services, particularly cellular and broadband PCS, the services that currently require the largest numbers of new and modified facilities. Many other personal wireless services, however, such as paging services, operate in approximately the same frequency ranges as cellular and broadband PCS.[13] Much of the information here is broadly applicable to those services as well, and specific information is provided in Appendix B for paging and narrowband PCS operations over frequency bands between 901 and 940 MHz.

Finally, this section only addresses the general population/uncontrolled exposure guidelines, since compliance with these guidelines generally causes the most concern to state and local governments. Compliance with occupational/controlled exposure limits should be examined independently.

A. Categorically Excluded Facilities.

As a first step in evaluating a siting application for compliance with the FCC's guidelines, you will probably want to consider whether the facility is categorically excluded under the FCC's rules from routine evaluation for compliance. The checklist in Appendix A will guide you in making this determination. Because categorically excluded facilities are unlikely to cause any exposure in excess of the FCC's guidelines, determination that a facility is categorically excluded should generally suffice to end the inquiry.

B. Single Facility Sites.

If a wireless telecommunications facility is not categorically excluded, you may want to evaluate potential exposure using the methods discussed below and the tables and figures in Appendix B.

[13] The major exception is fixed wireless services, which often operate at much higher frequencies. In addition, some paging and other licensees operate at lower frequencies

If you "run the numbers" using the conservative approaches promoted in this paper and the site in question does not exceed these values, then you generally need look no further. Alternately, if the "numbers" don't pass muster, you may have a genuine concern. But remember, there may be other factors (*i.e.*, power level, height, blockages, etc.) that contribute to whether the site complies with FCC guidelines.

Where a site contains only one antenna array, the maximum exposure at any point in the horizontal plane can be predicted by calculations. The tables and graphs in Appendix B show the maximum distances in the horizontal plane from an antenna at which a person could possibly be exposed in excess of the guidelines at various levels of effective radiated power (ERP).[14] Thus, if people are not able to come closer to an antenna than the applicable distance shown in Appendix B, there should be no cause for concern about exposure exceeding the FCC guidelines. The tables and graphs apply to the following wireless antennas: (1) cellular omni-directional antennas (Table B1-1 and Figure B1-1); (2) cellular sectorized antennas (Table B1-2 and Figure B1-2); (3) broadband PCS sectorized antennas (Table B1-3 and Figure B1-3);[15] and (4) high-power (900 MHz-band) paging antennas (Table B1-4 and Figure B1-4). Table B1-4 and Figure B1-4 can also be used for omni-directional, narrowband (900 MHz) PCS antennas. Note that both tables and figures in Appendix B have been provided. In some cases it may be easier to use a table to estimate exposure distances, but figures may also be used when a more precise value is needed that may not be listed in a table.

It's important to note that the predicted distances set forth in Appendix B are based on a very conservative, "worst case" scenario. In other words, Appendix B identifies the furthest distance from the antenna that presents even a remote realistic possibility of RF exposure that could exceed the FCC guidelines. The power levels are based on the approximate maximum number of channels that an operator is likely to operate at one site. It is further assumed that each channel operates with the maximum power permitted under the FCC's rules and that all of these channels are "on" simultaneously, an unlikely scenario. This is a very conservative assumption. In reality, most sites operate at a fraction of the maximum permissible power and many sites use fewer than the maximum number of channels. Therefore, actual exposure levels would be expected to be well below the predicted values. Another mitigating factor could be the presence of intervening structures, such as walls, that will reduce RF exposure by variable amounts. For all these reasons, the values given in these tables and graphs are considered to be quite conservative and should over-predict actual exposure levels.

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[14] ERP is the apparent effective amount of power leaving the transmit antenna. The ERP is determined by factors including but not limited to transmitter output power, coaxial line loss between the transmitter and the antenna, and the "gain" (focusing effect) of the antenna. In some cases, power may also be expressed in terms of EIRP (effective isotropically radiated power). Therefore, for convenience, the tables in Appendix B also include a column for EIRP. ERP and EIRP are related by the mathematical expression: (1.64) X ERP = EIRP.

[15] Because broadband PCS antennas are virtually always sectorized, no information is provided for omni-directional PCS antennas.

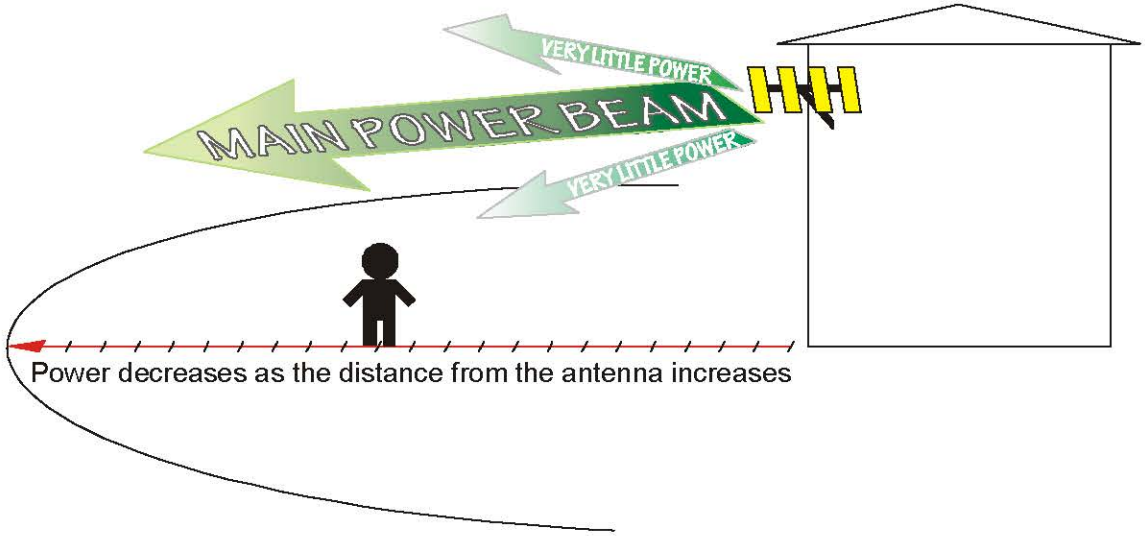


Illustration 5

Personal wireless service antennas typically do not emit high levels of RF energy directed above or below the horizontal plane of the antenna. Although the precise amount of energy transmitted outside the horizontal plane will depend upon the type of antenna used, we are aware of no wireless antennas that produce significant non-horizontal transmissions. Thus, exposures even a small distance below the horizontal plane of these antennas would be significantly less than in the horizontal plane. As discussed above, the tables and figures in Appendix B show distances in the horizontal plane from typical antennas at which exposures could potentially exceed the guidelines, assuming "worst case" operating conditions at maximum possible power levels. In any direction other than horizontal, including diagonal or straight down, these "worst case" distances would be significantly less.

Where unidirectional antennas are used, exposure levels within or outside the horizontal plane in directions other than those where the antennas are aimed will typically be insignificant. In addition, many new antennas are being designed with shielding capabilities to minimize emissions in undesired directions.

C. Multiple Facility Sites.

Where multiple facilities are located at a single site, the FCC's rules require the total exposure from all facilities to fall within the guideline limits, unless an EA is filed and approved. In such cases, however, calculations of predicted exposure levels and overall evaluation of the site may become much more complicated. For example, different transmitters at a site may operate different numbers of channels, or the operating power per channel may vary from transmitter to transmitter. Transmitters may also operate on different frequencies (for example, one antenna array may belong to a PCS operator, while the other belongs to a cellular operator). A large number of variables such as these make the calculations more time consuming, and make it difficult to apply a simple rule-of-thumb test. See the following illustration.

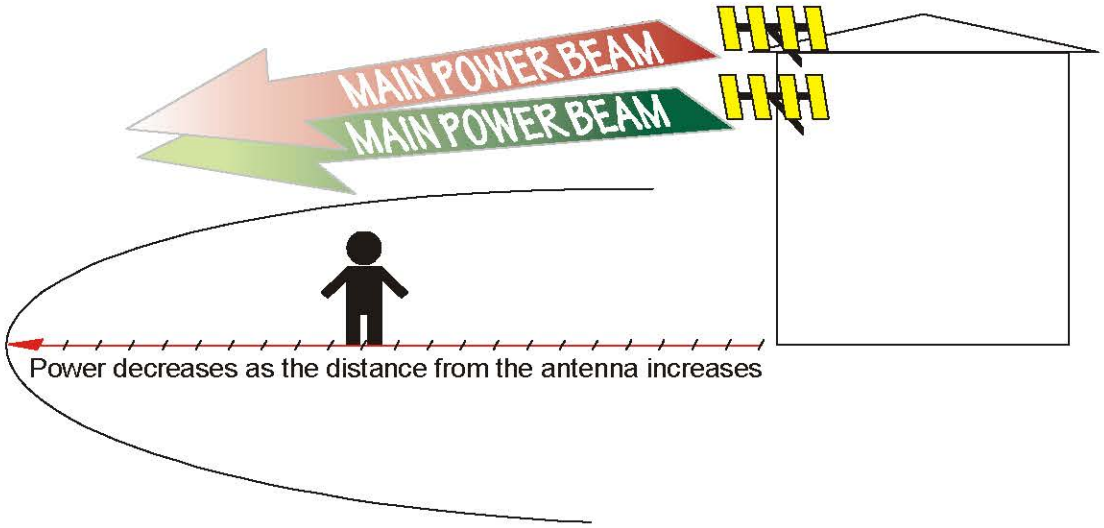


Illustration 6

However, we can be overly conservative and estimate a "worst case" exposure distance for compliance by assuming that the total power (e.g., ERP) of all transmitting antennas at the site is concentrated in the antenna that is closest to the area in question. (In the illustration above, this would be the antenna that is mounted lower on the building.) Then the values in the tables and graphs in Appendix B may be used as if this were the only antenna at the site, with radiated power equal to the sum of the actual radiated power of all antennas at the site. Actual RF exposure at any point will always be less than the exposure calculated using these assumptions. Thus, if people are not able to come closer to a group of antennas than the applicable distance shown in Appendix B using these assumptions, there should be no cause for concern about exposure exceeding the FCC guidelines. This is admittedly an extremely conservative procedure, but it may be of assistance in making a "first cut" at eliminating sites from further consideration.

IV. Conclusion.

We've highlighted many of the most common concerns and questions raised by the siting of wireless telecommunications and broadcast antennas. Applying the principles outlined in this guide will allow you to make initial conservative judgments about whether RF emissions are or should be of concern, consistent with the FCC's rules.

As we have explained, when first evaluating a siting application for compliance with the FCC's guidelines, you will probably want to consider whether the facility is categorically excluded under the FCC's rules from routine evaluation for compliance. The checklist in Appendix A will guide you in making this determination. Because categorically excluded facilities are unlikely to cause any exposure in excess of the FCC's guidelines, determination that a facility is categorically excluded should generally suffice to end the inquiry.

If a wireless telecommunications facility is not categorically excluded, you may want to evaluate potential exposure using the methods discussed in Part III of this paper and the tables and figures in Appendix B. If the site in question does not exceed the values, then you generally need look no further. Alternately, if the values don't pass muster, you may have a genuine concern. But

remember, there may be other factors (*i.e.*, power level, height, blockages, etc.) that contribute to whether the site complies with FCC guidelines.

If you have questions about compliance, your initial point of exploration should be with the facilities operator in question. That operator is required to understand the FCC's rules and to know how to apply them in specific cases at specific sites. If, after diligently pursuing answers from the operator, you still have genuine questions regarding compliance, you should contact the FCC at one of the numbers listed below. Provision of the information identified in the checklist in Appendix A may assist the FCC in evaluating your inquiry.

General Information: Compliance and Information Bureau, (888) CALL-FCC

> Concerns About RF Emissions Exposure at a Particular Site: Office of Engineering and Technology, RF Safety Program, phone (202) 418-2464, FAX (202) 418-1918, e-mail rfsafety@fcc.gov
>
> Licensing and Site Information Regarding Wireless Telecommunications Services: Wireless Telecommunications Bureau, Commercial Wireless Division, (202) 418-0620
>
> Licensing and Site Information Regarding Broadcast Radio Services: Mass Media Bureau, Audio Services Division, (202) 418-2700
>
> Licensing and Site Information Regarding Television Service (Including DTV): Mass Media Bureau, Video Services Division, (202) 418-1600

Also, note that the RF Safety Program Web site is a valuable source of general information on the topic of potential biological effects and hazards of RF energy. For example, OET recently updated its OET Bulletin 56 ("Questions and Answers about Biological Effects and Potential Hazards of Radiofrequency Electromagnetic Fields"). This latest version is available from the program and can be accessed and downloaded from the FCC's web site at:

http://www.fcc.gov/oet/rfsafety/

APPENDIX A

Optional Checklist for Determination

Of Whether a Facility is Categorically Excluded

Optional Checklist for Local Government To Determine Whether a Facility is Categorically Excluded

Purpose: The FCC has determined that many wireless facilities are unlikely to cause human exposures in excess of RF exposure guidelines. Operators of those facilities are exempt from routinely having to determine their compliance. These facilities are termed "categorically excluded." Section 1.1307(b)(1) of the Commission's rules defines those categorically excluded facilities. This checklist will assist state and local government agencies in identifying those wireless facilities that are categorically excluded, and thus are highly unlikely to cause exposure in excess of the FCC's guidelines. Provision of the information identified on this checklist may also assist FCC staff in evaluating any inquiry regarding a facility's compliance with the RF exposure guidelines.

BACKGROUND INFORMATION

1. Facility Operator's Legal Name: _____
2. Facility Operator's Mailing Address: _____
3. Facility Operator's Contact Name/Title: _____
4. Facility Operator's Office Telephone: _____
5. Facility Operator's Fax: _____
6. Facility Name: _____
7. Facility Address: _____
8. Facility City/Community: _____
9. Facility State and Zip Code: _____
10. Latitude: _____
11. Longitude: _____

continue →

Optional Local Government Checklist (page 2)

EVALUATION OF CATEGORICAL EXCLUSION

12. Licensed Radio Service (see attached Table 1): _____
13. Structure Type (free-standing or building/roof-mounted): _____
14. Antenna Type [omnidirectional or directional (includes sectored)]: _____
15. Height above ground of the lowest point of the antenna (in meters): _____
16. ☐ Check if all of the following are true:
    (a) This facility will be operated in the Multipoint Distribution Service, Paging and Radiotelephone Service, Cellular Radiotelephone Service, Narrowband or Broadband Personal Communications Service, Private Land Mobile Radio Services Paging Operations, Private Land Mobile Radio Service Specialized Mobile Radio, Local Multipoint Distribution Service, or service regulated under Part 74, Subpart I (see question 12).
    (b) This facility will not be mounted on a building (see question 13).
    (c) The lowest point of the antenna will be at least 10 meters above the ground (see question 15).

If box 16 is checked, this facility is categorically excluded and is unlikely to cause exposure in excess of the FCC's guidelines. The remainder of the checklist need not be completed. If box 16 is not checked, continue to question 17.

17. Enter the power threshold for categorical exclusion for this service from the attached Table 1 in watts ERP or EIRP* (note: EIRP = (1.64) X ERP): _____
18. Enter the total number of channels if this will be an omnidirectional antenna, or the maximum number of channels in any sector if this will be a sectored antenna:
19. Enter the ERP or EIRP per channel (using the same units as in question 17): _____
20. Multiply answer 18 by answer 19: _____
21. Is the answer to question 20 less than or equal to the value from question 17 (yes or no)?

If the answer to question 21 is YES, this facility is categorically excluded. It is unlikely to cause exposure in excess of the FCC's guidelines.

If the answer to question 21 is NO, this facility is not categorically excluded. Further investigation may be appropriate to verify whether the facility may cause exposure in excess of the FCC's guidelines.

*"ERP" means "effective radiated power" and "EIRP" means "effective isotropic radiated power

TABLE 1: TRANSMITTERS, FACILITIES AND OPERATIONS SUBJECT TO ROUTINE ENVIRONMENTAL EVALUATION

SERVICE (TITLE 47 CFR RULE PART)	EVALUATION REQUIRED IF:
Experimental Radio Services (part 5)	power > 100 W ERP (164 W EIRP)
Multipoint Distribution Service (subpart K of part 21)	non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and power > 1640 W EIRP building-mounted antennas: power > 1640 W EIRP
Paging and Radiotelephone Service (subpart E of part 22)	non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and power > 1000 W ERP (1640 W EIRP) building-mounted antennas: power > 1000 W ERP (1640 W EIRP)
Cellular Radiotelephone Service (subpart H of part 22)	non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and total power of all channels > 1000 W ERP (1640 W EIRP) building-mounted antennas: total power of all channels > 1000 W ERP (1640 W EIRP)

TABLE 1 (cont.)

SERVICE (TITLE 47 CFR RULE PART)	EVALUATION REQUIRED IF:
Personal Communications Services (part 24)	(1) Narrowband PCS (subpart D): non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and total power of all channels > 1000 W ERP (1640 W EIRP) building-mounted antennas: total power of all channels > 1000 W ERP (1640 W EIRP) (2) Broadband PCS (subpart E): non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and total power of all channels > 2000 W ERP (3280 W EIRP) building-mounted antennas: total power of all channels > 2000 W ERP (3280 W EIRP)
Satellite Communications (part 25)	all included
General Wireless Communications Service (part 26)	total power of all channels > 1640 W EIRP
Wireless Communications Service (part 27)	total power of all channels > 1640 W EIRP
Radio Broadcast Services (part 73)	all included

TABLE 1 (cont.)

SERVICE (TITLE 47 CFR RULE PART)	EVALUATION REQUIRED IF:
Experimental, auxiliary, and special broadcast and other program distributional services (part 74)	subparts A, G, L: power > 100 W ERP subpart I: non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and power > 1640 W EIRP building-mounted antennas: power > 1640 W EIRP
Stations in the Maritime Services (part 80)	ship earth stations only
Private Land Mobile Radio Services Paging Operations (part 90)	non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and power > 1000 W ERP (1640 W EIRP) building-mounted antennas: power > 1000 W ERP (1640 W EIRP)
Private Land Mobile Radio Services Specialized Mobile Radio (part 90)	non-building-mounted antennas: height above ground level to lowest point of antenna < 10 m and total power of all channels > 1000 W ERP (1640 W EIRP) building-mounted antennas: total power of all channels > 1000 W ERP (1640 W EIRP)

Table B1-4. Estimated "worst case" horizontal* distances that should be maintained from a single omnidirectional **paging** or **narrowband PCS** antenna to meet FCC RF exposure guidelines. Note: this table and the associated figure only apply to the 900-940 MHz band; paging antennas at other frequencies are subject to different values.

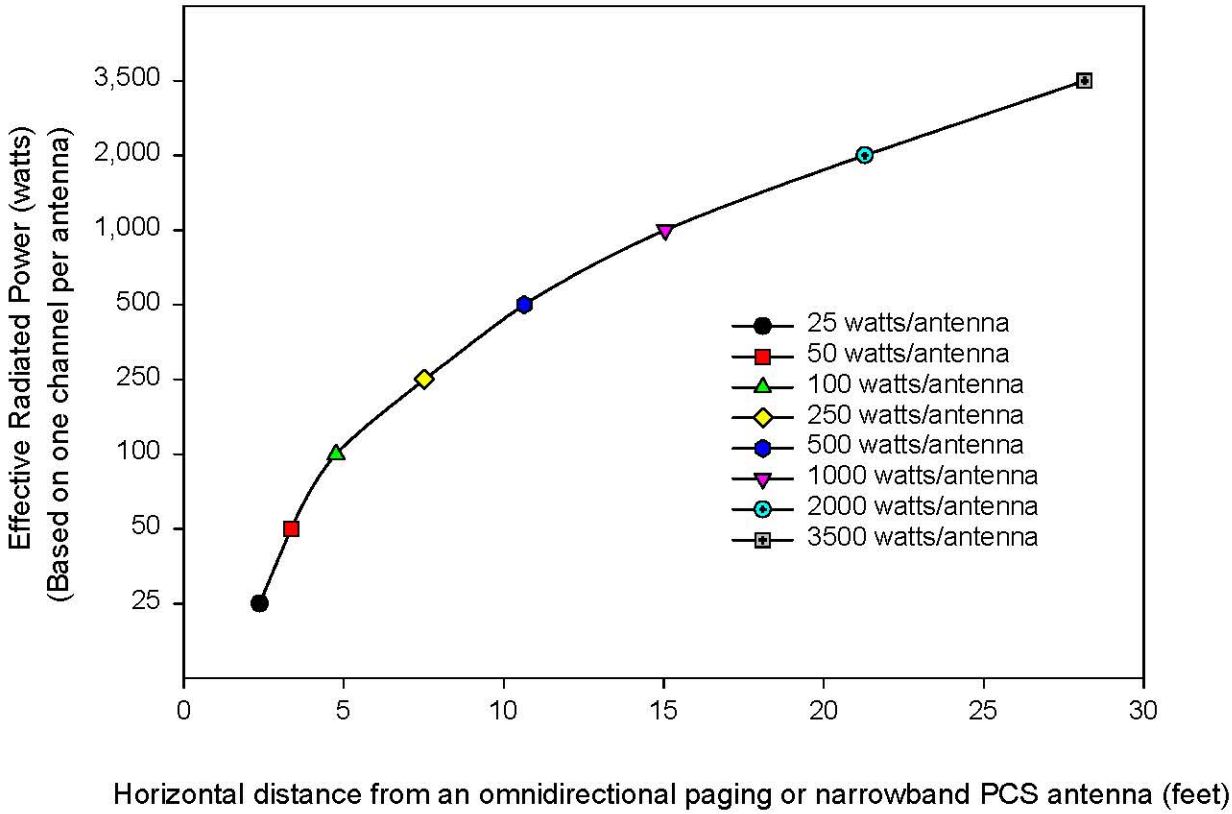
Effective Radiated Power (watts) based on one channel per antenna	Effective Isotropic Radiated Power (watts)	Horizontal* distance (feet) that should be maintained from a single omnidirectional paging or narrowband PCS antenna
50	82	3.4
100	164	4.8
250	410	7.5
500	820	10.6
1,000	1,640	15.1
2,000	3,280	21.3
3,500	5,740	28. 2

For intermediate values not shown on this table, please refer to the Figure B1-4

*These distances are based on exposure at same level as the antenna, for example, on a rooftop or in a building directly across from and at the same height as the antenna.

Note: These distances assume only one frequency (channel) per antenna. Distances would be greater if more than one channel is used per antenna. Omnidirectional paging and narrowband PCS antennas transmit more or less equally from the antenna in all horizontal directions and transmit relatively little energy toward the ground. Therefore, these distances are even more conservative for "non-horizontal" distances, for example, distances directly below an antenna.

Figure B1-4. Estimated "worst case" horizontal* distances that should be maintained from a single omnidirectional **paging** or **narrowband PCS** antenna to meet FCC RF exposure guidelines. Note: this figure and the associated table only apply to the 900-940 MHz band; paging antennas at other frequencies are subject to different values



* These distances are based on exposure at the same level as the antenna, for example, on a rooftop or building directly across from and at the same height as the antenna.

Note: These distances assume only one frequency (channel) per antenna. Distances would be greater if more than one channel is used per antenna. Omnidirectional paging and narrowband PCS antennas transmit more or less equally from the antenna in all horizontal directions and transmit relatively little energy towards the ground.

APPENDIX C

Text of 47 U.S.C. § 332(c)(7)

(7) PRESERVATION OF LOCAL ZONING AUTHORITY.

(A) GENERAL AUTHORITY. Except as provided in this paragraph, nothing in this Act shall limit or affect the authority of a State or local government or instrumentality thereof over decisions regarding the placement, construction, and modification of personal wireless service facilities.

(B) LIMITATIONS.

(i) The regulation of the placement, construction, and modification of personal wireless service facilities by and State or local government or instrumentality thereof (I) shall not unreasonably discriminate among providers of functionally equivalent services; and (II) shall not prohibit or have the effect of prohibiting the provision of personal wireless services.

(ii) A State or local government or instrumentality thereof shall act on any request for authorization to place, construct, or modify personal wireless service facilities within a reasonable period of time after the request is duly filed with such government or instrumentality, taking into account the nature and scope of such request.

(iii) Any decision by a State or local government or instrumentality thereof to deny a request to place, construct, or modify personal wireless service facilities shall be in writing and supported by substantial evidence contained in a written record.

(iv) No State or local government or instrumentality thereof may regulate the placement, construction, or modification of personal wireless service facilities on the basis of the environmental effects of radio frequency emissions to the extent that such facilities comply with the Commission's regulations concerning such emissions.

(v) Any person adversely affected by any final action or failure to act by a State or local government or any instrumentality thereof that is inconsistent with this subparagraph may, within 30 days after such action or failure to act, commence an action in any court of competent jurisdiction. The court shall hear and decide such action on an expedited basis. Any person adversely affected by an act or failure to act by a State or local government or any instrumentality thereof that is inconsistent with clause (iv) may petition the Commission for relief.

(C) DEFINITIONS. For purposes of this paragraph

(i) the term "personal wireless services" means commercial mobile services, unlicensed wireless services, and common carrier wireless exchange access services;

(ii) the term "personal wireless service facilities" means facilities for the provision of personal wireless services; and

(iii) the term "unlicensed wireless service" means the offering of telecommunications service using duly authorized devices which do not require individual licenses, but does not mean the provision of direct-to-home satellite services (as defined in section 303(v)).

Verizon Project: Grapewin

Proposed Wireless Telecommunications Facility at 8306 Grapewin St.

Alternative Site Analysis (revised)

June 15, 2016

The Site Selection Process

Data relating to incomplete and dropped calls is gathered, drive-tests are conducted, and scientific modeling using sophisticated software is evaluated. Once the area requiring a new site is identified, a target/search ring on a map is provided to a real estate professional to begin a search for a suitable location.

During an initial reconnaissance, properties for consideration for the installation of a cell site must be located in the general vicinity of the ring, with an appropriate zoning designation, and appear to have enough space to accommodate an antenna structure and the supporting radio equipment. The size of this space will vary depending on the objective of the site. The owners of each prospective location are notified to assess their interest in partnering with Verizon Wireless.

Four key elements are considered in the selection process:

1. Leasing: The property must have an owner who is willing to enter into a long-term lease agreement under very specific terms and conditions.
2. Zoning: It must be suitably zoned in accordance with local land-use codes to allow for a successful permitting process.
3. Construction: Construction constraints and costs must be reasonable from a business perspective, and the proposed project must be capable of being constructed in accordance with local building codes and safety standards.
4. RF: It must be strategically located to be able to achieve the RF engineer's objective to close the significant gap with antennas at a height to clear nearby obstructions.

Beginning in March 2014, CORE Communications was able to identify (4) potential locations that showed promise in meeting the four essential elements listed above. Over the course of a year, CORE Communications had many visits with potential landlords, discussed lease spaces, rental terms and made substantial progress in preparing these locations. Unfortunately, due to leasing issues and complications with RF objectives, these sites were put on hold.

In March of 2015, SAC Wireless picked up the project from CORE Communications and began searching the ring for additional alternatives. SAC went back to the previous landlords in hopes of resolving matters, but was unsuccessful. SAC was able to scout (3) additional locations and began the process of site walks, landlord discussions and zoning feasibility. The specifics pertaining to each site are listed below.

Site Selection Started by CORE Communications in March 2014

Alternate Site #1 – Vacant Lot (1)
Address: 8500 Archibald St Corona, CA 92880
APN: 130-080-005
Owner: Vantagepoint Church

CORE Communications was able to walk this property many times and met to discuss lease space and terms on many occasions. This vacant lot is to be developed into a church site and the landlord was still working on the plans and construction timelines. Overall the landlord couldn't commit to the lease space without having the plans for the church locked down. He also had concerns about resistance from the congregation.

Alternate Site #2 – Vacant Lot (2)
Address: N/A
APN: 130-080-008
Owner: Gilstrap, Marjorie J.

Efforts to reach landlord were made in person and via mail. No responses ever received.

Alternate Site #3 – Ranch/Horse Training
Address: 8312 Grapewin St. Corona, CA 92880
APN: 130-070-021
Owner: Peakcock Residence

CORE Communications worked with the landlord for over 9 months. Many site walks were conducted as well as meetings with the landlord. They were ready, willing and eager to proceed with the leasing process, but stood firm with their required lease amount. These terms could not be met by Verizon and therefor the progress of this site could not continue.

Alternate Site #4 – Farm
Address: NA
APN: 130-070-015

This landlord showed interest and was eager to proceed with lease discussions, but due to RF challenges we couldn't proceed any further. The topography, elevation and location of utilities presented issues, so the location was no longer pursued.

Site Selection Continued with SAC Wireless in March 2015

Alternate Site #5
Address: 8222 Grapewin St. Corona, CA 92880
APN: 130-070-010
Owner: Smith Residence

Alternate candidate 5 is located just north of the proposed project location. Although this location is within the target search ring area and the property owner may be open to a possible lease agreement with Verizon, the size, shape, and characteristics of the lot make it difficult to comply with setback requirements. Also, the lot characteristics make it difficult to create a design that is non-intrusive to the existing property elements and non-intrusive to the property owner's use of the remainder of the property.

Alternate 6:
APN: 130-080-004
(Archibald Avenue south of Grapewin Street)

Alternate candidate 6 was considered due to its location and site characteristics; however, the property owner is not interested in entering a long-term lease agreement with Verizon.

Figure 1.

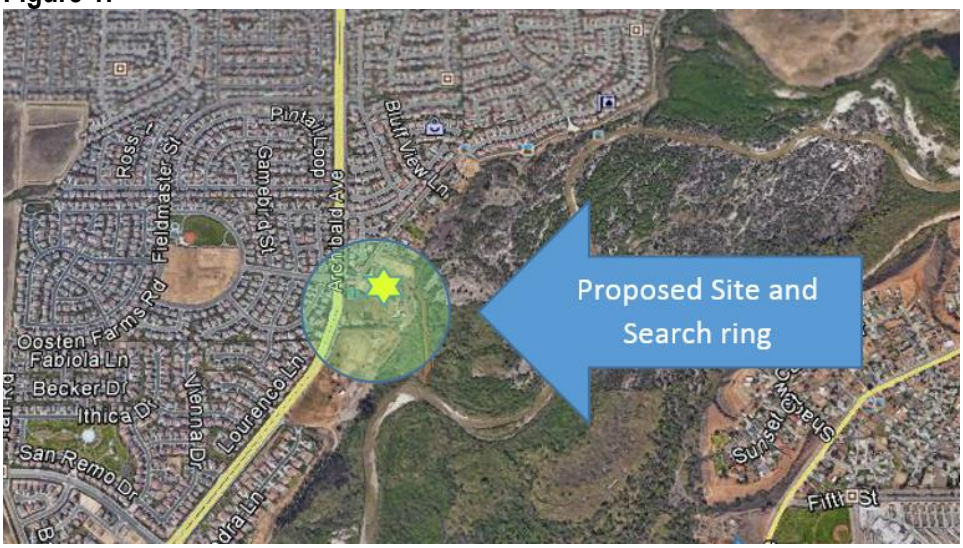


Figure 2 – Zoning Map

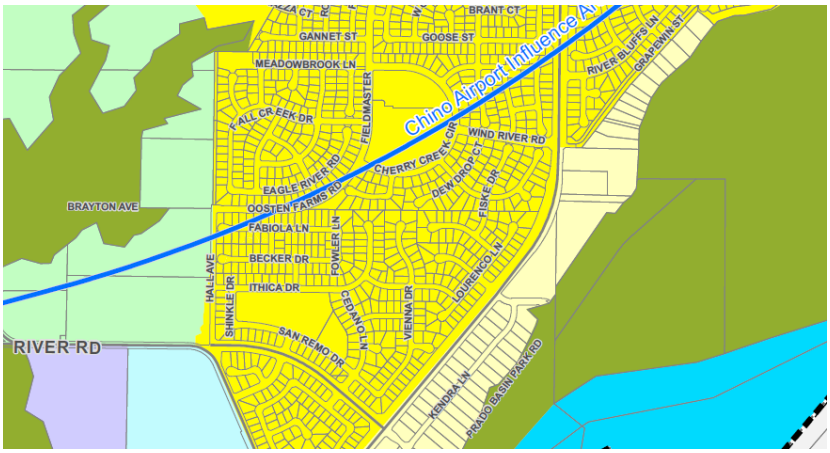


Figure 3.

- Verizon complies with all Federal, state, and local requirements.
- Communication sites are operated at a small percentage of FCC emission requirements
- Facilities are inspected by internal and third party entities at regular intervals to insure proper operation and compliance.
- Communication facilities can be found anywhere from hospitals and schools to single family lots.

Verizon Wireless
15505 Sand Canyon Ave, Bldg. D
Irvine, CA 92618

June 8, 2016

Planning Commission
City of Eastvale
12363 Limonite Avenue, Suite 910
Eastvale, California 91752

Re: 933 Supporters for Verizon Wireless Facility
8306 Grapewin Street

Dear Commissioners:

I am the Verizon Wireless Marketing Director over the team that maintains and manages all data and information messages that are sent to Verizon Wireless customers in California. In connection with the application referred to above, Verizon Wireless arranged for a text message to be sent to customers with billing addresses within the ZIP code 92880 in Eastvale. The entire text message sent reads as follows:

> Free VZW Message: Reply YES to this text message to show your support for improved Verizon Wireless service in Eastvale. Add a message to tell the City that you support a faux palm tree wireless facility at 8306 Grapewin Street. Include your email address for meeting updates.

The text message above was sent on June 2, 2016. As of June 7, 2016, we have received 933 affirmative text message responses indicating support for the proposed facility and twelve respondents opposed. Text messages received confirmed the need to provide improved Verizon Wireless service in Eastvale. Samples of the text messages of support received from Verizon Wireless customers appear on the attached pages.

I am available to verify the above information as you may require.

Sincerely,

Jeremy McCarty
Director
Customer Relationship Management

Attachment

Sample Text Messages of Support
for Verizon Wireless Facility
8306 Grapewin Street

YES I support a faux palm tree wireless facility at 8306 Grapewin Street.

I moved here in 2004 and the service has been horrible for 12 years! Please put up a faux palm tree with cell service!

I support a faux Palm tree

I support a faux palm tree on 8306 grapewin street to improve service in eastvale!!

I support by whatever means to have better reception in Eastvale.

I support the improvement of a better service on eastvale.

I support this

My name is Donny and I approve this message.

Palm tree facility is great.

Please approve what we need to have better Verizon service

Please Please please do the Improvement of services in Eastvale for Verizon. It is much needed

Please support better Verizon phone service

We support improved Verizon service. Presently is very slow and out dated.

YES - cell service does need to be better & it's nice that they are willing to make it look nice

Yes !!!!! Can't even get good service next to Verizon store ?=?D?=?

Yes .. We need better service ..of we might change carrier

Yes a faux palm would be great

YES and also another faux Palm tree wireless facility near Harrison and Chandler near the park. 8306 Grapewin Street is a great start!

YES and I support a faux palm tree wireless facility at 8306 Grapewin street!

YES and I support the tree

YES Can I add... Oh H&ll yes! Please!

Yes I support a faux palm in any Eastview yard including mine.

Yes I support improved cell service in Eastvale.

Yes- I support improved wireless service in my city Eastvale. Please approve de faux palm trees!!!!

Yes I support this. Verizon service is terrible in many places in eastvale

Yes THANK YOU

Yes not sure I'd vote for a palm tree but if that's the only option service is more important .

Yes please add a cell tower!

Yes please add a faux palm tree wireless facility at 8306 grapewin street

YES service here is terrible!! Please add the faux trees

Yes to more coverage ;)

YES Verizon is a premier service and deserves the support of a premier city like Eastvale.

Yes we need better service now that,we are stick with Frontier we want Verizon back

Yes we need improved service in Eastvale. As a new resident paying infrastructure taxes this is the least the city could do.

Yes we support it, and if we can add more so we get better reception all over Eastvale. I live by Chandler. Thank you!

Yes yes yes!! We are at Reagan Elementary and we need it!!

Yes yes yes. Absolutely yes.

Yes you can also put one in my backyard

YES! and put a faux palm tree on Grapewin Street so we can get better service.... please. :)

YES! Definitely support a faux palm tree wireless facility.

YES! For a growing city the cell service is way below par! Please allow this faux Palm to go up, and fast!

Yes! I support Palm tree towers that will improve our service

Yes! Put a faux palm tree SOMEWHERE! Please!!!

Yes! This needs to make this happen! It's unacceptable to have gone this long when the city could have allowed this to happen already.

Yes! We need better service!!!! Full support

YES!! Our cellphones doesn't work once we turn into our driveway.

Yes!! Service has been bad the last two years even though new towers we're install. Thinking of using another carrier if services do not improve.

YES!!! Service is absolutely horrible in Eastvale!!

YES!!! My Verizon Wireless is terrible.

Yes!!! We need better service in Eastvale! I fully support a faux palm tree.

Yes!!!! Our service is horrible. I absolutely, 100%, support the addition of the faux palm tower...

YES!!!!! Service stinks here!!! IMPROVEMENT Needed!!! :)

YES, I also support a faux palm tree wireless facility at 8306 Grapewin Street, my calls have been dropped left and right while at home. I work from too!

YES, I support a faux Palm tree for better service

Yes, I would love to get better cell phone reception & service in Eastvale.

Yes, we need better service

YES. Eastvale should lead the way in technology support by allowing Verizon to move forward with a new cellular tower.

Yes. Make ' Verizon ' great again

YES. Our service is terrible at our home. Please put in the tower.

Yes. Please!!!! We need better reception in Eastvale. As soon as I get into my driveway I loose signal every time.

Yes. Better service is needed by cedar creek park also. I only get 3G service.

Yes. Build the Palm!

Yes. I always drop calls leaving my house and we have to have an extender inside our house. I definitely support a faux palm tree tower.

Yes. I've lived in Eastvale when the daries were still there. Eastvale is a dead zone. Please make this happen. ASAP. Thank you

YES. My Verizon service is horrible, please help improve it

YES. Our service is bad over here!!

YES. Please Please allow Verizon to put in the faux Palm tree!!!

Yes. So needed. Service sucks here

Yes. Cell tower desperately needed in Eastvale!

YES. This city needs better service!

Yes. We def. Need it. Signal sucks

YES. We greatly need better service. Verizon has been failing us.

Yes. We lose service a lot in different spots in our house.

Yes. We need better service for Eastvale. We miss important phone calls anytime we are in our home.

Yes. We would like to see a Faux palm tree installed

YES... Please add the faux palm tree wireless facility!!!!

Yes....we have bad service and we support a faux palm tree.

MINUTES

REGULAR MEETING OF THE PLANNING COMMISSION
OF THE CITY OF EASTVALE
Wednesday, May 18, 2016
6:00 P.M.
Rosa Parks Elementary School
13830 Whispering Hills Drive
Eastvale, CA 92880

1. CALL TO ORDER - 6:02 p.m.

2. ROLL CALL/PLEDGE OF ALLEGIANCE

Commissioners present: Commissioners Van Leeuwen, Charlson, and Vice Chair Feng

Commissioners absent: Commissioner Patel and Chair Oblea

Staff Members present: City Attorney Cavanaugh, Planning Director Norris, Senior Planner Kith, Planner Morgan Weintraub, and Recording Secretary Wuence.

The Pledge of Allegiance was led by Commissioner Charlson.

3. PUBLIC COMMENT

There was no public comment.

4. PRESENTATIONS

There were no presentations.

5. ADDITIONS/DELETIONS TO THE AGENDA

There were no Additions or Deletions to the Agenda.

6. CONSENT CALENDAR

6.1 Planning Commission Minutes

RECOMMENDATION: Approve the minutes from the April 20, 2016 regular meeting.

Motion: Moved by Van Leeuwen, seconded by Feng, to approve the Consent Calendar

Motion carried 2-0-1 with Van Leeuwen and Vice Chair Feng voting aye and Commissioner Charlson abstaining.

7. PUBLIC HEARING

7.1 PROJECT NO. 15-1662 – Minor Development Review for the installation of a new 50-foot-high wireless telecommunications tower, disguised as a "monopalm," with ancillary equipment in a 17-foot by 19-foot lease area at 8306 Grapewin Street with an access easement on the adjacent parcel to the north of the project site. The project qualifies for a categorical exemption from the California Environmental Quality Act (CEQA) under Section 15303, New Construction or Conversion of Small Structures.

RECOMMENDATION: Staff recommends that the Planning Commission take the following actions:

1. Adopt a Resolution approving Categorical Exemption pursuant to CEQA for Minor Development Plan No. 15-1662; and

2. Adopt a Resolution approving Minor Development Plan No. 15-1662 for the installation of a new wireless facility disguised as a monopalm and ancillary telecommunications equipment in a lease area of approximately 17 feet by 19 feet located at 8306 Grapewin (Assessor's Parcel Number 380-070-018) with access via an easement on an adjacent lot to the north (Assessors Parcel Number 380-070-019), subject to conditions of approval.

Senior Planner Kith provided a PowerPoint presentation for the item, including location and a summary of the project.

The Public Hearing was opened at 6:10 p.m.

The applicant, Courtney Stenridge, from Verizon, provided a PowerPoint presentation and discussed the benefits to the community, need of customers and the elements of the site selection.

Bill Frescas, engineer from Verizon, discussed coverage areas that would be improved by the new tower and discussed the Radio Frequency Study performed by Hammett and Edison, an independent third party.

Commissioner Van Leeuwen inquired about the credentials of Hammett and Edison and the effect of fire on the facility.

Vice Chair Feng inquired about the maintenance schedule of the tower. It was noted that technicians would frequent the site anywhere from five to ten times per month but if a site is operating well it only requires regular maintenance two times per month.

Commissioner Charlson inquired about the easement upon the sale of the property, the time period of the lease, and the distance of the nearest structure. It

was noted that the easement runs with the land, the lease is 20-25 years, and the nearest structure 144 feet away is a non-habitable dwelling.

John Gretzer, a resident in the area, noted that he is opposed to the tower at that location as he has concerns about safety and the view of the "palm tree".

Kurt DeStubing, a resident on the property adjacent to the easement, noted that he has safety concerns as there are cancer survivors in the area and concerns about traffic on the easement at all hours to the tower. He believes they can find a better location for the tower.

Susan Pierwell, owner of the horse ranch adjacent to the proposed project, noted concerns about the actual measurements from her home to the tower. She believes the photos of the view provided by Verizon are deceiving. She stated that Verizon told her that they would need access to the tower eight times per week for maintenance. She noted serious health concerns with having a tower so close to homes and the horse trail.

Jim Sullivan, resident of Oceanside, noted that there are health concerns for people, especially cancer survivors, who would be living and sleeping in proximity to the tower. He believes the government should protect residents and requested the Commission vote no on the tower location.

Hiko Itokazu, resident, noted that he is in favor of the tower. He stated that he understands health concerns but noted that he is for technology and improvement. He stated that Radio Frequencies are found all around us, including from televisions and microwaves.

Lyle Smith, resident also noted health concerns and requests the Commission deny the project.

Jane Connor, with Verizon, thanked the community for coming to the meeting and clarified that the lease required is 20-25 years and that 24 hours 7 days access to the tower is required for emergency situations.

Bill Frescas, engineer with Verizon, discussed the Electromagnetic emissions (EME) issues and noted that the FCC mandates measurements and Verizon has to show that they are in compliance. He stated that cell sites are located in parks, churches, and fire stations. He discussed the two different types radiation and EME levels from household items that emit radio waves.

Commissioner Feng initiated discussion regarding "Rad Tags". Mr. Frescas noted that professionals who work around cell towers are required to use a Rad Tag patch to indicate when a person has been around a certain amount of radiation for too long.

Commissioner Van Leeuwen initiated discussion regarding the nearest site to the tower being referred to as a structure versus a residence. Senior Planner Kith noted that staff was unable to access property to verify if it was a habitable structure and noted that on the site plan it was identified as an existing building. Planning Director Norris noted that at 144 feet, it still is almost three times as far as needed from the tower based on zoning standards.

Commissioner Charlson noted that some of the numbers in the report weren't clear.

The Public Hearing was closed at 7:06 p.m.

Commissioner Van Leeuwen noted that resident input was important and sometimes emotional, making the decision difficult.

Commissioner Charlson thanked the public for their comments and noted that the project has a big effect on the residents in the near vicinity. He also noted that Verizon is trying to provide good service for their many cell phone customers. He noted the challenges for the Commission of hearing and weighing on terminology and measurements that were discussed.

Vice-Chair Feng noted that he lives next to the "Water Tower" cell site on Schleisman. He noted that the applicant and the residents both have legitimate concerns and arguments to be considered.

Commissioner Charlson inquired about the number of and locations of existing cell towers in Eastvale and whether they are on commercial, city, county, or private property. Planning Director Norris noted that most are currently located in parks and residential property, but could come back to provide the information and a map of locations.

Staff reviewed the voting options for the Planning Commission and noted that the Public Hearing could be continued to the next Planning Commission meeting for further discussion with all Commissioners present.

Vice-Chair Feng requested the applicant provide information to ease the minds of the residents relating to their health concerns.

Jane Connor, Verizon representative, noted that the third party independent report provided a summary of EME RF levels on the ground and noted that from the nearest residence they are at least 93% under the FCC health safety standard. She also stated that several health organizations have determined that cell towers are safe.

Commissioner Charlson noted that the Commission is only tasked with determining if the tower is wanted in the proposed location.

City Attorney Cavanaugh emphasized that Federal law mandates that a wireless facility cannot be denied based on health issues alone, there would need to be other reasons for denial.

Motion: Moved by Charlson, seconded by Van Leeuwen for discussion purposes, to deny the project.

Commissioner Van Leeuwen stated that he believes a lot of what was heard was emotional and not factual. He believes the greater community needs to be served and prefers a full Commission to hear the item.

Motion failed 1-2 with Charlson voting aye and Van Leeuwen and Vice Chair Feng voting no.

Motion: Moved by Feng, seconded by Van Leeuewen, to continue the item to the next meeting on June 15, 2016.

Motion passed 3-0 with Charlson, Van Leeuwen, and Vice Chair Feng voting aye.

Commissioner Van Leeuwen requested that the word "structure" be changed to "residence", if it is indeed a residence.

8. CITY STAFF REPORT

8.1 Planning Department Project Status

Planning Director Norris noted that an updated monthly Planning Department report would be provided to the Commission prior to the next City Council Meeting.

9. COMMISSION COMMUNICATIONS

Commissioner Charlson thanked staff for the monthly Planning Department report. He inquired about the status of the property at Schleisman and Hamner as there is no sidewalk and there is pedestrian traffic from the Silverlakes park.

Commissioner Van Leeuwen inquired about the vacant lot inside the Enclave shopping center. Planning Director Norris noted that there is temporary approval for an interim parking lot area until further development.

Vice-Chair Feng noted that the Eastvale Community Foundation would like to put some artwork on the Water Tower cell site on Schleisman and requested that Verizon, as part owner of the Water Tower, contact the Foundation.

Vice-Chair Feng noted that he has spoken to Councilmember Lorimore regarding a Sister City program.

10. ADJOURNMENT

There being no further business, the meeting was adjourned at 7:35 p.m.

Submitted by Margo Wuence, Recording Secretary
Reviewed and edited by Marc Donohue, City Clerk

CITY OF EASTVALE
CITY COUNCIL STAFF REPORT

ITEM 8.1

DATE: **JULY 13, 2016**

TO: **HONORABLE MAYOR AND COUNCILMEMBERS**

FROM: **MICHELE NISSEN, CITY MANAGER**

SUBJECT: **AGREEMENT FOR LAW ENFORCEMENT SERVICES BETWEEN THE CITY OF EASTVALE AND THE COUNTY OF RIVERSIDE ON BEHALF OF THE RIVERSIDE COUNTY SHERIFF'S DEPARTMENT**

RECOMMENDATION: APPROVE THE AGREEMENT WITH THE COUNTY OF RIVERSIDE THROUGH THE SHERIFF'S DEPARTMENT TO PROVIDE LAW ENFORCEMENT SERVICES TO THE CITY OF EASTVALE

BACKGROUND

Upon incorporation of the City in October of 2010, the City of Eastvale initially entered into an agreement with the County of Riverside on behalf of the Riverside County Sheriff's Department to provide law enforcement services. Since incorporation, the City has maintained this agreement for contract law enforcement services. The Eastvale City Council directed and authorized the addition of ten (10) patrol hours to the Riverside County Sheriff's Department contract law enforcement services beginning in Fiscal Year 2016-17. This change in services levels constituted an amendment to the agreement. He effective date of this agreement began on July 1, 2016 through June 30, 2021.

As set forth in the terms of the agreement, the agreement will automatically renew for an additional five (5) year period at the level of service then currently in effect unless prior notice of termination is given to the Sheriff and the Riverside County Board of Supervisors no later then twelve (12) months preceding the expiration date of the current term of the agreement.

DISCUSSION

The County agrees, through the Sheriff, to provide municipal police protection within the corporate limits of the City of Eastvale to the extent and in the manner as set forth in the attached agreement. It is understood that the Sheriff's Department shall be the sole provider of general and specialized law enforcement services within the corporate limits of City. The Sheriff's services shall encompass duties and functions of the type falling under the jurisdiction of and customarily rendered by a police department of the City under State statutes. Such services shall include the enforcement of State Criminal Codes and all pertinent City criminal codes and ordinances. Services shall also include traffic enforcement and related services to the extent possible given the size of the force provided for in this agreement. The County agrees to provide all investigative support necessary to complete criminal investigations.

The agreement will provide:

- Average Patrol Services 90 supported hours per day. (Approximate equivalent of 18.4 Deputy Sheriff positions @ 1,780 annual productive hours per position)

Dedicated Positions:

- Two (2) Deputy Sheriff position – Traffic Enforcement Officer
- Two (2) Deputy Sheriff positions – Zone Policing Officers
- One (1) Deputy Sheriff position – Motor Officer
- Two (2) Community Services Officer II positions – Traffic Enforcement

FISCAL IMPACT

Law enforcement contract services are paid from the general fund.

STRATEGIC PLAN IMPACT

- Objective 3.2 - Maintain status as region's Safest City
  - 3.2.1 - Develop budget plan to increase sworn personnel as development occurs.

ATTACHMENT

1. Agreement for Law Enforcement Services Between the City of Eastvale and the County of Riverside On Behalf of the Riverside County Sheriff's Department

Prepared by: Michele Nissen, City Manager
Reviewed by: John Cavanaugh, City Attorney

AGREEMENT FOR LAW ENFORCEMENT SERVICES

BETWEEN THE CITY OF EASTVALE

AND THE COUNTY OF RIVERSIDE

THIS AGREEMENT is made and entered into by and between the CITY OF EASTVALE, a General Law City, hereinafter "City," and the COUNTY OF RIVERSIDE, a political subdivision of the State of California, on behalf of the Riverside County Sheriff's Department, hereinafter "County."

IT IS THEREFORE AGREED AS FOLLOWS:

1. TERM

1.1 Effective Dates. This Agreement shall be effective from July 1, 2016 through June 30, 2021.

1.2 Renewal. In the event City desires to terminate this Agreement at the end of any current five (5) year period, the City Council, not later than twelve (12) months preceding the expiration date of the current term of this Agreement, shall notify the Sheriff and the Board of Supervisors that it wishes to terminate the same; otherwise, this Agreement shall be automatically renewed for an additional five (5) year period at the level of service then currently in effect. As a matter of convenience to the parties hereto, and in order to facilitate continuity of the law enforcement services provided to City, the parties may mutually approve and ratify any automatic renewal of this Agreement retroactively to the effective date of such automatic renewal.

1.3 Termination. Notwithstanding the provisions of Paragraphs 1.1 and 1.2 herein, either party may terminate this Agreement upon notice in writing to the other party of not less than twelve (12) months prior to the effective termination date.

2. SCOPE OF SERVICE

2.1 Services. The County agrees, through Sheriff thereof, to provide municipal police protection within the corporate limits of City to the extent and in the manner hereinafter set forth. It is understood that the Sheriff's Department shall be the sole provider of general and specialized law enforcement services within the corporate limits of City. City shall not hire any other persons or company to provide general and specialized law enforcement services within the corporate limits of City. However, City is not precluded by any language in this section from hiring an unarmed code enforcement unit. The Sheriff's services shall encompass duties and functions of the type falling under the jurisdiction of and customarily rendered by a police department of the City under State statutes. Such services shall include the enforcement of State Criminal Codes and all pertinent City criminal codes and ordinances. Services shall also include traffic enforcement and related services to the extent possible given the size of the force provided for in this Agreement. County agrees to provide all investigative support necessary to complete

criminal investigations conducted hereunder. However, all investigator overtime will be charged City at the Board of Supervisors approved hourly overtime rate.

2.2 California Identification System (CAL-ID) and Records Management System (RMS) City agrees as a condition of receiving services hereunder to participate in CAL-ID and RMS under the terms and conditions set forth in this Section and to pay for these services under separate billings.

2.2A Definitions. For purposes of this agreement the following are some of the more common definitions which shall apply, but shall not be limited by this reference:

a) Records Management System (RMS) Functions shall mean the software functions provided to City by County, which are supplied by the RMS. These functions shall include inquiry and case entry into the RMS, access to the Master Name Index, Warrant and Master Location Index and Jail Locator databases.

b) The California Law Enforcement Telecommunications System Access (CLETS) shall mean that access to the Department of Justice computers provided by County to City.

c) Work Station shall mean those County devices and software, which are used by City to access RMS functions and the CLETS.

d) LAWNET shall mean the County's law enforcement telecommunications network consisting of County provided data circuits, digital service units, routers, hubs and other County provided hardware and software that is used by City to connect work stations to RMS services as defined below.

e) County Services shall mean the collective hardware and software, LAWNET, workstations, RMS functions and CLETS.

2.2B Scope of RMS Services. County agrees to provide to City full access to the RMS and CLETS systems. CLETS access will be provided within the scope of CLETS access rules and regulations as established by the California State Department of Justice.

2.2C Provision of RMS Supervision, Labor and Equipment. Supervision over the provision of County Services, the standards of performance and other matters incident to the performance of such services, shall remain with County. Security of the host system and control of LAWNET shall remain with County. The County shall furnish all labor and equipment for the host system necessary to maintain the level of service rendered hereunder. In the event City chooses to provide PC-based equipment for services defined herein, the equipment must be configured in accordance with County specifications. Further, City shall not alter the configuration of any PC-based equipment used to provide

services herein without the permission of Sheriff's Information Technology Officer.

2.2D Establishment of CAL-ID and RMS Rates and Payment of Costs. Establishment of RMS rates and payments for provided services shall be as specified in Sections 7.2 and 7.4 of this Agreement.

3. LEVEL OF SERVICE

3.1 Level of Service Specified. County shall provide law enforcement services at the level specified in Attachment A, attached hereto and incorporated herein by this reference.

3.2 Variation in Level of Service. Variation in the level of service shall be made by amendment, as provided for in Section 11 of this Agreement, and under the following terms:

If City requests an increase in the level of service to be provided under this Agreement, County agrees to provide such increased level of service as soon as is practicable, consistent with the ability of the Sheriff to hire and train recruits.

If City elects to reduce the level of service provided herein by ten percent (10%) or greater, City must give notice in writing to County not less than twelve (12) calendar months prior to the effective date of such reduction. If City elects to reduce the level of service provided herein by less than ten percent (10%), County agrees to reduce the level of service accordingly as soon as it is practicable. The level of service, however, may not be reduced to below the minimum level, as determined by County, required to ensure public and officer safety.

4. CHIEF OF POLICE

The Sheriff will, to the extent practical, coordinate appointment of a Police Chief with City and consult with City on final selection for the position.

5. PROVISION OF SUPERVISION, LABOR, AND EQUIPMENT

5.1 Supervision. Supervision over the rendition of law enforcement services, the standards of performance, the discipline of officers, and other matters incident to the performance of such services and the control of personnel so employed, shall remain with County. The Sheriff or a designated representative will meet and confer with the City Manager or a designated representative on questions related to the provision of services.

5.2 Labor and Equipment. For the purpose of performing said services, County shall furnish and supply all labor, supervision, equipment, communication services, and supplies necessary to maintain the level of service to be rendered hereunder. Location of the above will not necessarily be within City limits. Notwithstanding anything herein contained, it is agreed that in all instances where specific equipment used solely to support specialized enforcement activities

within the City not normally provided by the Sheriff is to be used, or where special supplies, stationery, notices, forms, and the like related to law enforcement are to be issued in the name of City, such equipment and materials shall be supplied by City at its own cost and expense. Any such special equipment or materials so purchased by City shall meet with the Sheriff's specifications shall remain within the City limits, and ownership title thereto shall remain with City.

However, under no circumstances shall City purchase or otherwise provide general patrol vehicles for services provided pursuant to this agreement without permission of Sheriff. The County shall provide all marked general Patrol vehicles to City and shall charge City for their use on a per mile basis.

5.3 City-Owned Motorcycles and Specialized Support Vehicles. In the event City chooses to provide motorcycles or specialized support vehicles for use in providing services hereunder, the motorcycles or specialized support vehicles shall meet minimum specifications furnished by County, shall be adequately equipped and ready for use, and shall be registered in the name of City. It is further understood that City is providing motorcycles or specialized support vehicles to Sheriff expressly for law enforcement services and shall only be operated by Sheriff's personnel, or persons authorized by the Sheriff.

City shall bear the cost of maintenance, fuel, licensing, and any and all expenses associated with use of the motorcycles and specialized support vehicles for the provision of services hereunder, which is inclusive of responsibility for any and all cost for physical damage to the City-owned motorcycles or specialized support vehicles. However, County shall be responsible for the cost of all third party liability caused by the operation of the City-owned motorcycles or specialized support vehicles, including the property damage caused by the negligence or wrongful acts of County officers and employees while operating City-owned motorcycles and specialized support vehicles. Motorcycles and specialized support vehicles shall be used only for city-approved functions.

5.4 Vehicle Insurance. City shall maintain insurance for any physical damage to the City-owned vehicles in an amount equal to the replacement value of all vehicles provided to the County under this agreement. Policy shall, by endorsement, name the County of Riverside, its Departments, Districts, Agencies and Special Districts, their respective directors, officers, Board of Supervisors, elected and appointed officials, employees, agents, or representatives as Additional Insureds. Such insurance may be provided through a program of self-insurance.

General Insurance Provisions - All lines:

a. Any insurance carrier providing insurance coverage hereunder shall be admitted to the State of California and have an A.M. BEST rating of not less than an A: VIII (A: 8) unless such requirements are waived, in writing, by the County Risk Manager. If the County's Risk Manager waives a requirement for a particular insurer such waiver is only valid for that specific insurer and only for one policy term.

b. The City shall cause their insurance carrier(s) to furnish the County of Riverside with 1) a properly executed original Certificate(s) of Insurance and certified original copies of Endorsements effecting coverage as required herein; or, 2) if requested to do so orally or in writing by the County Risk Manager, provide original certified copies of policies including all Endorsements and all attachments thereto, showing such insurance is in full force and effect. Further, said Certificate(s) and policies of insurance shall contain the covenant of the insurance carrier(s) that shall provide no less than thirty (30) days written notice be given to the County of Riverside prior to any material modification or cancellation of such insurance. In the event of a material modification or cancellation of coverage, this Agreement shall terminate forthwith, unless the County of Riverside receives, prior to such effective date, another properly executed original Certificate of Insurance and original copies of endorsements or certified original policies, including all endorsements and attachments thereto evidencing coverages and the insurance required herein are in full force and effect. Individual(s) authorized by the insurance carrier to do so on its behalf shall sign the original endorsements for each policy and the Certificate of Insurance. If County is utilizing City-owned vehicles, operations shall not commence until the County of Riverside has been furnished original Certificate (s) of Insurance and certified original copies of endorsements or policies of insurance including all endorsements and any and all other attachments as required in this Section.

c. It is understood and agreed by the parties hereto and the City's insurance company(s), that the Certificate(s) of Insurance and policies shall so covenant and shall be construed as primary insurance, and the County's insurance and/or deductibles and/or self-insured retentions or self-insured programs shall not be construed as contributory.

6. EMPLOYMENT STATUS OF PERSONNEL

6.1 Employment Status. Any person employed by County for the performance of services and functions pursuant to this Agreement shall remain employees of County on special assignment to City for the purposes of this Agreement, and shall not be considered employees of City. No such County employee shall have any entitlement to workers' compensation coverage, pension, or civil service benefits from City.

6.2 Labor Shortage. In the event of a work slow-down, strike, or any other form of job action by those individuals assigned to City, County agrees to provide only that level of service which may be available through mutual aid, pursuant to Government Code Section 8615, et seq. City shall be billed only for the actual hours of service received.

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7. COMPENSATION

7.1 Payment Basis. City shall reimburse County the cost of rendering services hereunder at rates established by the County Board of Supervisors, which rates shall include all items of cost and expense to the Sheriff for providing the services hereunder. Such cost of services shall be established by the County Board of Supervisors in the form of hourly rates for Sheriff's Department personnel, vehicle mileage rates, facility use rates, RMS transaction fees and CAL-ID fees. "Cost" as used herein shall not include items of expense attributable to services normally provided or available to all territory within the County as part of County's obligation to enforce State law. In addition to any other fees or costs set forth herein, County may impose on City, and City shall pay upon receipt of an invoice from County, a criminal justice administrative fee consistent with Government Code Section 29550 with respect to arrests made by County employees pursuant to this Agreement just as if such arrests had been made by City employees. Pursuant to Government Code Section 51350, County shall not charge City for services it would provide to any city in the County free of charge. These services, which are provided at the discretion of County, could typically include the services of the Sheriff's Special Investigations Bureau, Emergency Services Team, Canine Unit and Aviation Unit.

7.2 Establishment of Costs. The rates to be charged City shall be adjusted periodically, but not more than once each fiscal year, to reflect any changes in the cost to County for providing services hereunder. City shall be notified of any change in the rates to be charged City prior to submittal of the proposed change to the County Board of Supervisors for adoption, and City shall be given the opportunity to review the proposed change with County personnel. City shall, thereafter, be notified of adoption by County of the rates to be charged City, and said new rates shall take effect on the same date as County incurs the associated costs. Should City, subsequent to a rate adjustment, choose not to appropriate or expend any additional monies needed to support the level of service theretofore supplied, County reserves the right to reduce the level of service in accordance with the amount City is willing to expend.

7.3 Facility Rate Charges. City shall reimburse County for the costs incurred by the Sheriff's Department at County-owned or leased facilities. Costs are prorated according to the facility's square footage occupied by a Sheriff's Department Bureau or Unit.

Calculation of Facility Rates. The total of the facility's cost components is divided by the appropriate variable number of positions (number of station funded, sworn department funded or total Department funded employees depending on the facility in question and the Department population served). This cost per funded position is then applied to the number of positions chargeable to the contract city to arrive at each contract city's share of the facility cost.

The County agrees that Facility Rate Station charges to City will not be increased due to the Sheriff's decision to move Contract or unincorporated County Patrol positions from the Station.

7.4 Payment of Costs. County, through the Sheriff's Department, shall provide to City within 30 days of the conclusion of each billing period, an itemized statement of the costs for services being charged for said billing period. Billing statements for RMS services will be provided quarterly for services being charged for said quarter. City shall remit payment to the invoicing department within 30 days after receipt of such statements. If such payment is not received by the County within thirty (30) days after presentation of billing, County may satisfy such indebtedness from any funds of the City on deposit with County as provided by law pursuant to Government Code Section 907.

7.5 Field Training Costs. Should City elect to add additional Deputy Sheriff positions to the level of service described herein, there will be an associated field training cost for each additional position. City will be billed, on a separate invoice, up to a maximum of sixteen (16) weeks of training on a one-time basis for each additional Deputy position. Said cost will be charged at the Unsupported Deputy hourly rate as approved by the County Board of Supervisors. Billing will be provided for field training costs in conjunction with the rate adjustment billing. Field training costs will not apply to supervisory or classified positions added to the level of service.

7.6 Miscellaneous Costs. There are a number of other service costs that City shall be responsible for paying as they are incurred. These costs are not included as the support or service and materials cost components in the fully supported Deputy hourly rate, nor any other such rates established by the County Board of Supervisors. These service costs may include, but are not limited to charges from vendors for: crime scene clean-up, blood draws, rape exams, polygraph exams, specialized printing jobs exclusive to City and training for personnel requested by City for specialized law enforcement.

8. INDEMNIFICATION AND HOLD HARMLESS

8.1 Indemnification by City. City shall indemnify and hold harmless the County, its Agencies, Districts, Special Districts and Departments, their respective directors, officers, Board of Supervisors, elected and appointed officials, employees, agents and representatives from any liability, claim, damage or action whatsoever, based or asserted upon any act or omission of City, its officers, employees, contractors, agents or representatives arising out of or in any way relating to this Agreement, including but not limited to property damage, bodily injury, or death. City shall defend, at its sole cost and expense, including but not limited to attorney fees, cost of investigation, defense and settlements or awards, the County, its Agencies, Districts, Special Districts and Departments, their respective directors, officers, Board of Supervisors, elected and appointed officials, employees, agents and representatives in any such action or claim. With respect to any action or claim subject to indemnification herein by City, City shall, at its sole cost, have the right to use counsel of its own choice and shall have the right to adjust, settle, or compromise any such action or claim without the prior consent of County; provided, however, that any such adjustment, settlement or compromise in no manner whatsoever limits or circumscribes City's indemnification of County. City's obligations hereunder shall be satisfied

when City has provided to County the appropriate form of dismissal (or similar document) relieving the County from any liability for the action or claim involved. Any insurance coverage shall in no way limit or circumscribe City's obligations to indemnify and hold harmless the County.

8.2 Indemnification by County. County shall indemnify and hold harmless the City, its Agencies, Districts, Special Districts and Departments, their respective directors, officers, elected and appointed officials, employees, agents and representatives from any liability, claim, damage or action whatsoever, based or asserted upon any act or omission of County, its officers, employees, contractors, agents or representatives arising out of or in any way relating to this Agreement, including but not limited to property damage, bodily injury, or death. County shall defend, at its sole cost and expense, including but not limited to attorney fees, cost of investigation, defense and settlements or awards, the City, its Agencies, Districts, Special Districts and Departments, their respective directors, officers, elected and appointed officials, employees, agents and representatives in any such action or claim. With respect to any action or claim subject to indemnification herein by County, County shall, at its sole cost, have the right to use counsel of its own choice and shall have the right to adjust, settle, or compromise any such action or claim without the prior consent of City; provided, however, that any such adjustment, settlement or compromise in no manner whatsoever limits or circumscribes County's indemnification of City. County's obligations hereunder shall be satisfied when County has provided to City the appropriate form of dismissal (or similar document) relieving the City from any liability for the action or claim involved. Any insurance coverage shall in no way limit or circumscribe County's obligations to indemnify and hold harmless the City.

9. ADMINISTRATION

The City Manager of City shall administer this Agreement on behalf of City, and the Sheriff shall administer this Agreement on behalf of County.

10. RECORDS

County shall maintain adequate records to discharge its responsibilities under this Agreement, and shall permit inspection of County’s appropriate records that relate to City services under this Agreement, as allowed by law. County shall provide City access to appropriate records pertaining to City services for approval, funding or auditing services, upon reasonable notice. County shall maintain such records for periods of time as provided by law or records retention schedules duly adopted by the appropriate legislative body. Covenants under this Section shall survive the termination of this Agreement.

11. ALTERATION OF TERMS

No addition to, or alteration of, the terms of this Agreement, whether by written or verbal understanding of the parties, their officers, agents, or employees, shall be valid unless made in the

form of a written amendment to this Agreement which is formally approved and executed by both parties. No waiver of any term or condition of this Agreement by either party shall be a continuing waiver thereof.

12. NOTICES

Any notices required or desired to be served by either party upon the other shall be addressed to the respective parties as set forth below:

County	City
Stan L. Sniff, Sheriff Riverside County Sheriff's Department Post Office Box 512 Riverside, California 92502	City of Eastvale 12363 Limonite Avenue, Suite 910 Eastvale, CA 91752 Attn: City Manager

or to such other addresses as from time to time may be designated by the respective parties. An information copy of any notice to County shall also be sent to:

Clerk of the Board of Supervisors
County of Riverside
4080 Lemon Street, 1st Floor
Riverside, California 92501

13. SEVERABILITY

If any provision of this Agreement is held by a court of competent jurisdiction to be invalid, void, or unenforceable, the remaining provisions shall continue in full force and effect.

14. STANDARD OF CARE

In performing the police services required by this Agreement, County agrees to use that degree of care and skill ordinarily exercised under similar circumstances by law enforcement officers in performance of the duties required by this Agreement. All Sheriff's personnel who provide general and specialized law enforcement services to City pursuant to this Agreement shall have met the minimum qualifications designated for their specific classification, including a background investigation.

15. JURISDICTION AND VENUE

This Agreement shall be construed under the laws of the State of California. In the event

any action or proceeding is filed to interpret, enforce, challenge, or invalidate any term of this Agreement, venue shall lie only in the state or federal courts in or nearest to Riverside County.

16. ENTIRE AGREEMENT

This Agreement is intended by the parties hereto as a final expression of their understanding with respect to the subject matter hereof and as a complete and exclusive statement of the terms and conditions thereof and supersedes any and all prior and contemporaneous agreements and understandings, oral or written, in connection therewith.

IN WITNESS WHEREOF, the City of Eastvale, by minute order or resolution duly adopted by its City Council, has caused this Agreement to be signed by its Mayor and attested and sealed by its Clerk, and the County of Riverside, by order of its Board of Supervisors, has caused this Agreement to be subscribed by the Chairman of said Board and sealed and attested by the Clerk of said Board, all on the dates indicated below.

CITY OF EASTVALE

Dated:_____ By:_____
Ike Bootsma, Mayor

ATTEST:

By:_____

COUNTY OF RIVERSIDE

Dated:_____ By:_____
John J. Benoit, Chair
Riverside County Board of Supervisors

ATTEST:

Kecia Harper-Ihem
Clerk of the Board

By:_____
Deputy

ATTACHMENT A

CITY OF EASTVALE

LEVEL OF SERVICE

Average Patrol Services

90 supported hours per day. (Approximate equivalent of 18.4 Deputy Sheriff positions @ 1,780 annual productive hours per position)

Dedicated Positions

Two (2) Deputy Sheriff position – Traffic Enforcement Officer
Two (2) Deputy Sheriff positions – Zone Policing Officers
One (1) Deputy Sheriff position – Motor Officer
Two (2) Community Services Officer II positions – Traffic Enforcement

CITY OF EASTVALE
CITY COUNCIL STAFF REPORT

ITEM 8.2

DATE: **JULY 13, 2016**

TO: **HONORABLE MAYOR AND COUNCILMEMBERS**

FROM: **JOE INDRAWAN, CITY ENGINEER**

SUBJECT: **SELECTION OF SERVICE PROVIDER FOR ANNUAL TRAFFIC SIGNAL MAINTENANCE – AEGIS ITS, INC.**

RECOMMENDATIONS:

1. **APPROVE THE PROFESSIONAL SERVICES AGREEMENT WITH AEGIS ITS, INC. FOR ANNUAL TRAFFIC SIGNAL MAINTENANCE SERVICES; AND**

2. **AUTHORIZE THE CITY MANAGER TO EXECUTE THE NECESSARY DOCUMENTS.**

BACKGROUND

The City has been using the County of Riverside since incorporation for traffic signal maintenance services as part of a comprehensive service contract that the City entered with the County to help with the transition being a new city. The services have been over all acceptable, however during the last few years the cost of services has increased significantly due to the County increased hourly rates. In an effort to maintain the traffic signal system at a more favorable cost, the city determined it was necessary to request proposals for the services.

DISCUSSION

The City has circulated a request for proposals (RFP) for annual traffic signal maintenance services. The RFP was advertised on the city's website and circulated to all traffic signal maintenance contractors that have expressed interest in the past. The County has also been asked to participate but declined. The RFP included the identical routine monthly services as currently provided by the County. In addition, unit costs were provided for labor, equipment and a significant number of specific repairs.

A total of five firms submitted proposals and their rankings and fees are listed below:

Rank	Firm	Fee
1	Aegis ITS, Inc., Anaheim	$ 93,012
2	Computer Service Company, Baldwin Park	$104,478
3	St. Francis Electric, Riverside	$ 86,494
4	Siemens Industry, Inc.	$115,644
5	Bear Electrical Solutions, Anaheim	$ 90, 552

The proposals were evaluated on the firm's qualifications and references (15 points), project team's technical skills and abilities (15 points), understanding of project scope and issues (20 points), demonstrated ability to meet required response times (20 points), electronic records management system (10 points), and maintenance fees and rates (20 points). Based on the point system assigned for this proposal Aegis ITS, Inc., of Anaheim was the highest ranked firm. The two lower priced firms are new companies in the area without local references. These firms did not rank as well in a number of categories for these reasons.

Aegis ITS, Inc., has been providing electrical and traffic signal maintenance services since 2002 to a number of public agencies. They currently have contracts with and a history of providing prompt and efficient service to the surrounding cities of La Verne, Claremont, Upland, Montclair, Fontana and Yucaipa. This is an advantage during emergency callouts, since they are routinely doing work within 30 miles of Eastvale.

Aegis staff that will be assigned to the City are very knowledgeable about traffic signal operations, synchronization, and traffic policies. They have highly qualified technicians who live in Eastvale, Norco and Corona. The Eastvale resident will be assigned to our city.

Aegis's cost for the monthly preventative maintenance and inspection is $69 per signalized intersection. The total annual cost for the City's 48 intersections including safety lights, street name signs, and flashing beacons is $50,364. In addition, to the routine maintenance there was a set number of hours in their proposal for emergency repairs and material in the amount of $42,648 annually. The projected total cost is $93,012.

The agreement, which has been approved by the City Attorney is for two years, with up to three (3) one-year extensions. The extensions require City Council approval. The agreement allows for an annual inflation increase after the first two years of the agreement.

Staff has contacted and notified the County of Riverside of the intent to contract out part of the services the County is currently providing. The County has agreed that at a later date its contract with the City needs to be amended to include reduced scope of services. Staff will return to the City Council with such a contract amendment.

FISCAL IMPACT

The city has budgeted $190,000 for fiscal year 2016/2017 from the Gas Tax Fund for the citywide traffic signal maintenance services.

This traffic signal maintenance contract represents a cost savings of $97,000 annually.

STRATEGIC PLAN IMPACT - None

CITY OF EASTVALE
CITY COUNCIL STAFF REPORT

ITEM 8.2

ATTACHMENT

1. Professional Services Agreement

Prepared by: Craig Bradshaw, Supervising Engineer
Prepared by: Joe Indrawan, City Engineer
Reviewed by: John Cavanaugh, City Attorney
Reviewed by: Michele Nissen, City Manager

PROFESSIONAL SERVICES AGREEMENT

This AGREEMENT FOR CONSULTANT SERVICES ("AGREEMENT") is made and entered into this ____ day of ____ 2016, by and between the City of Eastvale ("City") and Aegis ITS, Inc. ("CONSULTANT").

In consideration of the mutual covenants and conditions set forth herein, the parties agree as follows:

SECTION 1. TERM OF AGREEMENT.

This Agreement shall commence on July 1, 2016 and continuing thereafter through June 30, 2018, or unless sooner terminated by the parties as set out in Section 18 below. Consultant shall complete the Services within the term of this Agreement, and shall meet any other established schedules and deadlines. The Parties may, by mutual, written consent, extend the term of this Agreement for up to three (3) additional one (1) year terms ("Additional Terms"). Such extensions may include increased compensation for an increase in labor costs, with said increase not to exceed the increase in the Consumer Price Index for all Urban Consumers in the Los Angeles-Anaheim-Riverside area (1982-1984 = 100). Additionally, an extension of this Agreement may include compensation for an increase in fuel costs, with said increased compensation not to exceed the difference in average fuel costs measured between June 2016 and the date at the time of the Agreement renewal. Fuel costs are to be based on data obtained from the U.S. Energy Information Administration website (http:/www.ela.gov/petroleum/gasdiesel). The subsequent renewals will require City Council approval.

SECTION 2. SCOPE OF SERVICES.

CONSULTANT agrees to perform the services set forth in EXHIBIT "A" "SCOPE OF SERVICES" "FEE SCHEDULE" and made a part of this AGREEMENT.

SECTION 3. ADDITIONAL SERVICES.

CONSULTANT shall not be compensated for any services rendered in connection with its performance of this AGREEMENT which are in addition to or outside of those set forth in this AGREEMENT or listed in EXHIBIT "A" "SCOPE OF SERVICES", "FEE SCHEDULE" unless such additional services are authorized in advance and in writing by the Council or City Manager. CONSULTANT shall be compensated for any such additional services in the amounts and in the manner agreed to by the Council or City Manager.

SECTION 4. COMPENSATION AND METHOD OF PAYMENT.

(a) Subject to any limitations set forth in this AGREEMENT, CITY agrees to pay CONSULTANT the amounts specified in EXHIBITS "A".

(b) Each month CONSULTANT shall furnish to CITY an **original** invoice for all work performed and expenses incurred during the preceding month. The invoice shall detail charges by the following categories: labor (by sub-category), travel, materials, equipment,

supplies, sub-consultant contracts and miscellaneous expenses. CITY shall independently review each invoice submitted by the CONSULTANT to determine whether the work performed and expenses incurred are in compliance with the provisions of this AGREEMENT. In the event that no charges or expenses are disputed, the invoice shall be approved and paid according to the terms set forth in subsection (c). In the event any charges or expenses are disputed by CITY, the original invoice shall be returned by CITY to CONSULTANT for correction and resubmission.

(c) Except as to any charges for work performed or expenses incurred by CONSULTANT which are disputed by CITY, CITY will pay CONSULTANT within thirty (30) days of receipt of CONSULTANT's invoice.

(d) Payment to CONSULTANT for work performed pursuant to this AGREEMENT shall not be deemed to waive any defects in work performed by CONSULTANT.

(e) No member of the City Council shall have any personal responsibility or liability for payment of any fees or costs incurred under this AGREEMENT.

SECTION 5. INSPECTION AND FINAL ACCEPTANCE.

CITY may inspect and accept or reject any of CONSULTANT's work under this AGREEMENT, either during performance or when completed. CITY shall reject or finally accept CONSULTANT's work within Sixty (60) days after submitted to CITY. CITY shall reject work by a timely written explanation, otherwise CONSULTANT's work shall be deemed to have been accepted. CITY's acceptance shall be conclusive as to such work except with respect to latent defects, fraud and such gross mistakes as amount to fraud. Acceptance of any of CONSULTANT's work by CITY shall not constitute a waiver of any of the provisions of this AGREEMENT including, but not limited to, sections 14 and 15, pertaining to indemnification and insurance, respectively.

SECTION 6. OWNERSHIP OF DOCUMENTS.

All original studies, assessments, reports, data, plans, specifications, computer files, files and other documents prepared, developed or discovered by CONSULTANT in the course of providing any services pursuant to this AGREEMENT shall become the sole property of CITY and may be used, reused or otherwise disposed of by CITY without the permission of the CONSULTANT. Upon completion, expiration or termination of this AGREEMENT, CONSULTANT shall turn over to CITY all such original studies, assessments, reports, data, notes, computer files, files and other documents.

SECTION 7. CONSULTANT'S BOOKS AND RECORDS.

(a) CONSULTANT shall maintain any and all documents and records demonstrating or relating to CONSULTANT's performance of services pursuant to this AGREEMENT. CONSULTANT shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, or other documents or records evidencing or relating to work, services, expenditures and disbursements charged to CITY pursuant to this AGREEMENT. Any and all such documents or records shall be maintained in accordance with generally accepted accounting principles and shall be sufficiently complete and detailed so as to permit an accurate evaluation of the services provided by CONSULTANT pursuant to this AGREEMENT. Any and all such documents or records shall be maintained for three years from the date of execution of

this AGREEMENT and to the extent required by laws relating to audits of public agencies and their expenditures.

(b) Any and all records or documents required to be maintained pursuant to this section shall be made available for inspection, audit and copying, at any time during regular business hours, upon written request by CITY or its designated representative. Copies of such documents or records shall be provided directly to the CITY for inspection, audit and copying when it is practical to do so; otherwise, unless an alternative is mutually agreed upon, such documents and records shall be made available at CONSULTANT's address indicated for receipt of notices in this AGREEMENT.

(c) Where CITY has reason to believe that any of the documents or records required to be maintained pursuant to this section may be lost or discarded due to dissolution or termination of CONSULTANT's business, CITY may, by written request, require that custody of such documents or records be given to the requesting party and that such documents and records be maintained by the requesting party. Access to such documents and records shall be granted to CITY, as well as to its successors-in-interest and authorized representatives.

SECTION 8. STATUS OF CONSULTANT.

(a) CONSULTANT is and shall at all times remain a wholly independent contractor and not an officer, employee or agent of CITY. CONSULTANT shall have no authority to bind CITY in any manner, nor to incur any obligation, debt or liability of any kind on behalf of or against CITY, whether by contract or otherwise, unless such authority is expressly conferred under this AGREEMENT or is otherwise expressly conferred in writing by CITY.

(b) The personnel performing the services under this AGREEMENT on behalf of CONSULTANT shall at all times be under CONSULTANT's exclusive direction and control. Neither CITY nor any elected or appointed boards, officers, officials, employees or agents of CITY shall have control over the conduct of CONSULTANT or any of CONSULTANT's officers, employees or agents, except as set forth in this AGREEMENT. CONSULTANT shall not at any time or in any manner represent that CONSULTANT or any of CONSULTANT's officers, employees or agents are in any manner officials, officers, employees or agents of CITY.

(c) Neither CONSULTANT, nor any of CONSULTANT's officers, employees or agents, shall obtain any rights to retirement, health care or any other benefits which may otherwise accrue to CITY'S employees. CONSULTANT expressly waives any claim CONSULTANT may have to any such rights.

SECTION 9. STANDARD OF PERFORMANCE.

CONSULTANT represents and warrants that it has the qualifications, experience and facilities necessary to properly perform the services required under this AGREEMENT in a thorough, competent and professional manner. CONSULTANT shall at all times faithfully, competently and to the best of its ability, experience and talent, perform all services described herein. In meeting its obligations under this AGREEMENT, CONSULTANT shall employ, at a minimum, generally accepted standards and practices utilized by persons engaged in providing services similar to those required of CONSULTANT under this AGREEMENT.

SECTION 10. COMPLIANCE WITH APPLICABLE LAWS; PERMITS AND LICENSES.

CONSULTANT shall keep itself informed of and comply with all applicable federal, state and local laws, statutes, codes, ordinances, regulations and rules in effect during the term of this AGREEMENT. CONSULTANT shall obtain any and all licenses, permits and authorizations necessary to perform the services set forth in this AGREEMENT. Neither CITY nor any elected or appointed boards, officers, officials, employees or agents of CITY, shall be liable, at law or in equity, as a result of any failure of CONSULTANT to comply with this section.

SECTION 11. NONDISCRIMINATION.

CONSULTANT shall not discriminate, in any way, against any person on the basis of race, color, religious creed, national origin, ancestry, sex, age, physical handicap, medical condition or marital status in connection with or related to the performance of this AGREEMENT.

SECTION 12. CONFLICTS OF INTEREST.

(a) CONSULTANT covenants that neither it, nor any officer or principal of its firm, has or shall acquire any interest, directly or indirectly, which would conflict in any manner with the interests of CITY or which would in any way hinder CONSULTANT's performance of services under this AGREEMENT. CONSULTANT further covenants that in the performance of this AGREEMENT, no person having any such interest shall be employed by it as an officer, employee, agent or subcontractor without the express written consent of the City Manager. CONSULTANT agrees to at all times avoid conflicts of interest or the appearance of any conflicts of interest with the interests of CITY in the performance of this AGREEMENT.

(b) CITY understands and acknowledges that CONSULTANT is, as of the date of execution of this AGREEMENT, independently involved in the performance of non-related services for other governmental agencies and private parties. CONSULTANT is unaware of any stated position of CITY relative to such projects. Any future position of CITY on such projects shall not be considered a conflict of interest for purposes of this section.

SECTION 13. CONFIDENTIAL INFORMATION; RELEASE OF INFORMATION.

(a) All information gained or work product produced by CONSULTANT in performance of this AGREEMENT shall be considered confidential, unless such information is in the public domain or already known to CONSULTANT. CONSULTANT shall not release or disclose any such information or work product to persons or entities other than CITY without prior written authorization from the City Manager, except as may be required by law.

(b) CONSULTANT, its officers, employees, agents or subcontractors, shall not, without prior written authorization from the City Manager or unless requested by the City Attorney of CITY, voluntarily provide declarations, letters of support, testimony at depositions, response to interrogatories or other information concerning the work performed under this AGREEMENT. Response to a subpoena or court order shall not be considered "voluntary" provided CONSULTANT gives CITY notice of such court order or subpoena.

(c) If CONSULTANT, or any officer, employee, agent or subcontractor of CONSULTANT, provides any information or work product in violation of this AGREEMENT, then

CITY shall have the right to reimbursement and indemnity from CONSULTANT for any damages, costs and fees, including attorney fees, caused by or incurred as a result of CONSULTANT's conduct.

(d) CONSULTANT shall promptly notify CITY should CONSULTANT, its officers, employees, agents or subcontractors be served with any summons, complaint, subpoena, notice of deposition, request for documents, interrogatories, request for admissions or other discovery request, court order or subpoena from any party regarding this AGREEMENT and the work performed thereunder.

SECTION 14. INDEMNIFICATION.

(a) CITY and its respective elected and appointed boards, officials, officers, agents, employees and volunteers (individually and collectively, "INDEMNITEES") shall have no liability to CONSULTANT or any other person for, and CONSULTANT shall indemnify, defend, protect and hold harmless INDEMNITEES from and against, any and all liabilities, claims, actions, causes of action, proceedings, suits, damages, judgments, liens, levies, costs and expenses of whatever nature, including reasonable attorneys' fees and disbursements (collectively "CLAIMS"), which INDEMNITEES may suffer or incur or to which INDEMNITEES may become subject by reason of or arising out of any injury to or death of any person(s), damage to property, loss of use of property, economic loss or otherwise to the extent occurring as a result of or allegedly caused by the CONSULTANT's negligent acts or omissions or willful misconduct of CONSULTANT, its agents, officers, directors, subcontractors or employees, committed in performing any of the services under this AGREEMENT, except to the extent such actions, claims, damages to persons or property, penalties, obligations, or liabilities arise from the negligent acts, omissions, or willful misconduct of the INDEMNITEES.

(b) If any action or proceeding is brought against INDEMNITEES by reason of any of the matters against which CONSULTANT has agreed to indemnify INDEMNITEES as provided above, CONSULTANT, upon notice from CITY, shall defend INDEMNITEES at CONSULTANT's expense by counsel acceptable to CITY, such acceptance not to be unreasonably withheld. INDEMNITEES need not have first paid for any of the matters to which INDEMNITEES are entitled to indemnification in order to be so indemnified. The insurance required to be maintained by CONSULTANT under Section 15 shall ensure CONSULTANT's obligations under this section, but the limits of such insurance shall not limit the liability of CONSULTANT hereunder. The provisions of this section shall survive the expiration or earlier termination of this AGREEMENT.

(c) The provisions of this section do not apply to CLAIMS occurring as a result of the CITY's sole negligence or willful acts or omissions.

SECTION 15. INSURANCE.

A. Insurance Requirements. CONSULTANT shall provide and maintain insurance, acceptable to the City Attorney, in full force and effect throughout the term of this AGREEMENT, against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONSULTANT, its agents, representatives or employees. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII. CONSULTANT shall provide the following scope and limits of insurance:

B. Workers' Compensation. Consultant shall, at its sole cost and expense, maintain Statutory Workers' Compensation Insurance and Employer's Liability Insurance for any and all persons employed directly or indirectly by Consultant. The Statutory Workers' Compensation Insurance and Employer's Liability Insurance shall be provided with limits of not less than ONE MILLION DOLLARS ($1,000,000.00) per accident. In the alternative, Consultant may rely on a self-insurance program to meet those requirements, but only if the program of self-insurance complies fully with the provisions of the California Labor Code. Determination of whether a self-insurance program meets the standards of the Labor Code shall be solely in the discretion of the Contract Administrator. The insurer, if insurance is provided, or the Consultant, if a program of self-insurance is provided, shall waive all rights of subrogation against the City and its officers, officials, employees, and authorized volunteers for loss arising from work performed under this Agreement.

C. Commercial General
Automobile Liability Insurance.

General requirements. Consultant, at its own cost and expense, shall maintain commercial general and automobile liability insurance for the term of this Agreement in an amount not less than ONE MILLION DOLLARS ($1,000,000.00) per occurrence, combined single limit coverage, for risks associated with the work contemplated by this Agreement. If a Commercial General Liability Insurance or an Automobile Liability form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Agreement or the general aggregate limit shall be at least twice the required occurrence limit. Such coverage shall include but shall not be limited to, protection against claims arising from bodily and personal injury, including death resulting therefrom, and damage to property resulting from activities contemplated under this Agreement, including the use of owned and non-owned automobiles.

Minimum scope of coverage. Commercial general coverage shall be at least as broad as Insurance Services Office Commercial General Liability occurrence form CG 0001 or GL 0002 (most recent editions) covering comprehensive General Liability and Insurance Services Office form number GL 0404 covering Broad Form Comprehensive General Liability. Automobile coverage shall be at least as broad as Insurance Services Office Automobile Liability form CA 0001 (ed. 12/90) Code 8 and 9. No endorsement shall be attached limiting the coverage.

Additional requirements. Each of the following shall be included in the insurance coverage or added as a certified endorsement to the policy:

a. The insurance shall cover on an occurrence or an accident basis, and not on a claims-made basis.

b. Any failure of Consultant to comply with reporting provisions of the policy shall not affect coverage provided to City and its officers, employees, agents, and volunteers.

D. Professional Liability Insurance.

General requirements. Consultant, at its own cost and expense, shall maintain for the period covered by this Agreement professional liability insurance for licensed professionals

performing work pursuant to this Agreement in an amount not less than ONE MILLION DOLLARS ($1,000,000) covering the licensed professionals' errors and omissions. Any deductible or self-insured retention shall not exceed $150,000 per claim.

Claims-made limitations. The following provisions shall apply if the professional liability coverage is written on a claims-made form:

a. The retroactive date of the policy must be shown and must be before the date of the Agreement.

b. Insurance must be maintained and evidence of insurance must be provided for at least five years after completion of the Agreement or the work, so long as commercially available at reasonable rates.

c. If coverage is canceled or not renewed and it is not replaced with another claims-made policy form with a retroactive date that precedes the date of this Agreement, Consultant must provide extended reporting coverage for a minimum of five years after completion of the Agreement or the work. The City shall have the right to exercise, at the Consultant's sole cost and expense, any extended reporting provisions of the policy, if the Consultant cancels or does not renew the coverage.

d. A copy of the claim reporting requirements must be submitted to the City prior to the commencement of any work under this Agreement.

E. All Policies Requirements.

Acceptability of insurers. All insurance required by this section is to be placed with insurers with a Bests' rating of no less than A:VII.

Verification of coverage. Prior to beginning any work under this Agreement, Consultant shall furnish City with Certificates of Insurance, and upon request, complete certified copies of all policies, including complete certified copies of all endorsements. All copies of policies and certified endorsements shall show the signature of a person authorized by that insurer to bind coverage on its behalf.

Notice of Reduction in or Cancellation of Coverage. A certified endorsement shall be attached to all insurance obtained pursuant to this Agreement stating that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits, except after thirty (30) days' prior written notice by certified, mail, return receipt requested, has been given to the City. In the event that any coverage required by this section is reduced, limited, cancelled, or materially affected in any other manner, Consultant shall provide written notice to City at Consultant's earliest possible opportunity and in no case later than ten (10) working days after Consultant is notified of the change in coverage.

Additional insured; primary insurance. City and its officers, employees, agents, and authorized volunteers shall be covered as additional insureds with respect to each of the following: liability arising out of activities performed by or on behalf of Consultant, including the insured's general supervision of Consultant; products and completed operations of Consultant, as applicable; premises owned, occupied, or used by Consultant; and automobiles owned, leased, or used by the Consultant in the course of providing services pursuant to this Agreement. The coverage shall contain no special limitations on the scope of protection

afforded to City or its officers, employees, agents, or authorized volunteers.

A certified endorsement must be attached to all policies stating that coverage is primary insurance with respect to the City and its officers, officials, employees and volunteers, and that no insurance or self-insurance maintained by the City shall be called upon to contribute to a loss under the coverage.

Deductibles and Self-insured Retentions. Consultant shall disclose to and obtain the approval of City for the self-insured retentions and deductibles before beginning any of the services or work called for by any term of this Agreement.

During the period covered by this Agreement, only upon the prior express written authorization of City Manager or designee, Consultant may increase such deductibles or self-insured retentions with respect to City, its officers, employees, agents, and volunteers. The City Manager or designee may condition approval of an increase in deductible or self-insured retention levels with a requirement that Consultant procure a bond guaranteeing payment of losses and related investigations, claim administration, and defense expenses that is satisfactory in all respects to each of them.

Subcontractors. Consultant shall include all subcontractors as insureds under its policies or shall furnish separate certificates and certified endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

Variation. City Manager or designee may approve in writing a variation in the foregoing insurance requirements, upon a determination that the coverage, scope, limits, and forms of such insurance are either not commercially available, or that the City's interests are otherwise fully protected.

Remedies. In addition to any other remedies City may have if Consultant fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time herein required, City may, at its sole option, exercise any of the following remedies, which are alternatives to other remedies City may have and are not the exclusive remedy for Consultant's breach:

- Obtain such insurance and deduct and retain the amount of the premiums for such insurance from any sums due under the Agreement;
- Order Consultant to stop work under this Agreement or withhold any payment that becomes due to Consultant hereunder, or both stop work and withhold any payment, until Consultant demonstrates compliance with the requirements hereof; and/or
- Terminate this Agreement.

SECTION 16. ASSIGNMENT.

The expertise and experience of CONSULTANT are material considerations for this AGREEMENT. CITY has an interest in the qualifications of and capability of the persons and entities who will fulfill the duties and obligations imposed upon CONSULTANT under this AGREEMENT. In recognition of that interest, CONSULTANT shall not assign or transfer this Agreement or any portion of this AGREEMENT or the performance of any of CONSULTANT's

duties or obligations under this AGREEMENT without the prior written consent of the City Council. Any attempted assignment shall be ineffective, null and void, and shall constitute a material breach of this AGREEMENT entitling CITY to any and all remedies at law or in equity, including summary termination of this AGREEMENT. CITY acknowledges, however, that CONSULTANT, in the performance of its duties pursuant to this AGREEMENT, may utilize subcontractors.

SECTION 17. CONTINUITY OF PERSONNEL.

CONSULTANT shall make every reasonable effort to maintain the stability and continuity of CONSULTANT's staff assigned to perform the services required under this AGREEMENT. CONSULTANT shall notify CITY of any changes in CONSULTANT's staff assigned to perform the services required under this AGREEMENT, prior to any such performance.

SECTION 18. TERMINATION OF AGREEMENT.

(b) CITY may terminate this AGREEMENT, with or without cause, at any time by giving thirty (30) days written notice of termination to CONSULTANT. In the event such notice is given, CONSULTANT shall cease immediately all work in progress.

(c) CONSULTANT may terminate this AGREEMENT at any time upon thirty (30) days written notice of termination to CITY.

(d) If either CONSULTANT or CITY fails to perform any material obligation under this AGREEMENT, then, in addition to any other remedies, either CONSULTANT, or CITY may terminate this AGREEMENT immediately upon written notice.

(e) Upon termination of this AGREEMENT by either CONSULTANT or CITY, all property belonging exclusively to CITY which is in CONSULTANT's possession shall be returned to CITY. CONSULTANT shall furnish to CITY a final invoice for work performed and expenses incurred by CONSULTANT, prepared as set forth in SECTION 4 of this AGREEMENT. This final invoice shall be reviewed and paid in the same manner as set forth in SECTION 4 of this AGREEMENT.

SECTION 19. DEFAULT.

In the event that CONSULTANT is in default under the terms of this AGREEMENT, the CITY shall not have any obligation or duty to continue compensating CONSULTANT for any work performed after the date of default and may terminate this AGREEMENT immediately by written notice to the CONSULTANT.

SECTION 20. COOPERATION BY CITY.

All public information, data, reports, records, and maps as are existing and available to CITY as public records, and which are necessary for carrying out the work as outlined in the EXHIBIT "A" "SCOPE OF SERVICES", "FEE SCHEDULE" shall be furnished to CONSULTANT in every reasonable way to facilitate, without undue delay, the work to be performed under this AGREEMENT.

SECTION 21. NOTICES.

All notices required or permitted to be given under this AGREEMENT shall be in writing and shall be personally delivered, or sent by telecopier or certified mail, postage prepaid and return receipt requested, addressed as follows:

To CITY: Michele Nissen
City Manager

To CONSULTANT: Aegis ITS, Inc.
3360 East La Palma Avenue
Anaheim, CA 92806-2856
Attn: Rick Duncan, Utility Operations Manager

Notice shall be deemed effective on the date personally delivered or transmitted by facsimile or, if mailed, three (3) days after deposit of the same in the custody of the United States Postal Service.

SECTION 22. AUTHORITY TO EXECUTE.

The person or persons executing this AGREEMENT on behalf of CONSULTANT represents and warrants that he/she/they has/have the authority to so execute this AGREEMENT and to bind CONSULTANT to the performance of its obligations hereunder.

The City Council has authorized the undersigned to execute this AGREEMENT.

SECTION 23. BINDING EFFECT.

This AGREEMENT shall be binding upon the heirs, executors, administrators, successors and assigns of the parties.

SECTION 24. MODIFICATION OF AGREEMENT.

No amendment to or modification of this AGREEMENT shall be valid unless made in writing and approved by the CONSULTANT and by the City Council. The parties agree that this requirement for written modifications cannot be waived and that any attempted waiver shall be void.

SECTION 25. WAIVER.

Waiver by any party to this AGREEMENT of any term, condition, or covenant of this AGREEMENT shall not constitute a waiver of any other term, condition, or covenant. Waiver by any party of any breach of the provisions of this AGREEMENT shall not constitute a waiver of any other provision, nor a waiver of any subsequent breach or violation of any provision of this AGREEMENT. Acceptance by CITY of any work or services by CONSULTANT shall not constitute a waiver of any of the provisions of this AGREEMENT.

SECTION 26. LAW TO GOVERN; VENUE.

This AGREEMENT shall be interpreted, construed and governed according to

the laws of the State of California. In the event of litigation between the parties, venue in state trial courts shall lie exclusively in the County of Riverside.

SECTION 27. ATTORNEYS FEES, COSTS AND EXPENSES.

In the event litigation or other proceeding is required to enforce or interpret any provision of this AGREEMENT, the prevailing party in such litigation or other proceeding shall be entitled to an award of reasonable attorney's fees, costs and expenses, in addition to any other relief to which it may be entitled.

SECTION 28. ENTIRE AGREEMENT.

This AGREEMENT, including the attached ATTACHMENT "A" are the entire, complete, final and exclusive expression of the parties with respect to the matters addressed therein and supersedes all other agreements or understandings, whether oral or written, or entered into between CONSULTANT and CITY prior to the execution of this AGREEMENT. No statements, representations or other agreements, whether oral or written, made by any parties which are not embodied herein shall be valid and binding. No amendment to this AGREEMENT shall be valid and binding unless in writing duly executed by the parties or their authorized representatives.

SECTION 29. SEVERABILITY.

If any term, condition or covenant of this AGREEMENT is declared or determined by any court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this AGREEMENT shall not be affected thereby and the AGREEMENT shall be read and construed without the invalid, void or unenforceable provision(s).

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed the day and year first above written.

CITY OF EASTVALE

By_____
Ike Bootsma, Mayor

ATTEST:

_____
Marc Donohue, City Clerk

APPROVED AS TO FORM:

_____
John E. Cavanaugh, City Attorney

CONSULTANT:

By_____
AEGIS ITS, INC.

EXHIBIT "A"

Request for Proposals

Traffic Signal Maintenance Services

City of Eastvale, California

(ORIGINAL)

Submitted By:

aegis ITS

May 05, 2016

EXHIBIT A

aegis ITS | An Econolite Group Company

May 05, 2016

Attn: Joe Indrawan
City Engineer
City of Eastvale
12363 Limonite Avenue, Suite 910,
Eastvale, CA 91752

Subject: Request for Proposals for Traffic Signal Maintenance Services

Dear Mr. Indrawan,

Aegis ITS, Inc. (Aegis) is pleased to submit this proposal to the City of Eastvale (City) on its Traffic Signal Maintenance Services contract. As a leading Intelligent Transportation System (ITS) maintenance firm, we provide traffic signal system and maintenance services, systems engineering, software development, and ITS installation, integration, and maintenance. Aegis is uniquely qualified to support the City's traffic signal maintenance services needed for the City's 44 signalized intersections and four flashing beacons with the following attributes:

- A class C-10 as well as C-7 contractor's license issued by the California State Contractor License Board (CSLB). We have consistently held a valid C-10 contractor's license for over 10 years in good standing.
- The highest caliber technicians capable of performing their duties under the most exacting of circumstances. Most of our technicians hold Level II and III International Municipal Signal Association (IMSA) certifications, and are National Electrical Code (NEC) licensed certified.
- Professionalism, quality, and reliability. Aegis has never failed to complete a contract in our 14-year history.

Thank you for your time and consideration. Aegis looks forward to the opportunity to serve the City of Eastvale on its Traffic Signal Maintenance Services contract. If additional information is required, please do not hesitate to contact me at (714) 575-5545 or via email at RDuncan@aegisits.com. I am based out of our corporate headquarters located at our proposed office of work at 3360 East La Palma Avenue, Anaheim, CA 92806.

Sincerely,

Aegis ITS, Inc.

Rick Duncan
Utility Operations Manager

3360 East La Palma Avenue
Anaheim, CA 92806-2856
Office: 714-238-9277
Fax: 714-630-1973
www.aegisits.com

B. Conflict of Interest

Aegis ITS, Inc. (Aegis) does not have any conflict-of-interest in any financial, business, or other relationships with the City of Eastvale (City) that may have an impact on the outcome of the project required for performance.

C. Qualifications and Experience

a) Firm Qualifications

Aegis, originally operating as Econolite Traffic Engineering and Maintenance, was incorporated in 2002 in Anaheim, California. Aegis was created to expand upon our parent company Econolite Group, Inc. (EGI) services and capabilities. Originally started to solely provide traffic signal and streetlight installation, repair, and maintenance services, Aegis expanded in 2009 to complement the Econolite brand with additional services to the Intelligent Transportation Management (ITS) market.

Aegis is a wholly owned subsidiary of EGI, and for over 80 years has been primarily serving the transportation industry. With over 750 employees throughout North America, Asia and the Middle East, EGI serves as the parent company to four subsidiaries representing a full spectrum of traffic management services and has a long-standing reputation for quality and innovation in traffic control products.

Aegis Point-of-Contact

Rick Duncan
RDuncan@aegisits.com
3360 East La Palma Avenue
Anaheim, CA 92806
Phone: (714) 575 - 5545
Fax: (714) 666-1123
Mobile: (714) 397-7603

Providing traffic signal, communications, and ITS maintenance services, Aegis combines EGI's industry-leading products with professional engineering staffing and technical services tailored to each client's needs. We currently maintain over 5,000 Traffic Signals and ITS devices, plus over 10,000 streetlights, with a staff of over 40 electricians and signal technicians.

Local Offices

Aegis local office for the City of Eastvale is located in the same building as our parent company headquarters in Anaheim California. This facility also houses the Aegis warehouse, laboratory and testing facility as well as construction and heavy equipment such as a 40-ton crane and 50' bucket truck. All technicians assigned to the City contract, as well as our main point-of-contact, are based out of this facility and have access to all required tools, equipment, facilities, services, and materials to perform the required traffic signal systems maintenance services.

Aegis currently has three facilities located in the state of California:

Anaheim
3360 East La Palma Avenue
Anaheim, CA 92782
(714) 360-3700

San Jose
1810 Oakland Rd Suite E
San Jose, CA 95131
408) 577-1802

Fremont
43221 Osgood Road
Fremont, CA 94539
(408) 201-4404

Lab Testing

In addition, Aegis operates one of the best in-house and fully functional testing and repair labs in the State of California. From printed circuit boards to full cabinets, Aegis is prepared for whatever test and repair situation that may arise. Our laboratory testing facility follows the State of California Department of Transportation (Caltrans) current specifications for NEMA controllers and cabinets when applicable.

Equipment and Resources

All listed field technicians drive a fully equipped 42' bucket trucks. Aegis use the following vehicle types to support traffic signal maintenance and installation:

- Ford F-550 with a 42' reach bucket
- Dodge 5500 with a 42' reach bucket
- Ford F-450 4x4 Pickup
- Ford Transit Connect (Van)

Below is a partial listing of types of equipment, components, and materials carried in the trucks to provide timely responses to maintain and restore operation of the City's traffic signal systems:

- Signal Controllers
- 24 VDC Power Supply
- MMU's/CMU's
- 204 Flashers
- Box Fans
- Air Filters
- Load Switches
- Push Button with Housing
- Various HPS Lamps for Street Lighting
- Photocells
- Various LED Balls and Arrows (Green, Yellow, Red)
- Ballast Kits
- Fuses (5A, 10A, 15A, 30A)
- Various Spare Wires (8AWG – 14AWG)
- Flash Transfer Relays
- Detectors
- BIU's
- ADA Push Button Assemblies
- 10' Pole
- 3 Section Traffic Signal
- Mounting Framework
- Pedestrian Signal

b) Project Team

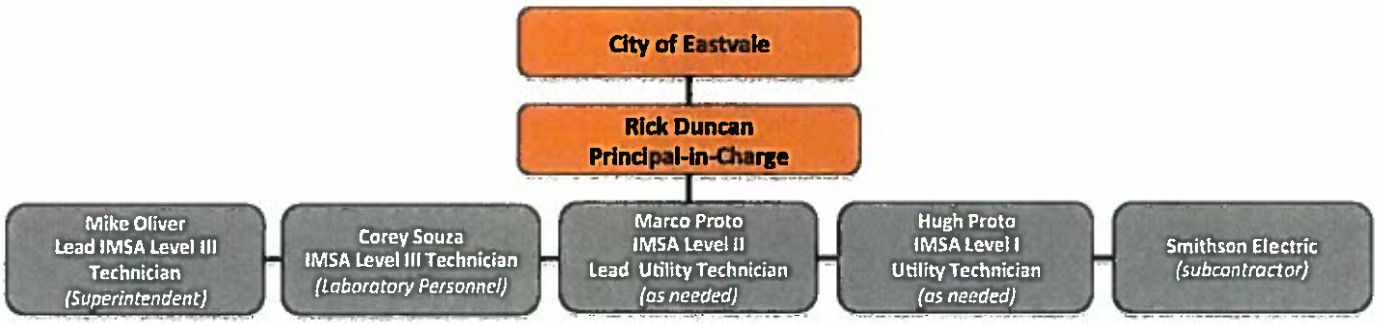
Most of Aegis's proposed organizational staff are International Municipal Signal Association (IMSA) Level II and Level III technicians and National Electrical Code (NEC) certified

electricians with many years of experience in the traffic maintenance industry. As required, may of our technicians meet or exceeds the qualifications listed in the RFP:

- IMSA Level II or higher traffic signal technician with a minimum of three years' experience in traffic signal repairs.
- Technicians shall be familiar with the Type 170E and Type 2070 control systems currently in operation in the City.
- Familiar with programming traffic signal timing and interconnecting timing of controllers.

Organizational Chart

Provided below is Aegis proposed organizational chart.



Key Staff/Team Members

Listed below are Aegis's key staff members to provide the City on its traffic signal maintenance service needs.

- **Rick Duncan, Principal-in-Charge** - With over 37 years of experience in the traffic signal maintenance industry, Aegis's project manager for this pursuit, Rick Duncan will be the primary point-of-contact for this contract. Rick will ensure Aegis meets the City's Traffic Signal Preventative Maintenance & Emergency On-Call Services objectives.
- **Mike Oliver, Superintendent** - As the proposed lead traffic signal technician with seven years of experience, Mike Oliver is an IMSA Traffic Signal Level III Field Technician, IMSA Traffic Signal Inspector Level I, and NEC certified electrician. Mike is currently serving the surrounding cities of Cathedral City in the City of Fontana, Yucaipa, and Claremont.
- **Corey Souza, Laboratory Personnel** - Corey Souza has eight years of experience in the traffic signal maintenance industry. He is an IMSA Traffic Signal Level III Field Electrician and a NEC certified electrician. Corey is also currently serving the City of Fontana and Claremont along with Mike.
- **Technicians (as needed)**
  - **Marco Proto** - As the lead utility technician with 36 years of experience, Marco Proto is an IMSA Traffic Signal Technician Level II, IMSA Work Zone Safety Specialist, and a NEC certified electricians. He is currently providing services to the City of Palm Springs with a new Traffic Management Center (TMC) and traffic

signal interconnect and synchronization improvements at various locations throughout the City.

- **Hugh Proto** - Also serving the City of Palms Springs along with Marco is Hugh Proto. Also with 36 years of experience in the traffic signal maintenance industry, Hugh is an IMSA Traffic Signal Technician Level I, a NEC certified electrician, and Work Zone Safety certified.

- **Smithson Electric & Saw, Inc. (Smithson Electric), Subcontractor**

See ***Section Resumes/Certifications below*** for our key and support staff qualifications, bios, and certifications.

Safety Lighting Repair

c) Scope of Work and Approach

Provided below is Aegis's work methodology and approach on how we would provide the City with excellence in traffic signal maintenance and repair services for 44 signalized intersections and four flashing beacons within the City.

Technical Services and Maintenance Personnel

Aegis proposed staff as mentioned in ***Project Team*** above who are IMSA certified and Aegis trained, will perform the traffic signal maintenance services. His/her job includes all the duties and responsibilities that are deemed necessary to ensure that the City of Eastvale traffic control system operates as designed, and has as little down time as possible. Out technicians vehicles are fully equipped, to enable our technicians to troubleshoot and repair most malfunctions found during the preventative maintenance check, or any callout.

Utilizing the electronic forms created for the City, each site will be visited and all items on the list will be completed and checked off following the procedures stated in the RFP. At this time if any safety issues are found, they will be corrected immediately and the City's representative will be notified at that time.

Routine Preventative Maintenance

Aegis personnel will provide the City with a routine, comprehensive preventative maintenance program designed to minimize incidence of outages and malfunctions, reduce complaints, and extend the useful life of the traffic signal equipment. Our team will provide one electronic copy of the maintenance checklist to the City following each inspection through teamEpro, our field data collection software. At a minimum, Aegis will provide the following services during each monthly inspection:

- Traffic Signal Control Equipment
- Spare Equipment
- Vehicle and Pedestrian Signal
- New Traffic Control Devices Installations/Upgrades

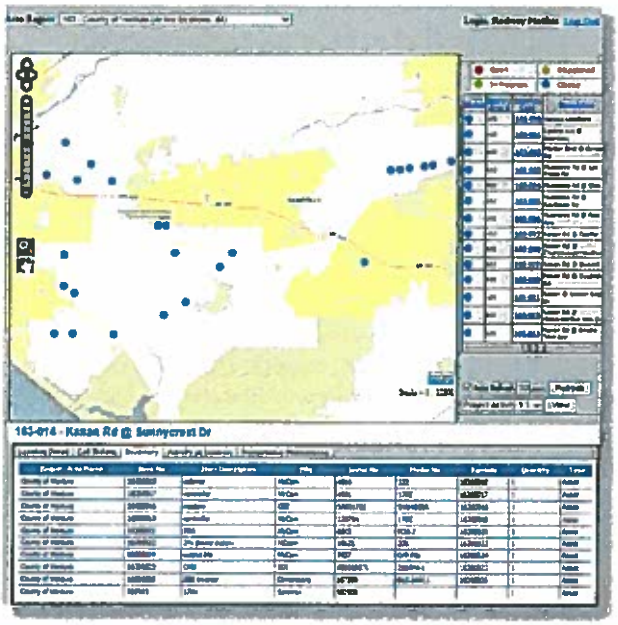
Electronic Records Management System

As mentioned throughout this section, Aegis's Electronic Records Management System (ERM), teamEpro, is an application that provides real-time field data entry and tracking of ITS assets, as well as location specific document management that includes intersection layout drawings, cabinet prints, pictures by approach, and asset manuals. Aegis's technicians are responsible for entering the specific intersection operation and inventory activity information, thereby minimizing the chance of data misinterpretation.

Emergency or Response Services

We will respond within one (1) hour after the City's notification of emergency events such as total blackouts. Aegis will provide a 24/7 dispatch service to record and dispatch all calls. The Dispatch Console is integrated into teamEpro, our Field Data Collection service. Using the Dispatch Console, Aegis can receive all calls for the City, log the calls, and dispatch the appropriate on-call technician. This service is a 24-hour, 7-day-a-week existing operation that utilizes a toll-free number for all incoming calls. The calls are dispatched to whoever is on call for the City and all information is logged into the database to tie in with the field data, which allows for accurate reporting.

Emergency Response



Inventory Records

Records/Invoicing

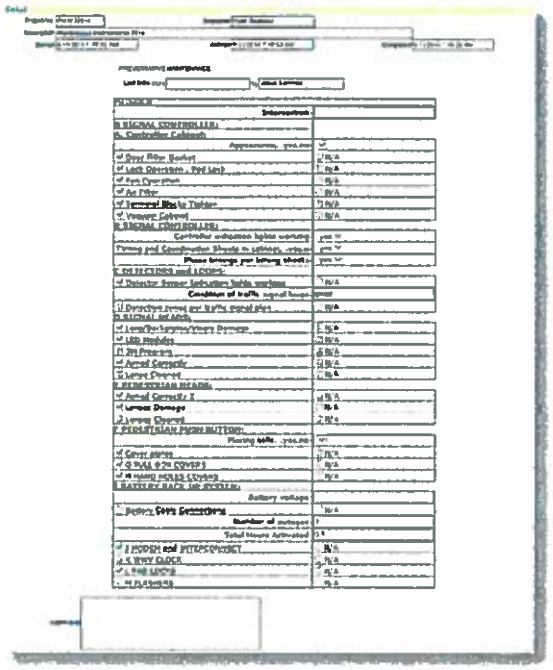
Aegis utilizes our Asset Management Module in teamEpro to track and keep records of assets. Utilizing a real time inventory system increases accuracy and makes accessing the information quick and easy. Additionally, the electronic system reduces the amount of paper used in the field, which is another step towards becoming a better partner with the environment.

Asset Management Module

Using teamEpro major asset data will be confirmed and then the database of major asset at each location will be maintained. Aegis has already established the database of equipment in the filed by creating an inventory of all locations for major assets, bar coding the items, and then building the initial database.

Preventative Maintenance (PM) Checklist Form

Utilizing the electronic Preventative Maintenance (PM) checklist designed for the City, each site listed in the RFP will be visited. All items listed will be completed and checked following the procedural requirements of the City. At this time, if any safety issues are found, immediate action will be taken to correct the situation, and the City's representative will be notified. Aegis will maintain all maintenance records in each controller cabinet showing the date and time checked.



PM Checklist

Utilizing our web-based system, teamEpro, all maintenance services from the field will be displayed as it occurs electronically. teamEpro is customizable to the items the City has designated in the RFP, allowing the information to be available as it happens rather than the printed PM checklist that is submitted following each inspection. The City's representative has the convenience of accessing the permanent documents at any time of the day.

In addition, Aegis will also provide a copy of the City approved checklist at each intersection. The PM checklist form will be completely filled out during each maintenance inspection and/or repairs being made in the controller cabinet or the signal equipment at the intersection.

Monthly Activities Report

Aegis will make available a computerized monthly activity report by the 15th working day of each month for the previous month worked. The report will provide the following information in both a printout and as an Excel spreadsheet or in other file types (e.g., PDF, TIFF, CSV, and XML):

- Time the service calls were received, time arrived at the intersection, the response time, the number of hours spent for each repair, and a specific listing of intersections with three calls in one month.
- A complete record of all work that was performed on the City traffic signal equipment during the time period covered on the report including the make, model, and serial number of any major components, or other equipment that was newly installed at each intersection.
- Time and date the PM work was performed.

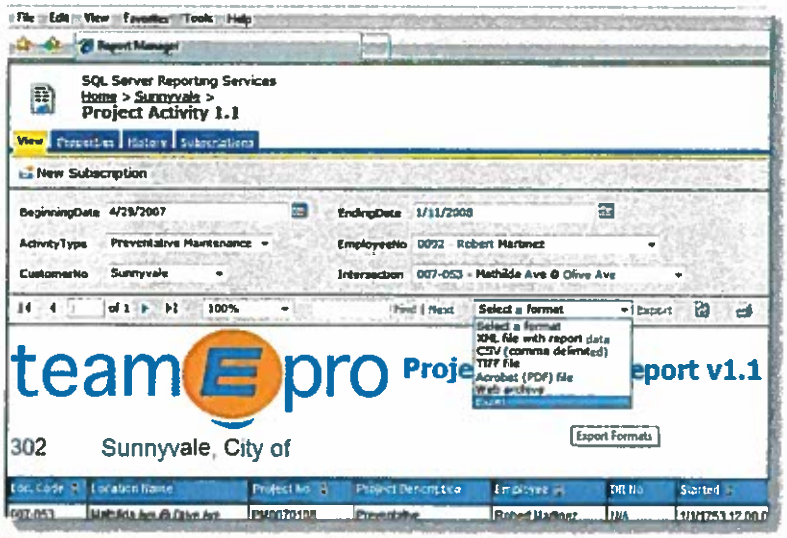
While teamEpro collects the data from the field, our Report Services portal will allow City's selected managers access to the information. With this web-based site, the City can sort, review, and print any needed information. The report forms allow the collected information to be sorted properly in order to meet specific needs. Reports can be sorted by location, date, employee, and work type.

Pending Repair List

Throughout each month, each technician will compile a list for each stated location in the RFP of pending repairs or work needed. Aegis will make available a monthly report of all pending repair work needed at each intersection. This information can be viewed on teamEpro as well on the existing report by sorting the "Follow Up" column.

Meetings

Meetings will be arranged and established on an agreed upon time and place with the City's representative. We anticipate at a minimum the project manager and the primary signal technician to attend the meetings. Aegis will discuss previous month's repairs, the anticipated workload, status of spare parts and inventory, and other outstanding issues during these meetings. Notes taken during the meetings will be distributed to the attendees. Aegis's maintenance supervisor will also be available to meet the City's representative on a quarterly basis.



Multiple File Types

d) Reference Projects

City of Montclair Traffic Signal Maintenance

Client Project Manager:
Mike Hudson
Office Address:
5111 Benito Street,
Montclair, CA 91763
Telephone Number:
(909) 625-9441
Email Address:
mhudson@cityofmontclair.org
Type of Business:
Local Government
Contract Term:
2010 - Present

Staff Assigned to Project: Rick Duncan, Mike Oliver

Project Description: Aegis has also been providing the City of Montclair with traffic signal maintenance for six years. Services includes, but not limited to: full traffic signal maintenance

service including extraordinary maintenance, lamp replacement, fiber optics communications and termination, installation, testing, video detection systems maintenance, UPS installation and maintenance, intersection re-wiring, solar powered flashing beacons, and IRWL maintenance.

City of Claremont Traffic Signal Maintenance

Client Project Manager:
Vince Ramos
Office Address:
207 Harvard Avenue,
Claremont, CA 91711
Telephone Number:
(909) 399-5395
Email Address:
vramos@ci.claremont.ca.us
Type of Business:
Local Government
Contract Term:
2012 - Present

Staff Assigned to Project: Rick Duncan, Mike Oliver, Corey Souza

Project Description: For the past four years, Aegis has been providing the City of Claremont with full traffic signal maintenance services that includes, but not limited to: extraordinary maintenance, lamp replacement, fiber optics communications and termination, installation, testing, video detection systems maintenance, UPS installation and maintenance, intersection re-wiring, solar powered flashing beacons, and IRWL maintenance.

City of Fontana Traffic Signal Maintenance

Client Project Manager:
Darrin Huggins
Office Address:
8353 Sierra Ave,
Fontana, CA 92335
Telephone Number:
(909) 350-6525
Email Address:
N/A
Type of Business:
Local Government
Contract Term:
2003 - Present

Staff Assigned to Project: Rick Duncan, Mike Oliver

Project Description: Aegis has been providing the City of Fontana on their traffic signal maintenance for 13 years. We provide the city with full traffic signal maintenance services that includes, but not limited to: routine day maintenance, comprehensive preventative maintenance, emergency on call services, annual conflict monitoring testing, lab services, traffic signal repair

and record keeping, controller cabinet, video detection system, intersection, signal heads, pedestrian equipment, intersection lighting, and pull boxes.

e) List of All Cities

Provided below is a list of all cities Aegis is currently performing traffic signal maintenance for within 30 miles of the City of Eastvale. The list includes how many signals we maintain and the contact person for each agency.

Customer Name	Job Description	Duration of Contract	Devices	Point-of-Contact	Phone Number
Cerritos, City of	Signal Maintenance	2009 - Ongoing	72	Mary Anne Woznak	(562) 407-2630
Claremont, City of	Signal Maintenance	2012 - Ongoing	43	Vince Ramos	(909) 399-5395
Fontana, City of	Signal Maintenance	2003 - Ongoing	179	Darrin Huggins	(909) 350-6525
La Verne, City of	Signal Maintenance	2011 - Ongoing	25	Anthony Ciotti	(909) 596-8741
Montclair, City of	Signal Maintenance	2010 - Ongoing	45	Mike Hudson	(909) 625-9441
Santa Ana, City of	Signal Maintenance	2002 - Ongoing	308	Phat Vu	(714) 713-6602
Upland, City of	Signal Maintenance	2006 - Ongoing	108	Bob Crutchfield	(909) 291-2946
Yucaipa, City of	Signal Maintenance	2005 - Ongoing	28	Chuck Collet	(909) 841-0336

f) Resumes/Certifications

As mentioned in ***Section Project Team*** above, the following is our key staff's relevant experience, qualifications, and certifications.

Rick Duncan, Principal-in-Charge

Project Manager Rick Duncan will be the primary point-of-contact for this contract. Rick will ensure Aegis meets the City's Traffic Signal Maintenance Services objectives. Rick has served the traffic signal maintenance industry for over 37 years, spending 32 years of his career with steady career progression with the largest traffic signal maintenance organization in California. Various positions held during his tenure include field technician, utility and construction technician, utility field supervisor, and utility operations manager. Rick provides the city his vast experience and knowledge on traffic signal systems, utility construction, construction management, as well as his hands-on-approach to any tasks assigned.

Mike Oliver, Superintendent

Mike Oliver is the lead technician who will provide traffic signal services for the City. He is an IMSA Level III Field Technician and an IMSA Level I Traffic Signal Inspector, as well as NEC certified electrician. Mike has seven years of experience in the traffic signal industry. Currently providing services for the City of Claremont, Montclair, Upland, Yucaipa, and Ridgecrest, he is experienced in providing UPS systems, turned signals, lamp burnouts, intersections in flash, and

blackouts. Mike is also familiar with installing and maintaining 170E and 2070 controllers, and a variety of video detection systems.

Corey Souza, Laboratory Personnel

Corey Souza is an IMSA Level III Traffic Signal Technician and a NEC certified electrician who will respond to calls from the City and perform repairs during preventative maintenance visits. With eight years of experience, he will be responsible for, but not limited to, the following tasks: monthly preventative maintenance, traffic signal maintenance and repairs, cabinet malfunctions response etc. He is familiar with many types of controllers, Autoscope video detection systems, and troubleshooting Interconnect devices. Additionally, Corey manages the Econolite testing and repair lab.

Marco Proto, Technician (as needed)

Marco Proto has 36 years of experience in the traffic signal construction industry. His experience includes traffic signal construction, maintenance and repair, street light facility maintenance, equipment maintenance, high voltage troubleshooting, diagnostics, and all types of electrical connections. As the lead utility technician, Marco is knowledgeable, experienced, and capable of handling all of the City's traffic signal systems preventative maintenance and repairs. Marco is an IMSA Level II Utility Technicians and NEC electrician, and Work Zone Safety certified.

Hugh Proto, Technician (as needed)

Hugh Proto is a utility technician with 36 years of experience working in the traffic signal construction industry. His experience began with Galland Electric in 1976 as a laborer and then a foreman. He worked for Peek Traffic as a field superintendent managing a crew of 20 field personnel responsible for installing traffic signal and streetlights. Hugh will be supporting responsive and emergency maintenance activities for the City.

Smithson Electric (subcontractor)

Aegis's subcontractor Smithson Electric & Saw, Inc. (Smithson Electric) has a long standing working history with us. For over 14 years, Smithson Electric has been providing loop installations (when applicable) for several of our traffic signal maintenance contracts throughout the years. Provided below is our subcontractor's contact information:

1938 East Katella Avenue
Anaheim, CA 92867
Phone: (714) 997-9556
Fax: (714) 997-9559
CA C-10 State License: #614518
Expiration: March 31, 2017

With an exception to loop installation, Aegis will provide all labor, materials, equipment, transportation, supervision, management, and incidentals required to provide Traffic Signal and Traffic Management Services at various locations throughout the City.

EXHIBIT "A"

TRAFFIC SIGNAL LOCATIONS

SIGNALS IN EASTVALE TO BE MAINTAINED			
	NEW SG#	LOCATION1	LOCATION2
1	7282	65TH ST	HARRISON AVE
2	7283	ALDERGATE ST/WHITE WELL ST	SCHLEISMAN RD
3	7284	ALDERGLEN DR/ MOON FLOWER DR	SCHLEISMAN RD
4	7285	AMBERHILL AVE	HAMNER AVE
5	7286	ARCHIBALD AVE	65TH ST
6	7287	ARCHIBALD AVE	BRANDING IRON DR/WHISPERING HILLS
7	7288	ARCHIBALD AVE	CHANDLER ST
8	7290	ARCHIBALD AVE	EASTVALE PKY/SMITH RIVER RD
9	7291	ARCHIBALD AVE	HIDDEN WATER RD/FIELDMASTER
10	7292	ARCHIBALD AVE	LIMONITE AVE/(CLOVERDALE AVE)
11	7293	ARCHIBALD AVE	MARKETPLACE WAY
12	7294	ARCHIBALD AVE	PRADO BASIN PARK RD/CORBIN DR
13	7295	ARCHIBALD AVE	RIVER RD/KENDRA LN
14	7296	ARCHIBALD AVE	SCHLEISMAN RD
15	7297	ARCHIBALD AVE	WIND RIVER DR/GRAPEWIN ST
16	7298	AUBURN RD	CLEVELAND AVE
17	7300	BELLEGRAVE AVE	HAMNER AVE
18	7301	BELLEGRAVE AVE	HOMECOMING
19	7302	CITRUS ST	CLEVELAND AVE
20	7303	CITRUS ST	HARRISON AVE
21	7304	CITRUS ST	ROOSEVELT HIGH SCHOOL DRIVEWAY
22	7305	SCHOLAR WAY	LIMONITE AVE
23	7306	SCHOLAR WAY	ORANGE ST
24	7307	SCHOLAR WAY	SCHLEISMAN RD
25	7308	CLOVERDALE MARKET PLACE	LIMONITE AVE
26	7309	EASTVALE GATEWAY	HAMNER AVE
27	7310	EASTVALE GATEWAY	LIMONITE AVE
28	7311	GYPSUM CREEK DR	SCHLEISMAN RD
29	7312	Citrus	Sumner
30	7313	HAMNER AVE	65TH ST

EXHIBIT "A"

31	7314	HAMNER AVE	68TH ST
32	7315	HAMNER AVE	LIMONITE AVE
33	7316	HAMNER AVE	OAKDALE ST
34	7317	HAMNER AVE	SCHLEISMAN RD
35	7318	HAMNER AVE	SWAN LAKE
36	7319	HARRISON AVE	SCHLEISMAN RD
37	7320	HARRISON AVE	STAR RUBY AVE
38	7321	HARRISON AVE	WHISPERING HILLS DR
39	7323	KENTON PL	SCHLEISMAN RD
40	7324	LIMONITE AVE	HARRISON AVE
41	7325	LIMONITE AVE	SUMNER AVE
42	7326	ORANGE ST	SUMNER AVE
43	7327	QUARTER HORSE DR	SCHLEISMAN RD
44	7328	SCHLEISMAN RD	SUMNER AVE

SIGNALS IN EASTVALE MAINTAINED BY CITY OF ONTARIO			
	NEW SG#	LOCATION1	LOCATION2
		CANTU-GALLEANO RANCH RD/GALENA ST	HAMNER AVE
		HAMNER AVE	RIVERSIDE DR
		HAMNER AVE	HARVEST DR
		HAMNER AVE	MICRO DR
		MILLIKEN AVE	PHILADELPHIA AVE
		MILLIKEN AVE	MISSION BLV
		MILLIKEN AVE	GREYSTONE DR/S OF SH-60

SIGNALS IN EASTVALE MAINTAINED BY CHINO			
	NEW SG#	LOCATION1	LOCATION2
		HELLMAN AVE	SCHLEISMAN RD/PINE AVE

FLASHERS IN EASTVALE MAINTAINED BY COUNTY OF RIVERSIDE			
	NEW FL#	LOCATION1	LOCATION2
	9939	65TH ST	75' EAST OF CLEVELAND AVE
	9940	65TH ST	450' EAST OF OAKDALE ST
	9941	65TH ST	W OF HAMNER AVE
	9942	BALTIMORE ST	CLEVELAND AVE

SAFETY LIGHTING IN EASTVALE MAINTAINED BY COUNTY OF RIVERSIDE			
	NEW LT#	LOCATION1	LOCATION2
	8087	CANTU-GALLEANO RANCH RD	I-15

EXHIBIT "A"

SAFETY LIGHTING & SIGNALS IN EASTVALE MAINTAINED BY CALTRANS			
SG	LT	LOCATION1	LOCATION2
4446		I-15	LIMONITE AVE - (S/B ramps)
4531		I-15	CANTU-GALLEANO RANCH RD (SB RAMPS)
	5614	I-15	RIVERSIDE AVE
	5615	I-15	MISSION BLV
	5616	SR-60	MILLIKEN AVE

Notes:

1. Signals to be maintained at start of contract: 44
2. Existing – Shared and Maintained by Others: 8 (Ontario) + 1 (Chino) = 9 Total
3. Proposed Near Future: 3 (private development) + 1 (City)

EXHIBIT "A"

ROUTINE PREVENTATIVE MAINTENANCE CHECK LIST

The following tasks shall be performed monthly, unless indicated otherwise:

- **Visual check of utility service and controller cabinet:** rust, damage, graffiti, functionality, integrity, abnormal observations, tripped breakers, wire damage, insect intrusion, water intrusion.

- **Illuminate Intersection safety lights, "day burn" utilizing test switch:** cycling lamps, burnouts, blown fuses, wire damage, short caps/photocells, damaged glass or fixture housing, internally illuminated or dynamic message signs, if any.

  Night run inspection to be conducted every 6 months at no extra cost.

- **Controller operation:** timing sheet data matches, clock & date correct, power outage counter review/reset, interconnected intersections communicating correctly, T.O.D. plans synchronization, review for out of ordinary entries/construction, flag- typo, or temporary arraignments.

- **Controller/Cabinet Communications:** ensure hardwire landline, twisted pair copper, fiberoptic, microwave, radar, Wi-Fi or other local and master communications systems are complete and functioning.

- **Detection loop operation:** detector amplifiers picking up and dropping calls/verify call on controller function display as well as amplifier card, cross reference DLC assignments to corresponding channel slot assignment, and correct phasing or direction of travel.

- **Video Detection operation:** "if installed" in place of inductance loops, careful review of the monitor display to ensure that video layouts are set up correctly, receiving and dropping calls as intended, lane alignments have not shifted, video zones are set up to correct slot, and no obstructions, shadows or abnormal recall defaults due to layouts, lane lines, pavement stripping or any other abnormal situations that would cause fail safe conditions. *if firmware update is needed, schedule for follow-up or install manufacture update at time of visit*.

- **Plug in & shelf mount equipment:** 204 flashers, load switches, isolator cards, EVP phase selectors, conflict monitor, video monitor should all be inspected carefully for failure to operate as intended by manufacture.

  Conflict Monitors shall be tested and certified on an annual basis at no extra cost

- **Cabinet manufacture installed components:** GFCI, GPS, 206 Power Supply, cabinet fan, thermostat, cab light cab filter, door switches, door locks and latches, flash toggle switches, PD door lock and toggle switches, detector test strip, documents drawer, transfer relays should all be inspected carefully for failure to operate as intended by manufacture.

  *Filter to be replaced annually, or as needed, at no extra cost.

- **Input/output terminal landings:** torque check terminal lugs/screws for loose connections in traffic signal cabinet and utility service. This includes but is not limited to grounding points, common returns, DLC, load bay, detector rear files, C-1 & C-4 connector, flash jumpers seated tightly, breakers, mercury contactors, solid state contactors and photo cell plug ins.

- **Battery Back-up:** If installed; conduct manufacture recommended test to ensure inverter is functional for power outages and batteries are at correct capacity to function as intended. Load test may need to be conducted on batteries to locate low or bad batteries in the string.

EXHIBIT "A"

Batteries to be replaced as needed on a time and materials basis.

- **Cleaning:** Vacuum any dirt, debris, spider webs from traffic signal cabinet and utility service. Shelves, drawers and equipment can be wiped down with a non-corrosive solvent if needed to maintain a dust and insect free space. Ant, spider and rodent repellents should be applied if an ongoing issue is present at each maintenance visit.

  CCTV and Video detection camera lenses to be cleaned every 6 months at no extra cost.

- **Observation:** Careful attention to how the traffic signal is performing should be conducted. Reviewing how the cycle patterns are behaving, short cycles, absent extensions to vehicle demand, long wait times, abrupt stops or skid marks on the pavement, railroad service if applicable.

- **Intersection Walk Around:**
  - Check pedestrian push buttons for proper operation, visually observe that the indications are illuminating and sufficient time to cross the intersection is present.
  - Remove graffiti, yard sale signs and any other non MUTCD item from the intersection.
  - Visually inspect that all vehicle indications are illuminating and that no obstructions are present.
  - Visually review that the correct orientation of signal heads corresponds with the travel lanes or direction for which it's intended.
  - Visually inspect for loose or damaged signal heads, back plates, street name sign hardware or worn brackets.
  - Visually inspect that video camera mast arm mount poles are not leaning and are aligned properly to the travel lanes or direction for which it's intended.
  - Visually inspect each signal pole shaft, mast arm, signal framework, EVP sensors. (Correct orientation, hand-hole covers, pole tops, mast arm end covers, tenon covers, through bolts, terminal block covers, framework hardware, anchor bolt hardware, rust, cracks, and dents).
  - Check for loose anchor bolts; shake smaller poles to ensure TV1T & TV2T framework is tight.
  - Check condition of pull boxes and lids. (Uncover dirt in areas where required, replace broken or damaged lids, boxes where needed. Steel lids should be bolted down, grounded and access holes covered with toggle hardware to prevent rodent entry). *replace paddle markers where needed*.
  - Pull boxes should be accessed once every 6-months to check for gophers or ant damage. (Clear dirt from within and grout as needed).
  - Check condition or asphalt, condition of embedded loops, stub outs. *verify that lane striping as not changed to prevent the loops from being centered in the lane of travel.
  - Check for worn striping and crosswalks.
  - Check all regulatory signage for fading, worn out mounting hardware. (Remove and replace as needed). Check all street name signs for fading, worn out mounting hardware. (Remove and replace as needed). EVP field preemption check should be conducted every other maintenance visit or every 3 months.

Examples of extra ordinary work that may require city approval prior to proceeding includes, but is not limited to:

- Back-plate and signal head painting.
- Regulatory sign replacements.
- Street name sign replacements.
- Damaged Pole change-outs.
- Wire modification request.
- RMA items (controllers, battery back-ups, batteries)
- Timesheet replacements.
- Communications/Fiber optic repairs

EXHIBIT "A"

PROPOSED MAINTENANCE RATES

Consultant shall be paid for the services rendered in accordance as described under Scope of Services, Section 2, and the not-to-exceed fee as listed below for the entire term of the five (5) year agreement.

In the event that this Agreement is renewed pursuant to Section 2, the rates set forth below may be increased or reduced each year at the time of renewal, but any increase shall not exceed the Consumer Price Index, All Urban Consumers, Los Angeles-Riverside-Orange Counties.

See next page.

Proposed Maintenance Rates

Item	Item	Unit	Unit Price		Quantity		PM's per year	Annual Total
ROUTINE PREVENTATIVE MAINTENANCE								
1	Routine inspection, preventive maintenance, and repairs of traffic signal systems and interconnect. Per intersection, monthly:	Each	$ 69	X	48	X	12	$ 39,744
2	Routine inspection, preventive maintenance, and repairs of safety lights. Per location, monthly:	Each	$ 2.50	X	167	X	12	$ 5,010
3	Routine inspection, preventive maintenance, and repairs of illuminated street name signs. Per sign, per monthly:	Each	$ 2.50	X	167	X	12	$ 5,010
4	Routine inspection, preventive maintenance, and repairs of flashing beacons. Per location, per monthly:	Each	$ 25	X	2	X	12	$ 600
	Subtotal - Preventative Routine Maintenance							$ 50,364
EMERGENCY RESPONSIVE MAINTENANCE		Unit	Unit Price		Quantity		Months per Year	Annual Total
1	Signal maintenance technician (straight time)	Hour	$ 98	X	16	X	12	$ 18,816
2	Signal maintenance technician (overtime)	Hour	$ 135	X	4	X	12	$ 6,480
3	Signal maintenance technician (double time)	Hour	$ 173	X	2	X	12	$ 4,152
4	Signal maintenance supervisor (straight time)	Hour	$ 100	X	4	X	12	$ 0
5	Signal maintenance supervisor (overtime)	Hour	$ 0	X	1	X	12	$ 0
6	Signal maintenance supervisor (double time)	Hour	$ 0	X	1	X	12	$ 0
7	Bucket Truck	Hour	$ 25	X	22	X	12	$ 6,600
8	Percent markup on materials	Percent	%	X	$1,000	X	12	$ 1800
	Subtotal - Emergency Responsive Maintenance							$ 42,648
	Grand Total - Preventative Routine Maintenance and Emergency Responsive Maintenance							$ 93,012

Notes:
1) Rates are to include all ancillary and related overhead and administrative work, such as Project Management meetings, Activity Reports, Records Management, Electronic Database, etc.
2) The City is anticipated to add four (4) Traffic Signals by July 2017.
3) Assumed Monthly quantities are for comparison purposes only and are not necessarily what the Contractor may be paid.

Unit prices shall include all labor, materials, equipment, overhead and profit and no additional compensation will be allowed.

Payment will not be made for materials wasted or disposed of in a manner not called for under the Contract; this includes rejected material not unloaded from vehicles, material rejected after it has been placed and material placed outside marked limits of work. No compensation will be allowed for disposing of rejected or excess material.

Contractor shall note that the Award, if any, of this contract will be to the most responsible Contractor per the selection criteria. The City reserves the right to reject all proposals. In case of discrepancy between unit and total price, the unit price shall prevail.

The description of extraordinary maintenance is provided per the provisions of the scope of work.

1. Labor	Regular Time	Overtime	Doubletime
Signal Maintenance Superintendent	$100	$0	$0
Signal Maintenance Technicians	$98	$135	$173
Field Traffic Signalman	$98	$135	$173
Laborer	$89	$123	$158
Painter	$89	$123	$158
Engineer Technical	$98	$135	$173
Interconnect/Communications Specialist - Ethernet	$98	$135	$173

2. Equipment	Rate Per Hour
Bucket Truck	$25
Pickup Truck	$10
Service Truck	$28
Service Ladder Truck	$0
Boom Ladder Truck (Man Lift)	$150
Concrete Saw and Water Truck	$0
Compressor with Tools	$25

The following EXTRAORDINARY MAINTENANCE quantities are estimates only and are provided solely for bidding purposes and for establishing the rates to be applied to actual annual EXTRAORDINARY MAINTENANCE PERFORMED. These estimates should not be construed as a minimum or maximum of actual EXTRAORDINARY MAINTENANCE performed per year. Unit items shall include all labor, materials, equipment, overhead and profit and no additional compensation will be allowed.

3. Controller,Cabinet and Appurtenences	Unit Quantity	Unit Cost	Total Cost
Controller, Cabinet and Appurtenances	3	$22,056	$66,168
Installation of new, fully wired Type 332 cabinet	3	$12,654.75	$37,964.25
Major upgrade of existing controller cabinet (excluding controller) such as paiinting, rewiring, auxiliary equipment upgrades including rack-mounted detection and new signal monitor	3	$3,000	$9,000
Type III service	3	$3,883	$11,649
Replacement of shelf-mounted ddtectors with rack-mounted (estimate based on the replacement of 12 detectors)	5	$4,761.20	$23,806
Individual replacement of detectors in controller as needed	4	$626	$2,504
Installation of new LCD-12P Signal Monitor unit as needed	3	$751.40	$2,254.20
Operation and certification testing of new cabinet and controllers and appurtenances (work shall be in accordance with State of California testing procedures)	3	$900	$2,700
Annual Conflict Monitor Testing	37	$75	$2,775
Replacement of Inoperable Conflict Monitors	4	$657.83	$2,631.32
4. Vehicle Heads and Equipment	**Unit Quantity**	**Unit Cost**	**Total Cost**
Replace red ball LED display	30	$87.61	$2,628.30
Replace red arrow LED display	30	$92.62	$2,778.60
Replace yellow ball LED display	10	$87.61	$876.10
Replace yellow arrow LED display	10	$92.62	$926.20
Replace green ball LED display	20	$87.61	$1,752.20
Replace green arrow LED display	20	$92.62	$1,852.40
Replace red Programmable Visor (PV) LED	5	$120.20	$601
Replace yellow Programmable Visor (PV) LED	5	$120.20	$601
Replace green Programmable Visor (PV) LED	5	$165.32	$826.60
5. Pedestrian Heads and Equipment	**Unit Quantity**	**Unit Cost**	**Total Cost**
Replace pedestrian push button signing	5	$144.01	$720.05
Replace pedestrian module kits (countdown only)	15	$219.19	$3,287.85
Replace pedestrian push buttons	4	$156.55	$626.20
Paint Pedestrian Heads/Frameworks per intersection	5	$2,125	$10,625
6. Painting of Controller Cabinets/Signal Heads	**Unit Quantity**	**Unit Cost**	**Total Cost**
Clean, primer, and repaint controller cabinet exterior surfaces with paint color as specified by City	10	$450	$4,500
Clean, primer, and repaint signal head and mounting surfaces per Industry standard color as approved by City	8	$200	$1,600

7. Replacing Detection	Unit Quantity	Unit Cost	Total Cost
6' round three- or four-turn Type E loop detectors including sawcut lead-in	20	$350	$7,000
Video detection camera	4	$7,387.25	$29,549
8. Battery Backup	**Unit Quantity**	**Unit Cost**	**Total Cost**
Back-up unit	4	$6,518.20	$20,072.80
Batteries	10	$400.77	$4,007.70
9. Traffic Signal/ISNS/Lighting	**Unit Quantity**	**Unit Cost**	**Total Cost**
Installation and replacement of regulatory and warning signs on poles/mast arms	5	$247.84	$1,239.20
Installation and replacement of 6' ISNS panels	10	$275.42	$2,754.20
Replacement of 8' ISNS panels	5	$313.03	$1,565.13
Replacement of Inoperable Safety Light	6	$720.41	$4,322.46
Replacement of City Owned Street Light	6	$720.41	$4,322.46
Replacement of City Owned Street Light	6	$720.41	$4,322.46
10. Interconnect Installation and Replacement	**Unit Quantity**	**Unit Cost**	**Total Cost**
Furnish & Install 2" conduit with pull boxes and pull rope			
Bore under sidewalk/street	500	$65	$32,500
Trenched in dirt	500	$60	$30,000
Wheeled in asphalt	500	$80	$40,000
Furnish & Install 3" conduit with pull boxes and pull rope			
Bore under sidewalk/street	500	$75	$37,500
Trenched in dirt	500	$70	$35,000
Wheeled in asphalt	500	$90	$45,000
Furnish & install Interconnect cable(s)			
6 pair #22 cable	500	$2.00	$1,000
12 pair #22 cable	500	$2.00	$1,000
25 pair #22 cable	500	$3.00	$1,500
Furnish & Install pull boxes or splice pedestals			
#5 pull box	5	$331.48	$1,657.40
#6 pull box	5	$350.28	$1,751.40
Splice pedestals with locks	5	$438.38	$2,191.90
Replace lock assembly onsplice pedestals	10	$93.84	$938.40
Furnish & Supply termination/connectorequipment insplice pedestals			

Terminal block for #22 cable	5	$ 200	$ 1,000

11. Construction Response	Unit Quantity	Unit Cost	Total Cost
Respond to construction site timing adjustments/signal flash	10	$ 125	$ 1,250

12. Underground Alert Responses/Marking of Facilities	Unit Quantity	Unit Cost	Total Cost
Response to all USA Underground Alert requests/notices or at the request of City staff for the marking and protection of traffic signal underground facilities such as traffic signal and electrical conduits, interconnect facilities, loops, and other appurtenant equipment which might conflict with other right-of-way construction or repairs	50	$ 200	$ 10,000

The City shall pay to the contractor for materials used in extraordinary maintenance the contractor's cost from the supplier plus not-to-exceed 15% mark-up. The contractor shall provide to the City Engineer or his designee the supplier's invoice price.

CITY OF EASTVALE
CITY COUNCIL STAFF REPORT

ITEM 8.3

DATE: **JULY 13, 2016**

TO: **HONORABLE MAYOR AND COUNCILMEMBERS**

FROM: **JOE INDRAWAN, CITY ENGINEER**

SUBJECT: **SELECTION OF SERVICE PROVIDER FOR ANNUAL ON-CALL ASPHALT AND CONCRETE MAINTENANCE – G. M. SAGER CONSTRUCTION COMPANY, INC.**

RECOMMENDATION:

1. **APPROVE THE PROFESSIONAL SERVICES AGREEMENT WITH G. M. SAGER FOR ANNUAL ON-CALL ASPHALT AND CONCRETE MAINTENANCE SERVICES; AND**

2. **AUTHORIZE THE CITY MANAGER TO EXECUTE THE NECESSARY DOCUMENTS.**

BACKGROUND

The City has been using the County of Riverside since incorporation for on-call asphalt and concrete maintenance services as part of a comprehensive service contract that the City entered with the County to help with the transition being a new city. The services have been over all acceptable, however during the last few years the cost of services has increased significantly due to the County increased hourly rates. In addition, for services in public rights of way, the County Transportation Department is not geared towards providing a full service a general contractor does. Due to its limitation, for example, many times the only repair the County can perform is a temporary asphalt patch when a permanent patch would be more appropriate. In an effort to better maintain the public rights of way and at the same time to apply cost saving measures a specific on-call asphalt and concrete maintenance service contract is appropriate.

DISCUSSION

The city has circulated a request for proposals (RFP) for on call asphalt and concrete maintenance services. The RFP was advertised on the city's website and circulated to contractors that have expressed interest in the past. The County has also been asked to participate but declined. Unit costs were required on a large variety of asphalt and concrete maintenance items. In addition, unit costs were required for labor and equipment for unusual repair items.

A total of three firms submitted proposals and their rankings are listed below:

Rank	Firm
1	GM Sager Construction Co., Inc., Pomona
2	Hardy and Harper, Inc., Santa Ana
3	Medina Construction, Jurupa Valley

The proposals were evaluated on the firm's qualifications and references (15 points); project team's technical skills and abilities (15 points); and maintenance personnel hourly rates/fees (70 points). Based on the point system assigned for this proposal GM Sager had substantially the lower prices overall and has highly rated references, qualifications and skills. GM Sager is also routinely in the city as JCSD's contractor for asphalt repairs related to sewer and water related works.

The agreement, which has been approved the City Attorney is for two years, with up to three (3) one-year extensions. The extensions require City Council approval. The agreement allows for an annual inflation increase after the first two years of the agreement.

Staff has contacted and notified the County of Riverside of the intent to contract out part of the services the County is currently providing. The County has agreed that at a later date its contract with the City needs to be amended to include reduced scope of services. Staff will return to the City Council with such contract amendment.

FISCAL IMPACT

Based on previous years' repairs an estimated annual cost for on-call asphalt and concrete maintenance is between $35,000 to $50,000. For the current fiscal year 2016/2017, the city is budgeting $200,000 from the Gas Tax Fund for general street maintenance and ADA/concrete sidewalk replacement program. $100,000 of this amount is slated for asphalt and concrete maintenance. The remaining $100,000 is for miscellaneous public maintenance, which will also be contracted out if approved by the City Council under a separate staff report.

This service contract is expected to provide up to $50,000 cost saving annually to the City budget

STRATEGIC PLAN IMPACT - None

ATTACHMENT

1. Professional Services Agreement

Prepared by: Craig Bradshaw, Supervising Engineer
Prepared by: Joe Indrawan, City Engineer
Reviewed by: John Cavanaugh, City Attorney
Reviewed by: Michele Nissen, City Manager

PROFESSIONAL SERVICES AGREEMENT

This AGREEMENT FOR CONSULTANT SERVICES ("AGREEMENT") is made and entered into this ____ day of ____ 2016, by and between the City of Eastvale ("City") and G.M. Sager Construction Co., Inc. ("CONSULTANT").

In consideration of the mutual covenants and conditions set forth herein, the parties agree as follows:

SECTION 1. TERM OF AGREEMENT.

This Agreement shall commence on July 1, 2016 and continuing thereafter through June 30, 2018, or unless sooner terminated by the parties as set out in Section 18 below. Consultant shall complete the Services within the term of this Agreement, and shall meet any other established schedules and deadlines. The Parties may, by mutual, written consent, extend the term of this Agreement for up to three (3) additional one (1) year terms ("Additional Terms"). Such extensions may include increased compensation for an increase in labor costs, with said increase not to exceed the increase in the Consumer Price Index for all Urban Consumers in the Los Angeles-Anaheim-Riverside area (1982-1984 = 100). Additionally, an extension of this Agreement may include compensation for an increase in fuel costs, with said increased compensation not to exceed the difference in average fuel costs measured between June 2016 and the date at the time of the Agreement renewal. Fuel costs are to be based on data obtained from the U.S. Energy Information Administration website (http:/www.eia.gov/petroleum/gasdiesel). The subsequent renewals will require City Council approval.

SECTION 2. SCOPE OF SERVICES.

CONSULTANT agrees to perform the services set forth in EXHIBIT "A" "SCOPE OF SERVICES" "FEE SCHEDULE" and made a part of this AGREEMENT.

SECTION 3. ADDITIONAL SERVICES.

CONSULTANT shall not be compensated for any services rendered in connection with its performance of this AGREEMENT which are in addition to or outside of those set forth in this AGREEMENT or listed in EXHIBIT "A" "SCOPE OF SERVICES", "FEE SCHEDULE" unless such additional services are authorized in advance and in writing by the Council or City Manager. CONSULTANT shall be compensated for any such additional services in the amounts and in the manner agreed to by the Council or City Manager.

SECTION 4. COMPENSATION AND METHOD OF PAYMENT.

(a) Subject to any limitations set forth in this AGREEMENT, CITY agrees to pay CONSULTANT the amounts specified in EXHIBITS "A".

(b) Each month CONSULTANT shall furnish to CITY an **original** invoice for all work performed and expenses incurred during the preceding month. The invoice shall detail charges by the following categories: labor (by sub-category), travel, materials, equipment,

supplies, sub-consultant contracts and miscellaneous expenses. CITY shall independently review each invoice submitted by the CONSULTANT to determine whether the work performed and expenses incurred are in compliance with the provisions of this AGREEMENT. In the event that no charges or expenses are disputed, the invoice shall be approved and paid according to the terms set forth in subsection (c). In the event any charges or expenses are disputed by CITY, the original invoice shall be returned by CITY to CONSULTANT for correction and resubmission.

(c) Except as to any charges for work performed or expenses incurred by CONSULTANT which are disputed by CITY, CITY will use its best efforts to cause CONSULTANT to be paid within thirty (30) days of receipt of CONSULTANT's invoice.

(d) Payment to CONSULTANT for work performed pursuant to this AGREEMENT shall not be deemed to waive any defects in work performed by CONSULTANT.

(e) No member of the City Council shall have any personal responsibility or liability for payment of any fees or costs incurred under this AGREEMENT.

SECTION 5. INSPECTION AND FINAL ACCEPTANCE.

CITY may inspect and accept or reject any of CONSULTANT's work under this AGREEMENT, either during performance or when completed. CITY shall reject or finally accept CONSULTANT's work within Sixty (60) days after submitted to CITY. CITY shall reject work by a timely written explanation, otherwise CONSULTANT's work shall be deemed to have been accepted. CITY's acceptance shall be conclusive as to such work except with respect to latent defects, fraud and such gross mistakes as amount to fraud. Acceptance of any of CONSULTANT's work by CITY shall not constitute a waiver of any of the provisions of this AGREEMENT including, but not limited to, sections 14 and 15, pertaining to indemnification and insurance, respectively.

SECTION 6. OWNERSHIP OF DOCUMENTS.

All original studies, assessments, reports, data, plans, specifications, computer files, files and other documents prepared, developed or discovered by CONSULTANT in the course of providing any services pursuant to this AGREEMENT shall become the sole property of CITY and may be used, reused or otherwise disposed of by CITY without the permission of the CONSULTANT. Upon completion, expiration or termination of this AGREEMENT, CONSULTANT shall turn over to CITY all such original studies, assessments, reports, data, notes, computer files, files and other documents.

SECTION 7. CONSULTANT'S BOOKS AND RECORDS.

(a) CONSULTANT shall maintain any and all documents and records demonstrating or relating to CONSULTANT's performance of services pursuant to this AGREEMENT. CONSULTANT shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, or other documents or records evidencing or relating to work, services, expenditures and disbursements charged to CITY pursuant to this AGREEMENT. Any and all such documents or records shall be maintained in accordance with generally accepted accounting principles and shall be sufficiently complete and detailed so as to permit an accurate evaluation of the services provided by CONSULTANT pursuant to this AGREEMENT. Any and all such documents or records shall be maintained for three years from the date of execution of

this AGREEMENT and to the extent required by laws relating to audits of public agencies and their expenditures.

(b) Any and all records or documents required to be maintained pursuant to this section shall be made available for inspection, audit and copying, at any time during regular business hours, upon written request by CITY or its designated representative. Copies of such documents or records shall be provided directly to the CITY for inspection, audit and copying when it is practical to do so; otherwise, unless an alternative is mutually agreed upon, such documents and records shall be made available at CONSULTANT's address indicated for receipt of notices in this AGREEMENT.

(c) Where CITY has reason to believe that any of the documents or records required to be maintained pursuant to this section may be lost or discarded due to dissolution or termination of CONSULTANT's business, CITY may, by written request, require that custody of such documents or records be given to the requesting party and that such documents and records be maintained by the requesting party. Access to such documents and records shall be granted to CITY, as well as to its successors-in-interest and authorized representatives.

SECTION 8. STATUS OF CONSULTANT.

(a) CONSULTANT is and shall at all times remain a wholly independent contractor and not an officer, employee or agent of CITY. CONSULTANT shall have no authority to bind CITY in any manner, nor to incur any obligation, debt or liability of any kind on behalf of or against CITY, whether by contract or otherwise, unless such authority is expressly conferred under this AGREEMENT or is otherwise expressly conferred in writing by CITY.

(b) The personnel performing the services under this AGREEMENT on behalf of CONSULTANT shall at all times be under CONSULTANT's exclusive direction and control. Neither CITY nor any elected or appointed boards, officers, officials, employees or agents of CITY shall have control over the conduct of CONSULTANT or any of CONSULTANT's officers, employees or agents, except as set forth in this AGREEMENT. CONSULTANT shall not at any time or in any manner represent that CONSULTANT or any of CONSULTANT's officers, employees or agents are in any manner officials, officers, employees or agents of CITY.

(c) Neither CONSULTANT, nor any of CONSULTANT's officers, employees or agents, shall obtain any rights to retirement, health care or any other benefits which may otherwise accrue to CITY'S employees. CONSULTANT expressly waives any claim CONSULTANT may have to any such rights.

SECTION 9. STANDARD OF PERFORMANCE.

CONSULTANT represents and warrants that it has the qualifications, experience and facilities necessary to properly perform the services required under this AGREEMENT in a thorough, competent and professional manner. CONSULTANT shall at all times faithfully, competently and to the best of its ability, experience and talent, perform all services described herein. In meeting its obligations under this AGREEMENT, CONSULTANT shall employ, at a minimum, generally accepted standards and practices utilized by persons engaged in providing services similar to those required of CONSULTANT under this AGREEMENT.

SECTION 10. COMPLIANCE WITH APPLICABLE LAWS; PERMITS AND LICENSES.

CONSULTANT shall keep itself informed of and comply with all applicable federal, state and local laws, statutes, codes, ordinances, regulations and rules in effect during the term of this AGREEMENT. CONSULTANT shall obtain any and all licenses, permits and authorizations necessary to perform the services set forth in this AGREEMENT. Neither CITY nor any elected or appointed boards, officers, officials, employees or agents of CITY, shall be liable, at law or in equity, as a result of any failure of CONSULTANT to comply with this section.

SECTION 11. NONDISCRIMINATION.

CONSULTANT shall not discriminate, in any way, against any person on the basis of race, color, religious creed, national origin, ancestry, sex, age, physical handicap, medical condition or marital status in connection with or related to the performance of this AGREEMENT.

SECTION 12. CONFLICTS OF INTEREST.

(a) CONSULTANT covenants that neither it, nor any officer or principal of its firm, has or shall acquire any interest, directly or indirectly, which would conflict in any manner with the interests of CITY or which would in any way hinder CONSULTANT's performance of services under this AGREEMENT. CONSULTANT further covenants that in the performance of this AGREEMENT, no person having any such interest shall be employed by it as an officer, employee, agent or subcontractor without the express written consent of the City Manager. CONSULTANT agrees to at all times avoid conflicts of interest or the appearance of any conflicts of interest with the interests of CITY in the performance of this AGREEMENT.

(b) CITY understands and acknowledges that CONSULTANT is, as of the date of execution of this AGREEMENT, independently involved in the performance of non-related services for other governmental agencies and private parties. CONSULTANT is unaware of any stated position of CITY relative to such projects. Any future position of CITY on such projects shall not be considered a conflict of interest for purposes of this section.

SECTION 13. CONFIDENTIAL INFORMATION; RELEASE OF INFORMATION.

(a) All information gained or work product produced by CONSULTANT in performance of this AGREEMENT shall be considered confidential, unless such information is in the public domain or already known to CONSULTANT. CONSULTANT shall not release or disclose any such information or work product to persons or entities other than CITY without prior written authorization from the City Manager, except as may be required by law.

(b) CONSULTANT, its officers, employees, agents or subcontractors, shall not, without prior written authorization from the City Manager or unless requested by the City Attorney of CITY, voluntarily provide declarations, letters of support, testimony at depositions, response to interrogatories or other information concerning the work performed under this AGREEMENT. Response to a subpoena or court order shall not be considered "voluntary" provided CONSULTANT gives CITY notice of such court order or subpoena.

(c) If CONSULTANT, or any officer, employee, agent or subcontractor of CONSULTANT, provides any information or work product in violation of this AGREEMENT, then

CITY shall have the right to reimbursement and indemnity from CONSULTANT for any damages, costs and fees, including attorney fees, caused by or incurred as a result of CONSULTANT's conduct.

(d) CONSULTANT shall promptly notify CITY should CONSULTANT, its officers, employees, agents or subcontractors be served with any summons, complaint, subpoena, notice of deposition, request for documents, interrogatories, request for admissions or other discovery request, court order or subpoena from any party regarding this AGREEMENT and the work performed thereunder. CITY retains the right, but has no obligation, to represent CONSULTANT or be present at any deposition, hearing or similar proceeding. CONSULTANT agrees to cooperate fully with CITY and to provide CITY with the opportunity to review any response to discovery requests provided by CONSULTANT. However, this right to review any such response does not imply or mean the right by CITY to control, direct, or rewrite said response.

SECTION 14. INDEMNIFICATION.

(a) CITY and its respective elected and appointed boards, officials, officers, agents, employees and volunteers (individually and collectively, "INDEMNITEES") shall have no liability to CONSULTANT or any other person for, and CONSULTANT shall indemnify, defend, protect and hold harmless INDEMNITEES from and against, any and all liabilities, claims, actions, causes of action, proceedings, suits, damages, judgments, liens, levies, costs and expenses of whatever nature, including reasonable attorneys' fees and disbursements (collectively "CLAIMS"), which INDEMNITEES may suffer or incur or to which INDEMNITEES may become subject by reason of or arising out of any injury to or death of any person(s), damage to property, loss of use of property, economic loss or otherwise occurring as a result of or allegedly caused by the CONSULTANT's performance of or failure to perform any services under this AGREEMENT or by the negligent or willful acts or omissions of CONSULTANT, its agents, officers, directors, subcontractors or employees, committed in performing any of the services under this AGREEMENT.

(b) If any action or proceeding is brought against INDEMNITEES by reason of any of the matters against which CONSULTANT has agreed to indemnify INDEMNITEES as provided above, CONSULTANT, upon notice from CITY, shall defend INDEMNITEES at CONSULTANT's expense by counsel acceptable to CITY, such acceptance not to be unreasonably withheld. INDEMNITEES need not have first paid for any of the matters to which INDEMNITEES are entitled to indemnification in order to be so indemnified. The insurance required to be maintained by CONSULTANT under Section 15 shall ensure CONSULTANT's obligations under this section, but the limits of such insurance shall not limit the liability of CONSULTANT hereunder. The provisions of this section shall survive the expiration or earlier termination of this AGREEMENT.

(c) The provisions of this section do not apply to CLAIMS occurring as a result of the CITY's sole negligence or willful acts or omissions.

SECTION 15. INSURANCE.

A. Insurance Requirements. CONSULTANT shall provide and maintain insurance, acceptable to the City Attorney, in full force and effect throughout the term of this AGREEMENT, against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONSULTANT, its agents,

representatives or employees. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII. CONSULTANT shall provide the following scope and limits of insurance:

B. Workers' Compensation. Consultant shall, at its sole cost and expense, maintain Statutory Workers' Compensation Insurance and Employer's Liability Insurance for any and all persons employed directly or indirectly by Consultant. The Statutory Workers' Compensation Insurance and Employer's Liability Insurance shall be provided with limits of not less than ONE MILLION DOLLARS ($1,000,000.00) per accident. In the alternative, Consultant may rely on a self-insurance program to meet those requirements, but only if the program of self-insurance complies fully with the provisions of the California Labor Code. Determination of whether a self-insurance program meets the standards of the Labor Code shall be solely in the discretion of the Contract Administrator. The insurer, if insurance is provided, or the Consultant, if a program of self-insurance is provided, shall waive all rights of subrogation against the City and its officers, officials, employees, and authorized volunteers for loss arising from work performed under this Agreement.

C. Commercial General Automobile Liability Insurance.

General requirements. Consultant, at its own cost and expense, shall maintain commercial general and automobile liability insurance for the term of this Agreement in an amount not less than ONE MILLION DOLLARS ($1,000,000.00) per occurrence, combined single limit coverage, for risks associated with the work contemplated by this Agreement. If a Commercial General Liability Insurance or an Automobile Liability form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Agreement or the general aggregate limit shall be at least twice the required occurrence limit. Such coverage shall include but shall not be limited to, protection against claims arising from bodily and personal injury, including death resulting therefrom, and damage to property resulting from activities contemplated under this Agreement, including the use of owned and non-owned automobiles.

Minimum scope of coverage. Commercial general coverage shall be at least as broad as Insurance Services Office Commercial General Liability occurrence form CG 0001 or GL 0002 (most recent editions) covering comprehensive General Liability and Insurance Services Office form number GL 0404 covering Broad Form Comprehensive General Liability. Automobile coverage shall be at least as broad as Insurance Services Office Automobile Liability form CA 0001 (ed. 12/90) Code 8 and 9. No endorsement shall be attached limiting the coverage.

Additional requirements. Each of the following shall be included in the insurance coverage or added as a certified endorsement to the policy:

a. The insurance shall cover on an occurrence or an accident basis, and not on a claims-made basis.

b. Any failure of Consultant to comply with reporting provisions of the policy shall not affect coverage provided to City and its officers, employees, agents, and volunteers.

D. Professional Liability Insurance.

General requirements. Consultant, at its own cost and expense, shall maintain for the period covered by this Agreement professional liability insurance for licensed professionals performing work pursuant to this Agreement in an amount not less than ONE MILLION DOLLARS ($1,000,000) covering the licensed professionals' errors and omissions. Any deductible or self-insured retention shall not exceed $150,000 per claim.

Claims-made limitations. The following provisions shall apply if the professional liability coverage is written on a claims-made form:

a. The retroactive date of the policy must be shown and must be before the date of the Agreement.

b. Insurance must be maintained and evidence of insurance must be provided for at least five years after completion of the Agreement or the work, so long as commercially available at reasonable rates.

c. If coverage is canceled or not renewed and it is not replaced with another claims-made policy form with a retroactive date that precedes the date of this Agreement, Consultant must provide extended reporting coverage for a minimum of five years after completion of the Agreement or the work. The City shall have the right to exercise, at the Consultant's sole cost and expense, any extended reporting provisions of the policy, if the Consultant cancels or does not renew the coverage.

d. A copy of the claim reporting requirements must be submitted to the City prior to the commencement of any work under this Agreement.

E. All Policies Requirements.

Acceptability of insurers. All insurance required by this section is to be placed with insurers with a Bests' rating of no less than A:VII.

Verification of coverage. Prior to beginning any work under this Agreement, Consultant shall furnish City with Certificates of Insurance, and upon request, complete certified copies of all policies, including complete certified copies of all endorsements. All copies of policies and certified endorsements shall show the signature of a person authorized by that insurer to bind coverage on its behalf.

Notice of Reduction in or Cancellation of Coverage. A certified endorsement shall be attached to all insurance obtained pursuant to this Agreement stating that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits, except after thirty (30) days' prior written notice by certified, mail, return receipt requested, has been given to the City. In the event that any coverage required by this section is reduced, limited, cancelled, or materially affected in any other manner, Consultant shall provide written notice to City at Consultant's earliest possible opportunity and in no case later than ten (10) working days after Consultant is notified of the change in coverage.

Additional insured; primary insurance. City and its officers, employees, agents, and authorized volunteers shall be covered as additional insureds with respect to each of the following: liability arising out of activities performed by or on behalf of Consultant, including the

insured's general supervision of Consultant; products and completed operations of Consultant, as applicable; premises owned, occupied, or used by Consultant; and automobiles owned, leased, or used by the Consultant in the course of providing services pursuant to this Agreement. The coverage shall contain no special limitations on the scope of protection afforded to City or its officers, employees, agents, or authorized volunteers.

A certified endorsement must be attached to all policies stating that coverage is primary insurance with respect to the City and its officers, officials, employees and volunteers, and that no insurance or self-insurance maintained by the City shall be called upon to contribute to a loss under the coverage.

Deductibles and Self-insured Retentions. Consultant shall disclose to and obtain the approval of City for the self-insured retentions and deductibles before beginning any of the services or work called for by any term of this Agreement.

During the period covered by this Agreement, only upon the prior express written authorization of City Manager or designee, Consultant may increase such deductibles or self-insured retentions with respect to City, its officers, employees, agents, and volunteers. The City Manager or designee may condition approval of an increase in deductible or self-insured retention levels with a requirement that Consultant procure a bond guaranteeing payment of losses and related investigations, claim administration, and defense expenses that is satisfactory in all respects to each of them.

Subcontractors. Consultant shall include all subcontractors as insureds under its policies or shall furnish separate certificates and certified endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

Variation. City Manager or designee may approve in writing a variation in the foregoing insurance requirements, upon a determination that the coverage, scope, limits, and forms of such insurance are either not commercially available, or that the City's interests are otherwise fully protected.

Remedies. In addition to any other remedies City may have if Consultant fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time herein required, City may, at its sole option, exercise any of the following remedies, which are alternatives to other remedies City may have and are not the exclusive remedy for Consultant's breach:

- Obtain such insurance and deduct and retain the amount of the premiums for such insurance from any sums due under the Agreement;
- Order Consultant to stop work under this Agreement or withhold any payment that becomes due to Consultant hereunder, or both stop work and withhold any payment, until Consultant demonstrates compliance with the requirements hereof; and/or
- Terminate this Agreement.

SECTION 16. ASSIGNMENT.

The expertise and experience of CONSULTANT are material considerations for this

AGREEMENT. CITY has an interest in the qualifications of and capability of the persons and entities who will fulfill the duties and obligations imposed upon CONSULTANT under this AGREEMENT. In recognition of that interest, CONSULTANT shall not assign or transfer this Agreement or any portion of this AGREEMENT or the performance of any of CONSULTANT's duties or obligations under this AGREEMENT without the prior written consent of the City Council. Any attempted assignment shall be ineffective, null and void, and shall constitute a material breach of this AGREEMENT entitling CITY to any and all remedies at law or in equity, including summary termination of this AGREEMENT. CITY acknowledges, however, that CONSULTANT, in the performance of its duties pursuant to this AGREEMENT, may utilize subcontractors.

SECTION 17. CONTINUITY OF PERSONNEL.

CONSULTANT shall make every reasonable effort to maintain the stability and continuity of CONSULTANT's staff assigned to perform the services required under this AGREEMENT. CONSULTANT shall notify CITY of any changes in CONSULTANT's staff assigned to perform the services required under this AGREEMENT, prior to any such performance.

SECTION 18. TERMINATION OF AGREEMENT.

(b) CITY may terminate this AGREEMENT, with or without cause, at any time by giving thirty (30) days written notice of termination to CONSULTANT. In the event such notice is given, CONSULTANT shall cease immediately all work in progress.

(c) CONSULTANT may terminate this AGREEMENT at any time upon thirty (30) days written notice of termination to CITY.

(d) If either CONSULTANT or CITY fails to perform any material obligation under this AGREEMENT, then, in addition to any other remedies, either CONSULTANT, or CITY may terminate this AGREEMENT immediately upon written notice.

(e) Upon termination of this AGREEMENT by either CONSULTANT or CITY, all property belonging exclusively to CITY which is in CONSULTANT's possession shall be returned to CITY. CONSULTANT shall furnish to CITY a final invoice for work performed and expenses incurred by CONSULTANT, prepared as set forth in SECTION 4 of this AGREEMENT. This final invoice shall be reviewed and paid in the same manner as set forth in SECTION 4 of this AGREEMENT.

SECTION 19. DEFAULT.

In the event that CONSULTANT is in default under the terms of this AGREEMENT, the CITY shall not have any obligation or duty to continue compensating CONSULTANT for any work performed after the date of default and may terminate this AGREEMENT immediately by written notice to the CONSULTANT.

SECTION 20. COOPERATION BY CITY.

All public information, data, reports, records, and maps as are existing and available to CITY as public records, and which are necessary for carrying out the work as outlined in the EXHIBIT "A" "SCOPE OF SERVICES", "FEE SCHEDULE" shall be furnished to CONSULTANT

in every reasonable way to facilitate, without undue delay, the work to be performed under this AGREEMENT.

SECTION 21. NOTICES.

All notices required or permitted to be given under this AGREEMENT shall be in writing and shall be personally delivered, or sent by telecopier or certified mail, postage prepaid and return receipt requested, addressed as follows:

To CITY: Michele Nissen
City Manager

To CONSULTANT: G.M. Sager Construction Co., Inc.
1380 S. East End Avenue
Pomona, CA 91766
Attn: Michael Sager

Notice shall be deemed effective on the date personally delivered or transmitted by facsimile or, if mailed, three (3) days after deposit of the same in the custody of the United States Postal Service.

SECTION 22. AUTHORITY TO EXECUTE.

The person or persons executing this AGREEMENT on behalf of CONSULTANT represents and warrants that he/she/they has/have the authority to so execute this AGREEMENT and to bind CONSULTANT to the performance of its obligations hereunder.

The City Council has authorized the undersigned to execute this AGREEMENT.

SECTION 23. BINDING EFFECT.

This AGREEMENT shall be binding upon the heirs, executors, administrators, successors and assigns of the parties.

SECTION 24. MODIFICATION OF AGREEMENT.

No amendment to or modification of this AGREEMENT shall be valid unless made in writing and approved by the CONSULTANT and by the City Council. The parties agree that this requirement for written modifications cannot be waived and that any attempted waiver shall be void.

SECTION 25. WAIVER.

Waiver by any party to this AGREEMENT of any term, condition, or covenant of this AGREEMENT shall not constitute a waiver of any other term, condition, or covenant. Waiver by any party of any breach of the provisions of this AGREEMENT shall not constitute a waiver of any other provision, nor a waiver of any subsequent breach or violation of any provision of this AGREEMENT. Acceptance by CITY of any work or services by CONSULTANT shall not constitute a waiver of any of the provisions of this AGREEMENT.

SECTION 26. LAW TO GOVERN; VENUE.

This AGREEMENT shall be interpreted, construed and governed according to the laws of the State of California. In the event of litigation between the parties, venue in state trial courts shall lie exclusively in the County of Riverside.

SECTION 27. ATTORNEYS FEES, COSTS AND EXPENSES.

In the event litigation or other proceeding is required to enforce or interpret any provision of this AGREEMENT, the prevailing party in such litigation or other proceeding shall be entitled to an award of reasonable attorney's fees, costs and expenses, in addition to any other relief to which it may be entitled.

SECTION 28. ENTIRE AGREEMENT.

This AGREEMENT, including the attached ATTACHMENT "A" are the entire, complete, final and exclusive expression of the parties with respect to the matters addressed therein and supersedes all other agreements or understandings, whether oral or written, or entered into between CONSULTANT and CITY prior to the execution of this AGREEMENT. No statements, representations or other agreements, whether oral or written, made by any parties which are not embodied herein shall be valid and binding. No amendment to this AGREEMENT shall be valid and binding unless in writing duly executed by the parties or their authorized representatives.

SECTION 29. SEVERABILITY.

If any term, condition or covenant of this AGREEMENT is declared or determined by any court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this AGREEMENT shall not be affected thereby and the AGREEMENT shall be read and construed without the invalid, void or unenforceable provision(s).

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed the day and year first above written.

CITY OF EASTVALE

By_____
Ike Bootsma, Mayor

ATTEST:

_____
Marc Donohue, City Clerk

APPROVED AS TO FORM:

_____
John E. Cavanaugh, City Attorney

CONSULTANT:

By Michael Sagen

EXHIBIT A

GM SAGER

Construction Co., Inc

1380 S. East End Ave, Pomona CA 91766

Office: (909) 620-9987 ♦ Fax: (909) 620-5288

History - G.M. Sager Construction Company Inc. is a family owned construction company that has been in business for over 34 years. In the late 70's, Gary Sager started G.M. Sager Construction, as the only employee, performing small asphalt repairs. During that time, asphalt was broke with a sledge hammer and removed with a pick. The only equipment used was a small dump truck to transport asphalt and a walk behind roller for compaction. Night work was performed using head lights from an automobile. Today, G.M. Sager is a diversified general engineering construction business with technologically advanced construction equipment, 30-40 employees, and has a wide range of construction capabilities. G.M. Sager is centrally located in Pomona, California and does work in Los Angeles County, Orange County, and the Inland Empire. While most of the work that the business performs comes from cities and utility companies, some work comes through commercial, public and private sectors.

Construction Capabilities

1) Asphalt Construction

- ***"Patch Work"*** – G.M. Sager is known for our impeccable work performing asphalt Repairs. We take great pride in our craftsmanship and guarantee our patch repairs.
- Trench line Paving
- Parking lot Construction
- Moratorium and Arterial Street Construction
- Inlay Cap using rubberized materials
- Street Grinding & Pulverizing
- Slurry Seal – Type I and Type II
- Striping

2) Concrete Construction

- Curb and Gutter Construction
- Cross Gutter Construction
- ADA Ramp Construction
- Bus Pad Construction
- Sidewalk Construction
- Reinforced Steel Construction
- CMU masonry & block wall construction

3) Grading Construction

- Rough Grading/Fine Grading for all soils types
- Site Clean-up including spoils removals
- Material Import/Export
- Over excavations
- Rock Base – Class II and Crushed Aggregate Base installation and compaction
- Soils Testing

4) General Engineering (A) Contractors license

G.M. Sager's general engineering contractor's license enables the company to have a broad range of capabilities. We have a wide array of subcontractors that we deal with on a regular basis enabling us to be competitive in price. The following is a list of construction services that we offer our clients.

- Block Wall and Wrought Iron Construction
- Traffic Signal and Traffic loop Construction
- Landscaping and Irrigation
- Thermoplastic Striping
- Demolition Construction

5) Administration Personnel

G.M. Sager has a strong administration and takes pride in its efficiency. Our number one priority is our customers, and we strive to do our best to appease their demands. Accounts Payable/Receivables is at the top of our list of priorities, and we do our best to provide our customers with timely payments and provide invoices on-time. Providing proposals and quotes is equally important, and we are committed.

Vicki Monclova has been with G.M. Sager since 2005 and handles all Accounts Receivables, payroll processing, notary processing, and English/Spanish translation.

Mary Ellen Sheppard has been with G.M. Sager since 2012 and handles all Proposal/Bid preparations, Work orders, Field communications, Phone management, and Orderly filing.

Janice Lipscomb has been with G.M. Sager since 2000 and is in charge of Human Resources.

6) Company Location

G.M. Sager is located off the 60 Fwy in
Pomona, California. The current address
Is 1380 S. East End Ave., Pomona, CA 91766.

7) Emergency Repair Services

G.M. Sager is known for its excellent 24 hour emergency repair service. Any hour of the day or night, G.M. Sager can mobilize a crew and have a concrete/asphalt plant opened. Our specialty is helping local cities and municipalities with emergency leaks (blowouts) or asap repairs. G.M. Sager brings all necessary equipment to assist In-house crews with their repairs so they can get utilities back online. Typically, our job is to get the streets back in working condition in the shortest amount of time.

8) Equipment and Manpower

G.M. Sager employs approximately 35-40 full time employees. Below is a list of the number of employees in each category and there duties.

Asphalt crews – (5) full time asphalt crews with 3 men in each crew.
Concrete crews – (2) full time concrete crews with 4 men in each crew.
Sawcut crews – (2) full time workers with one sawcutting and the other vacuuming liquids.
Mechanics – (4) full time mechanics working on engines, ordering parts, filing paperwork for BIT program, handling CARB requirements, and keeping equipment clean.
Administration – (4) full time employees working on proposals, bids, accounts receivable, accounts payable, scheduling job walks, generating work orders, and working on payroll.
Foremen/Superintendents – (5) full time employees that work on estimating, bids, scheduling work, visiting job sites, building work schedules, and meeting inspectors.

G.M. Sager has a variety of equipment that is owned and used every day. The following is a list of equipment that we use daily.
(5) Super ten dump trucks capable of handling 18 tons of material.
(3) Ten Wheel dump trucks capable of handling 16 tons of material.
(3) Bobtail dump trucks capable of handling 12 tons of material.
(6) Cat 262 Skidsteer loaders with attached grinders, breakers, sweepers.
(6) Cat 3-5 ton rollers.
(8) Trailboss trailers for transporting skidsteers and rollers.
(2) F450 trucks with liftgates for transporting saws.
(1) Wirtgen W1200f 4' grinder.

(1) Cedarapids 8'-16' paving machine
(1) Voegel 3'- 7' Super 700 paver.
(2) John Deere skiploaders.
(1) Cat 420D Backhoe.

G. M. SAGER CONSTRUCTION CO., INC.

A GENERAL ENGINEERING COMPANY

1380 S. EAST END AVENUE ◆ POMONA CA 91766 ◆ ST LIC #607796

(909) 620-9987 ◆ (800) 335-8111 ◆ FAX (909) 620-5288

COMPANY STAFF
CONTACT NUMBERS AFTER HOURS

Lupe Florez (951) 232-4954
Project Manager

OR

Ramon De Alba (951) 232-4495
Construction Supervisor

Jose Vega (951) 232-7935
Construction Supervisor

Sean Lema (951) 232-8097
Construction Manager

Michael Sager (951) 532-3240

G. M. SAGER CONSTRUCTION CO., INC.

A GENERAL ENGINEERING COMPANY

1380 S. EAST END AVENUE ◆ POMONA CA 91766 ◆ ST LIC #607796

(909) 620-9987 ◆ (800) 335-8111 ◆ FAX (909) 620-5288

COMPANY STAFF

Lupe Florez (951) 232-4954
Project Manager
45 Years of Experience

OR

Jose Vega (951) 232-7935
Project Manager
31 Years of Experience

Ramon De Alba (951) 232-4495
Construction Supervisor
10 Years of Experience

Sean Lema (951) 232-8097
Construction Manager
13 Years of Experience

Tony Rojas
(951) 232-4974
Asphalt Crew Leader
22 Years of Experience

Miguel Vargas
(951) 232-7265
Asphalt Crew Leader
19 Years of Experience

Gerardo Arreguin
(951) 455-8863
Asphalt Crew Leader
15 Years of Experience

Rosalio Barragan
(951) 232-4832
Asphalt Crew Leader
28 Years of Experience

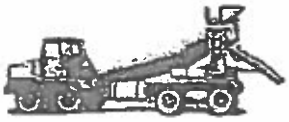
Efrain Torres
Concrete Crew Leader
19 Years of Experience

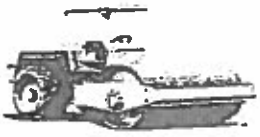
Jose Garcia
Concrete Crew Leader
12 Years of Experience

* A Minimum of 2 Crews Will Always be Available to Perform Any Task Required. *

G. M. SAGER CONSTRUCTION CO., INC.

1380 SOUTH EAST END AVENUE ◆ POMONA CA 91766 ◆ ST LIC#607796
TEL (909) 620-9987 ◆ (626) 335-7429 ◆ FAX (909) 620-5288





MISSION STATEMENT

G. M. Sager Construction Company Inc., specializes in asphalt and concrete repairs within the water industry and municipalities. We have been in business for over 30 years and our client base remains stable. We have very little client turnover and have serviced the same accounts for many years.

Most cities and counties are concerned with potholes, deteriorating pavement and the resulting problems. In response, construction requirements are being continuously updated in an effort to reduce these problems. Our company has grown with the changing construction specifications for pavement repairs. We stay apprised of not only what is required by individual cities, counties and water companies, but take into consideration each individual situation and make every effort to complete each repair so that it is structurally sound and aesthetically pleasing.

Our Company is dedicated to service. We are responsive to our customers needs and will respond rapidly when necessary. Unlike some contractors that use small repair cuts as a fill-in during busy times, we make ourselves available 24 hours a day via cell phones. Our Superintendents and foremen are instructed to have their phones on at all times. Our equipment is designed for repair cuts and our employees are trained to respond to the job as rapidly as possible.
We pride ourselves in providing a dependable and consistent product. It is unacceptable for us to follow "minimum construction requirements." Our goal is to complete each repair in a manner that results in compliments rather than complaints.

An installation or repair beneath the surface is the major part of a construction project and can only be seen during "open trench construction." The "asphalt repair" is a permanent signature of the water company, municipality, and the contractor for years to come. As these repairs are completed, a statement is made that shows competency and pride of workmanship. As the repairs hold up in appearance and structure, the city saves money in maintenance and liability costs.

When working for a utility company or municipality, we make our best efforts to communicate with the city serviced by the utility. It is our business to make sure they are overly satisfied. When the city feels that the utility company is conscientious of them and the public, everything goes smoother and money is saved in the long run.

We adhere to the "Federal Clean Water Act" and comply with and stay abreast of changing laws. We follow the Work Area Traffic Control Handbook "WATCH" for traffic delineation and assure that safety guidelines are practiced by all our employees.

Employee safety meetings are conducted on a regular basis at which we emphasize safe construction practices, customer relations, and courtesy. Our employees are taught that every "property owner" is to be treated with respect, and that every effort should be made to leave the construction area cleaner than it was found.

Our price schedule has been built after careful review and calculations of material, labor, equipment, and overhead costs. It is based on what we actually construct at a given location. Asphalt repair, unlike new construction, can differ from one location to another. Often times a water leak erodes the surface or causes excessive moisture problems that cannot be seen until surface material removal begins. If these problems are not addressed, future pavement failure and probable additional pavement damage will occur. We feel that doing the job right the first time is not only cost effective, but improves public relations and public sentiment. In order to accomplish this task, it takes the necessary equipment, trained personnel and attention to detail. Unlike large paving projects where larger equipment and additional trucks can cut labor costs dramatically, small asphalt repairs are completed one at a time. While a large number of asphalt repairs is certainly desirable, the cost to complete any given repair does not decrease as the number of repairs increase.

In conclusion, thank you for taking the time to read what I have learned to be important in this line of work.

Sincerely,

Gary M. Sager
President

REFERENCES

Note: G M Sager Construction Co., Inc does 90%-100% of its work in house.

JURUPA COMMUNITY SERVICES DISTRICT
COUNTRY VILLAGE ROAD, JURUPA VALLEY, CA
ASPHALT AND CONCRETE YEARLY CONTRACT
PERIOD OF PERFORMANCE: 2009-2012
DAVE IRISH OR DAVE READING
951 685-7434

FONTANA WATER COMPANY
VALLEY BLVD. TRENCH PAVING
BASE PAVING, ASPHALT GRINDING, ASPHALT CAP
PERIOD OF PERFORMANCE: 2007-2011
DARYL ARNETT OR JIM CHAPMEN
909 201-7321

CUCAMONGA VALLEY WATER DISTRICT
ASPHALT AND CONCRETE MAINTENANCE
PERIOD OF PERFORMANCE: 2009-2012
CHICO RODRIQUEZ OR PAT MILROY
909 987-2591

AZUSA LIGHT AND WATER
ASPHALT AND CONCRETE YEARLY CONTRACT
YEARLY CONTRACT
KEN GODBEY OR REG STONE
626 812-5086

SUBURBAN WATER SYSTEMS
ASPHALT AND CONCRETE YEARLY CONTRACT
PERIOD OF PERFORMANCE: 2009-2012
TOM MEDINA
562 755-5015

SANTA CLARITA WATER DISTRICT
ASPHALT AND CONCRETE YEARLY CONTRACT
PERIOD OF PERFORMANCE: 2010-2012
ROGER HITCHEN
661 510-5217

Lupe Florez

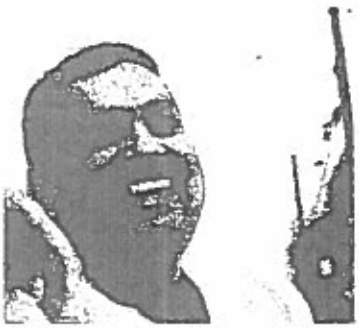
Superintendent, Safety Representative,
Field Operations Director, Project Manager

Experience:

Lupe Has Over 45 Years In The Asphalt & Concrete Construction Industry, 19 Years Of Which Has Been Served At G.M. Sager Construction Co., Inc.

Skill:

Lupe Brings A Wealth Of Diverse Experience & Skill In All Areas Of Asphalt And Concrete Construction, As Well As In Dirt And Underground Construction. He Began His Career As A Teen Working For Various Construction Companies In The Summer Months. After Graduating From High School He Went On To Work For Other Construction Companies Learning All Facets Of Construction From Ground Up. After Serving Four Years In The Air Force, He Gravitated Back To The Areas Of Concrete & Road Construction Becoming A Journeyman Cement Finisher & Working For Such Concrete Construction Companies As A.J. Construction, Bellows & Bellows, Ed Gould, Massey Sand & Rock, E.L. Yeager, Chavez Engineering & Paving And More, As Well As Bovee & Crail, A Nation Wide Energy Company, Where He Honed His Skill in Underground Concrete And Pipe Work. His Expertise And Experience In Project Planning, Plan Reading, Understanding Of What Is Required From Various Municipalites And Strong Attention To Detail Has Proven To Be Only A Few Of His Many Assets. He Also Ran His Own Asphalt & Concrete Construction Business For Over 12 Years. Thankfully, He Found His Niche At G.M.Sager Construction Company In 1992 Heading The Concrete Division.



Jose Vega

Field Supervisor, Safety Representative,
Heavy Equipment Operator, Fleet Manager, Project Manager

Experience:

Jose Has Over 23 Years In The Asphalt & Concrete Construction Industry, The Last 17 Years Has Been Served At G.M. Sager Construction Co., Inc.

Skill:

Jose Began to Attain His Abilities Working For His Family Owned Concrete Business, Working In All Facets Of Industrial & Commercial Concrete, Including Concrete Slabs, Concrete Walls, Installation & Repair.

He Went To Work in The Asphalt Paving Industry For Companies Such As Custom Asphalt Paving, Where He Learned All The Areas Of Asphalt Construction & Repair And The Operation Of All Paving Equipment, Including But Not Limited To: Skiploaders, Skidsteers, Paving Machines, Forklifts, Etc. As Well As Obtaining His Commercial Class A Drivers License.

Jose Is Skilled In All The Areas Of Asphalt & Concrete Construction, Landscaping And Operation Of Heavy Equipment. He Is Also Proficient In Safety/OSHA Requirements, Traffic Control Design, The Estimating & Calculating Of Materials Required In The Installation Of Hot Mix Asphalt, Crushed Aggregate Base, Concrete, Dirt, Etc. As Well As, The Application of Slurry Coating And Street/Parking Lot Striping.

He Came To G.M. Sager Construction Co., Inc. In 1992 And Worked His Way Up Through All The Different Aspects And Levels Of Aspahlt And Concrete Construction To Where He Is Today, A Supervisor & Manager.

III. SCOPE OF SERVICES

1. GENERAL

In general, the work to be done consists of providing asphalt and concrete maintenance services on an on call basis. The maintenance consists of making permanent repairs of damaged asphalt, sidewalks and curb and gutter. The contractor shall furnish all tools, equipment, apparatus, facilities, labor, services and materials, and perform all work necessary to maintain the asphalt roadways or concrete surfaces on an on call basis. All work is located within the City of Eastvale's public right of way.

The Contractor shall have available and readily accessible all required tools, equipment, apparatus, facilities, and material to perform all work necessary to make requested repairs to the roadways, sidewalks and curbs and gutters.

The Contractor shall cooperate with the Police Department, Fire District, Maintenance Department and other related departments in cases of emergency.

The Contractor shall refer all questions from the public not covered under this Agreement to either the Public Works Department.

3. EMERGENCY OR RESPONSIVE SERVICE

Throughout the term of this agreement, the Contractor shall provide prompt service responses. The emergency repair contacts shall return calls and work up an acceptable repair schedule within two (2) hours of the initial phone contact. All personnel for Contractor that may be dispatched shall have continuous communication access through cellular phone

Emergency calls that require repair or replacement at a total material, labor and equipment cost of less than $1,000 shall not require approval from the City before such repairs or replacements are commenced. For repairs, or replacement that are expected to cost $1,000 or more, The Contractor shall either make temporary repairs, or obtain approval from the City prior to completing the necessary repair or replacement.

Contractor shall maintain a local telephone number where they can be reached twenty-four (24) hours per day, 365 days per year. This telephone number shall be answered by a live person, familiar with the City's streets.

The Contractor shall be responsible for responding to emergency calls from persons designated by the City. Unless otherwise identified in this Scope of Work or the Agreement, responsive calls shall be paid on time and materials basis.

<u>Responsive (Non-Emergency) Service</u>

All non-emergency calls shall be responded to within 24 hours or as mutually agreed upon between the Public Works Department and Contractor for each individual service call.

Monitoring Responsive Service Requests

Upon completion of responsive service requests (both Emergency and Non-Emergency), the Contractor shall notify the Public Works Department that the emergency work has been completed. Notification shall be within 24 hours of said completion to both the City personnel initiating the emergency call-out and the City's contract manager.

Invoices

The Contractor shall provide invoices on a monthly basis. Invoices shall be submitted by the 15th of the month and shall include a summary of routine and emergency response costs, as well as individual line item costs for each location and service performed. Line item costs shall be further broken down into each category of labor, material and equipment used.

At its discretion, the City may require copies of material invoices paid by the Contractor to their vendors to verify the percent mark-up charged by the Contractor to the City.

6. MEETINGS

The Contractor's Project Manager and Maintenance Supervisor shall be available to meet with the Public Works Department on a monthly basis at no additional cost to the City. The purpose of the meeting will be to review maintenance activities, invoices, upcoming projects, and to ensure schedules are being met and to discuss if improvements or corrections are necessary .

ASPHALT REPAIR

JOB SITE: VARIOUS LOCATIONS

PER LOCATION

	ASPHALT	REPLACE ASPHALT SECTION UP TO 4" THICK	REMOVE & REPLACE ASPHALT SECTION 6" THICK	BUSY STREET SECTION REQUIRING HEAVY TRAFFIC CONTROL UP TO 6" THICK
1	MINIMUM REPAIR COST INCLUDING MOVE IN	$700.00 (UP TO 50 SQ. FT.)	$800.00 (UP TO 50 SQ. FT.)	$875.00 (UP TO 50 SQ. FT.)
2	UP TO 100 SQ. FT	$700.00 + $8.00/SQ.FT. OVER 50 SQ. FT.	$800.00 + $9.00/SQ.FT. OVER 50 SQ. FT.	$875.00 + $10.00/SQ.FT. OVER 50 SQ. FT.
3	101 SQ. FT UP TO 200 SQ. FT	$1,100.00 + $7.00/SQ.FT. OVER 100 SQ. FT.	$1,250.00 + $8.00/SQ.FT. OVER 100 SQ. FT.	$1,375.00 + $9.00/SQ.FT. OVER 100 SQ. FT.
4	201 SQ. FT UP TO 500 SQ. FT	$1,800.00 + $6.00/SQ.FT. OVER 200 SQ. FT.	$2,050.00 + $7.00/SQ.FT. OVER 200 SQ. FT.	$2,275.00 + $8.00/SQ.FT. OVER 200 SQ. FT.
5	501 SQ. FT UP TO 2000 SQ. FT	$3,600.00 + $6.00/SQ.FT. OVER 500 SQ. FT.	$4,150.00 + $7.00/SQ.FT. OVER 500 SQ. FT.	$4,675.00 + $8.00/SQ.FT. OVER 500 SQ. FT.
6	2001 SQ. FT AND UP	$12,600.00 + $6.00/SQ.FT. OVER 2,000 SQ. FT.	$14,650.00 + $7.00/SQ.FT. OVER 2,000 SQ. FT.	$16,675.00 + $8.00/SQ.FT. OVER 2,000 SQ. FT.
7	ADDITIONAL THICKNESS	$0.50/SQ. FT. IN.	$0.50/SQ. FT. IN.	$0.50/SQ. FT. IN.

8	ASPHALT BERM 6" MIN $700.00 PLUS	$15.00 PER LF
9	CRUSHER BASE MIN. $250.00 PLUS	$0.40 PER SF IN.

10	ASPHALT CAP MIN. CHARGE, INCLUDING MOVE IN	$250.00 PLUS
11	ASPHALT CAP, 1 1/2", 1-100 SF $250.00 PLUS	$2.50 PER SF (OVER 1 SQ. FT.)
12	ASPHALT CAP, 1 1/2", 101-500 SF $500.00 PLUS	$2.50 PER SF (OVER 100 SQ. FT.)
13	ASPHALT CAP, 1 1/2", 501-2000 SF $1,500.00 PLUS	$2.00 PER SF (OVER 500 SQ. FT.)
14	ASPHALT CAP, 1 1/2", 2001 AND OVER SF $4,500.00 PLUS	$1.80 PER SF (OVER 2,000 SQ. FT.)
15	ASPHALT CAP, 2", 1-100 SF $300.00 PLUS	$3.00 PER SF (OVER 1 SQ. FT.)
16	ASPHALT CAP, 2", 101-500 SF $600.00 PLUS	$3.00 PER SF (OVER 100 SQ. FT.)
17	ASPHALT CAP, 2", 501-2000 SF $1,800.00 PLUS	$2.50 PER SF (OVER 500 SQ. FT.)
18	ASPHALT CAP, 2", 2001 AND OVER SF $5,550.00 PLUS	$2.20 PER SF (OVER 2,000 SQ. FT.)

Michael Sager

AUTHORIZED SIGNATURE

PROPOSED PRICES
MISCELLANEOUS
JOB SITE: VARIOUS LOCATIONS
PER LOCATION

28	SAW CUTTING, INCLUDING VACUUM UNIT & TRAFFIC CONTROL, MINIMUM CHARGE	$ 200.00 PLUS
29	SAW CUTTING UP TO 300 LF 4" THICK	$ 1.20 PER LF
30	SAW CUTTING UP TO 300 LF 4" THICK	$ 1.20 PER LF
31	SAW CUTTING UP TO 1001 + OVER LF 4" THICK	$ 1.20 PER LF
32	SAW CUTTING UP TO 300 LF 4" THICK	$ 1.20 PER LF
33	SAW CUTTING, ADDITIONAL CHARGE FOR BUSY STREET, INCLUDING ARROW BOARD	$100.00 plus $ 0.20 PER LF/INCH
34	VACUUM & DISPOSAL OF SAW CUT LIQUID & SPOILS	$ 60.00 per patch
35	COLD PLANER WITH 864H BOBCAT LOADER OR EQUIVALENT	$ 250.00 per hour (2 hour minimum)
36	3500 LB. CONCRETE BREAKER WITH 853 BOBCAT LOADER OR EQUIVALENT	$ 285.00 per hour (2 hour minimum)

ROAD SLURRY (INDIVIDUAL REPAIR SECTIONS)

37	MINIMUM	$ 300.00
38	UP TO 1000 SF	$ See Below
39	101 SF UP TO 200 SF	$ 300.00 plus $1.00/sq. ft. over 100 sq. ft.
40	201 SF UP TO 500 SF	$ 400.00 plus $1.00/sq. ft. over 200 sq. ft.
41	501 SF UP TO 1000 SF	$ 700.00 plus $1.00/sq. ft. over 500 sq. ft.
42	1000 + SF	$ 1,200.00 plus $0.60/sq. ft. over 1,000 sq. ft.
43	BUSY STREET REQUIRING TRAFFIC CONTROL ADDITIONAL CHARGE $ 300.00	

TYPE II ROAD SLURRY (FULL STREET SECTIONS REQUIRING AUTOMATED APPLICATION)

44	MINIMUM MOVE IN UP TO 10,000 SF	$ 7,500.00
45	OVER 10,000 SF	$ 7,500.00 + $0.70/ sq. ft. over 10,000 sq. ft.

Michael Sagar
AUTHORIZED SIGNATURE

PROPOSED PRICES
CONCRETE REPAIR
JOB SITE: VARIOUS LOCATIONS
PER LOCATION

	CONCRETE	REMOVE & REPLACE SIDEWALK SECTION 4" THICK	REMOVE & REPLACE SIDEWALK SECTON 6" THICK	REMOVE & REPLACE CROSS GUTTER APPROACH OR STREET SECTION UP TO 8" THICK	BUSY STREET SECTION REQUIRING HEAVY TRAFFIC CONTROL REMOVE AND REPLACE UP TO 8" THICK
19	MINIMUM REPAIR COST	$700.00 (UP TO 50 SQ. FT.)	$800.00 (UP TO 50 SQ. FT.)	$850.00 (UP TO 50 SQ. FT.)	$950.00 (UP TO 50 SQ. FT.)
20	UP TO 100 SQ. FT	$700.00 + $8.00/SQ.FT. OVER 50 SQ. FT	$800.00 + $9.00/SQ.FT OVER 50 SQ. FT.	$850.00 + $10.00/SQ.FT. OVER 50 SQ. FT.	$950.00 + $11.00/SQ.FT. OVER 50 SQ. FT.
21	101 SQ. FT UP TO 200 SQ. FT	$1,100.00 + $7.00/SQ.FT. OVER 100 SQ. FT.	$1,250.00 + $8.00/SQ.FT. OVER 100 SQ. FT.	$1,350.00 + $9.00/SQ.FT. OVER 100 SQ. FT.	$1,500.00 + $10.00/SQ.FT OVER 100 SQ. FT.
22	201 SQ. FT UP TO 500 SQ. FT	$1,800.00 + $6.00/SQ.FT. OVER 200 SQ. FT.	$2,050.00 + $7.00/SQ.FT. OVER 200 SQ. FT.	$2,250.00 + $8.00/SQ.FT. OVER 200 SQ. FT.	$2,500.00 + $9.00/SQ.FT OVER 200 SQ. FT.
23	501 SQ. FT UP TO 2000 SQ. FT	$3,600.00 + $6.00/SQ.FT. OVER 500 SQ. FT.	$4,150.00 + $7.00/SQ.FT. OVER 500 SQ. FT.	$4,650.00 + $8.00/SQ.FT. OVER 500 SQ. FT.	$5,200.00 + $9.00/SQ.FT. OVER 500 SQ. FT.
24	2001 SQ. FT AND UP	$12,600.00 + $6.00/SQ.FT. OVER 2,000 SQ. FT.	$14,650.00 + $7.00/SQ.FT. OVER 2,000 SQ. FT.	$16,650.00 + $8.00/SQ.FT OVER 2,000 SQ. FT.	$18,7000.00 + $9.00/SQ.FT OVER 2,000 SQ. FT.
25	ADDITIONAL THICKNESS	$0.50/SQ.FT. IN.	$0.50/SQ.FT. IN.	$0.50/SQ.FT. IN.	$0.55/SQ.FT. IN.
26	CURB & GUTTER SECTION	MIN. REPAIR $600.00	UP TO 20 LF $600.00 + $45.00/LF OVER 1 LF.	21 LF TO 50 LF $1,500.00 + $45.00/LF OVER 20 LF.	51 LF TO 100 LF $2,850.00 + $45.00/LF OVER 50 LF.
27	DOWELING	$300.00 + $10.00 per dowel			

Michael Sager
AUTHORIZED SIGNATURE

ASPHALT CRACK SEALING - HOT RUBBER APPLICATION

	LINEAL FEET	PRICE PER LF PER 1/4" OF WIDTH
46	0 - 2,500	$ 300.00 plus $0.40/lf over 1 lf.
47	2,501 - 5,000	$ 1,300.00 plus $0.30/lf over 2500 lf.
48	5,001 - 10,000	$ 2,050.00 plus $0.30/lf over 5000 lf.
49	10,001 - 20,000	$ 3,550.00 plus $0.20/lf over 10,000 lf
50	20,000 +	$ 5,550.00 plus $0.20/lf over 20,000 lf.

NON OPERATED EQUIPMENT RENTAL SCHEDULE

51	CAT 420 D BACKHOE OR EQUIVALENT	$ 500.00 per day
52	MASSEY FERGUSON MF50EX SKIPLOADER 4WD OR EQUIVALENT	$ 450.00 per day
53	JOHN DEER 555 FRONT LOADER 1-3/4 YD OR EQUIVALENT	$ 500.00 per day
54	CATERPILLAR SKIDSTEER LOADER OR EQUIVALENT	$ 350.00 per day
55	CATERPILLAR SKIDSTEER 262C LOADER WITH 3500 LB BREAKER OR EQUIVALENT	$ 375.00 per day
56	CATERPILLAR SKIDSTEER 262C WITH POWER BROOM OR EQUIVALENT	$ 375.00 per day
57	CATERPILLAR SKIDSTEER 262C WITH COLD PLANER OR EQUIVALENT	$ 375.00 per day
58	BOBTAIL DUMP TRUCK	$ 350.00 per day
59	SUPER 10-WHEEL DUMP TRUCK	$ 400.00 per day
60	ASPHALT ROLLER	$ 350.00 per day
61	CEDARRAPIDS 8'-16' PAVING MACHINE OR EQUAL	$ 800.00 per day

LABOR RATES - PREVAILING WAGES

62	SUPERINTENDENT/FOREMEN	$70.00 per hour	$105.00 per hour	$ $140.00 per hour
63	EQUIPMENT OPERATOR	$70.00 per hour	$105.00 per hour	$ $140.00 per hour
64	GENERAL LABOR	$68.00 per hour	$102.00 per hour	$ $136.00 per hour

Michael Sager

AUTHORIZED SIGNATURE

CERTIFICATE OF LIABILITY INSURANCE

DATE (MM/DD/YYYY): 4/18/2016

THIS CERTIFICATE IS ISSUED AS A MATTER OF INFORMATION ONLY AND CONFERS NO RIGHTS UPON THE CERTIFICATE HOLDER. THIS CERTIFICATE DOES NOT AFFIRMATIVELY OR NEGATIVELY AMEND, EXTEND OR ALTER THE COVERAGE AFFORDED BY THE POLICIES BELOW. THIS CERTIFICATE OF INSURANCE DOES NOT CONSTITUTE A CONTRACT BETWEEN THE ISSUING INSURER(S), AUTHORIZED REPRESENTATIVE OR PRODUCER, AND THE CERTIFICATE HOLDER.

IMPORTANT: If the certificate holder is an ADDITIONAL INSURED, the policy(ies) must have ADDITIONAL INSURED provisions or be endorsed. If SUBROGATION IS WAIVED, subject to the terms and conditions of the policy, certain policies may require an endorsement. A statement on this certificate does not confer rights to the certificate holder in lieu of such endorsement(s).

PRODUCER
Edgewood Partners Insurance Center (EPIC)
19000 MacArthur Blvd. PH Floor
Irvine, CA 92612

www.edgewoodins.com

CONTACT NAME:
PHONE (A/C, No, Ext): (949) 263-0606 FAX (A/C, No): (949) 263-0906
E-MAIL ADDRESS:

INSURER(S) AFFORDING COVERAGE	NAIC #
INSURER A: National Fire Insurance Co of Hartford	20478
INSURER B: Continental Casualty Company	20443
INSURER C: Valley Forge Insurance Company	20508
INSURER D: Travelers Property Casualty Co of America	25674
INSURER E:	
INSURER F:	

INSURED
G M Sager Construction Co Inc/Gary Sager
G M Sager Construction Co
1380 South East End Ave
Pomona CA 91766

COVERAGES

CERTIFICATE NUMBER: 29501808 REVISION NUMBER:

THIS IS TO CERTIFY THAT THE POLICIES OF INSURANCE LISTED BELOW HAVE BEEN ISSUED TO THE INSURED NAMED ABOVE FOR THE POLICY PERIOD INDICATED. NOTWITHSTANDING ANY REQUIREMENT, TERM OR CONDITION OF ANY CONTRACT OR OTHER DOCUMENT WITH RESPECT TO WHICH THIS CERTIFICATE MAY BE ISSUED OR MAY PERTAIN, THE INSURANCE AFFORDED BY THE POLICIES DESCRIBED HEREIN IS SUBJECT TO ALL THE TERMS, EXCLUSIONS AND CONDITIONS OF SUCH POLICIES. LIMITS SHOWN MAY HAVE BEEN REDUCED BY PAID CLAIMS.

INSR LTR	TYPE OF INSURANCE	ADDL INSD	SUBR WVD	POLICY NUMBER	POLICY EFF (MM/DD/YYYY)	POLICY EXP (MM/DD/YYYY)	LIMITS	
A	✓ COMMERCIAL GENERAL LIABILITY ☐ CLAIMS-MADE ✓ OCCUR ✓ BI/PD Ded - $5,000 GEN'L AGGREGATE LIMIT APPLIES PER: ☐ POLICY ✓ PRO-JECT ☐ LOC OTHER:			5095057881	4/19/2016	4/19/2017	EACH OCCURRENCE	$ 1,000,000
							DAMAGE TO RENTED PREMISES (Ea occurrence)	$ 100,000
							MED EXP (Any one person)	$ 15,000
							PERSONAL & ADV INJURY	$ 1,000,000
							GENERAL AGGREGATE	$ 2,000,000
							PRODUCTS - COMP/OP AGG	$ 2,000,000
								$
B	AUTOMOBILE LIABILITY ✓ ANY AUTO ☐ OWNED AUTOS ONLY ☐ SCHEDULED AUTOS ✓ HIRED AUTOS ONLY ✓ NON-OWNED AUTOS ONLY ✓ $1000 ded ✓ comp & coll			6024265839	4/19/2016	4/19/2017	COMBINED SINGLE LIMIT (Ea accident)	$ 1,000,000
							BODILY INJURY (Per person)	$
							BODILY INJURY (Per accident)	$
							PROPERTY DAMAGE (Per accident)	$
								$
C	✓ UMBRELLA LIAB ✓ OCCUR ☐ EXCESS LIAB ☐ CLAIMS-MADE ☐ DED ✓ RETENTION $ 10,000			6024265856	4/19/2016	4/19/2017	EACH OCCURRENCE	$ 3,000,000
							AGGREGATE	$ 3,000,000
								$
D	WORKERS COMPENSATION AND EMPLOYERS' LIABILITY ANY PROPRIETOR/PARTNER/EXECUTIVE OFFICER/MEMBER EXCLUDED? (Mandatory in NH) Y/N ☐ If yes, describe under DESCRIPTION OF OPERATIONS below		N/A	DTJ-UB-8D398082-16	1/1/2016	1/1/2017	✓ PER STATUTE ☐ OTH-ER	
							E.L. EACH ACCIDENT	$ 1,000,000
							E.L. DISEASE - EA EMPLOYEE	$ 1,000,000
							E.L. DISEASE - POLICY LIMIT	$ 1,000,000
C	Rented/Leased Equipment			6024265811	4/19/2016	4/19/2017	$165,000, per item	

DESCRIPTION OF OPERATIONS / LOCATIONS / VEHICLES (ACORD 101, Additional Remarks Schedule, may be attached if more space is required)

RE: Asphalt/Concrete Repairs
Certificate Holder is named as Additional Insured with respects to General Liability per form CNA74705XX01/15 and Automobile Liability per form CNA63359XX04/12. Coverage is written on a Primary & Non-Contributory Basis. Waiver of Subrogation applies to GL per CNA74705XX01/15. Waiver of subrogation applies to Workers Compensation per WC99 0376 (00) if required by written contract.
"30 Days Notice of Cancellation will be given, 10 Days for Non-Payment of Premium"

CERTIFICATE HOLDER

City of Eastvale
12363 Limonite Avenue, Suite 910
Eastvale CA 91752

CANCELLATION

SHOULD ANY OF THE ABOVE DESCRIBED POLICIES BE CANCELLED BEFORE THE EXPIRATION DATE THEREOF, NOTICE WILL BE DELIVERED IN ACCORDANCE WITH THE POLICY PROVISIONS.

AUTHORIZED REPRESENTATIVE

Tony D"Asaro

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TRAVELERS

ONE TOWER SQUARE
HARTFORD, CT 06183

WORKERS COMPENSATION
AND
EMPLOYERS LIABILITY POLICY

ENDORSEMENT WC 99 03 76 (A) – 001

POLICY NUMBER:

WAIVER OF OUR RIGHT TO RECOVER FROM OTHERS ENDORSEMENT – CALIFORNIA (BLANKET WAIVER)

We have the right to recover our payments from anyone liable for an injury covered by this policy. We will not enforce our right against the person or organization named in the Schedule.

The additional premium for this endorsement shall be % of the California workers' compensation premium.

Schedule

Person or Organization	Job Description
ANY PERSON OR ORGANIZATION FOR WHICH THE INSURED HAS AGREED BY WRITTEN CONTRACT EXECUTED PRIOR TO LOSS TO FURNISH THIS WAIVER	

This endorsement changes the policy to which it is attached and is effective on the date issued unless otherwise stated.

(The information below is required only when this endorsement is issued subsequent to preparation of the policy.)

Endorsement Effective1/1/2016 Policy No. DTJ-UB-8D398082-16 Endorsement No.
Insured G M Sager Construction Co Inc/Gary Sager Premium
G M Sager Construction Co
Insurance Company Countersigned by _____

DATE OF ISSUE: 4/18/2016 ST ASSIGN:

398802
29501808 | 16-17 Master | Tina Coleman | 4/18/2016 2:11:14 PM (PDT) | Page 2 of 2

CITY OF EASTVALE
CITY COUNCIL STAFF REPORT

ITEM 8.4

DATE: JULY 13, 2016

TO: HONORABLE MAYOR AND COUNCILMEMBERS

FROM: JOE INDRAWAN, CITY ENGINEER

SUBJECT: SELECTION OF SERVICE PROVIDER FOR ANNUAL ON-CALL MISCELLANEOUS MAINTENANCE SERVICES – MCE CORPORATION

RECOMMENDATION:

1. **APPROVE PROFESSIONAL SERVICES AGREEMENT WITH MCE CORPORATION FOR ANNUAL ON-CALL MISCELLANEOUS MAINTENANCE SERVICES; AND**

2. **AUTHORIZE THE CITY MANAGER TO EXECUTE THE NECESSARY DOCUMENTS.**

BACKGROUND

The City has been using the County of Riverside since incorporation for on-call miscellaneous maintenance services as part of a comprehensive service contract that the City entered with the County to help with the transition being a new city. The services have been overall acceptable, however during the last few years the cost of services has increased significantly due to the County increased hourly rates. In addition, for several of these services in public rights of way, the County Transportation Department is not geared toward providing a full service the way a general contractor does. This types of services include the following; temporary street patching, sign repair, street markings, weeds abatement, traffic control assistance, storm drain cleaning, tree removal and trimming. The city has growing needs for these types of services, which is best served by a specialty contractor.

DISCUSSION

The City has circulated a request for proposals (RFP) for on-call miscellaneous maintenance services. The RFP was advertised on the city's website and circulated to contractors that have expressed interest in the past. The County has also been asked to participate but declined. Four contractors expressed interest in submitting bid proposals, although only MCE Corporation (MCE) submitted a bid. As part of the bid proposal unit costs were required on a variety of item, including labor and equipment costs.

MCE has experience in providing contract services in a variety of public works maintenance disciplines. They provide multifaceted maintenance programs in park, landscape, streets,

facilities and drainage maintenance to multiple public agencies. MCE was recently awarded the Public Works Maintenance Contract for Jurupa Valley effective July 1, 2016. In our area MCE also has annual maintenance contracts with Diamond Bar and Pomona.

The professional services agreement, which has been approved by the City Attorney is for two years, with up to three (3) one-year extensions. The extensions require City Council approval. The agreement allows for an annual inflation increase after the first two years of the agreement.

Staff has contacted and notified the County of Riverside of the intent to contract out part of the services the County is currently providing. The County has agreed that at a later date its contract with the City needs to be amended to include reduced scope of services. Staff will return to the City Council with such a contract amendment.

FISCAL IMPACT

The city is currently budgeting $100,000 for miscellaneous maintenance services with the County for fiscal year 2016/2017. MCE's proposed prices for the same services will reduce costs by approximately fifty percent or $50,000.

This service contract is expected to provide an additional $50,000 annually for an expanded scope of services throughout the city.

STRATEGIC PLAN IMPACT - None

ATTACHMENT

1. Professional Services Agreement

Prepared by: Craig Bradshaw, Supervising Engineer
Prepared by: Joe Indrawan, City Engineer
Reviewed by: John Cavanaugh, City Attorney
Reviewed by: Michele Nissen, City Manager

PROFESSIONAL SERVICES AGREEMENT

This AGREEMENT FOR CONSULTANT SERVICES ("AGREEMENT") is made and entered into this ____ day of ____ 2016, by and between the City of Eastvale ("City") and MCE Corporation ("CONSULTANT").

In consideration of the mutual covenants and conditions set forth herein, the parties agree as follows:

SECTION 1. TERM OF AGREEMENT.

This Agreement shall commence on July 1, 2016 and continuing thereafter through June 30, 2018, or unless sooner terminated by the parties as set out in Section 18 below. Consultant shall complete the Services within the term of this Agreement, and shall meet any other established schedules and deadlines. The Parties may, by mutual, written consent, extend the term of this Agreement for up to three (3) additional one (1) year terms ("Additional Terms"). Such extensions may include increased compensation for an increase in labor costs, with said increase not to exceed the increase in the Consumer Price Index for all Urban Consumers in the Los Angeles-Anaheim-Riverside area (1982-1984 = 100). Additionally, an extension of this Agreement may include compensation for an increase in fuel costs, with said increased compensation not to exceed the difference in average fuel costs measured between June 2016 and the date at the time of the Agreement renewal. Fuel costs are to be based on data obtained from the U.S. Energy Information Administration website (http:/www.eia.gov/petroleum/gasdiesel). The subsequent renewals will require City Council approval.

SECTION 2. SCOPE OF SERVICES.

CONSULTANT agrees to perform the services set forth in EXHIBIT "A" "SCOPE OF SERVICES" "FEE SCHEDULE" and made a part of this AGREEMENT.

SECTION 3. ADDITIONAL SERVICES.

CONSULTANT shall not be compensated for any services rendered in connection with its performance of this AGREEMENT which are in addition to or outside of those set forth in this AGREEMENT or listed in EXHIBIT "A" "SCOPE OF SERVICES", "FEE SCHEDULE" unless such additional services are authorized in advance and in writing by the Council or City Manager. CONSULTANT shall be compensated for any such additional services in the amounts and in the manner agreed to by the Council or City Manager.

SECTION 4. COMPENSATION AND METHOD OF PAYMENT.

(a) Subject to any limitations set forth in this AGREEMENT, CITY agrees to pay CONSULTANT the amounts specified in EXHIBITS "A".

(b) Each month CONSULTANT shall furnish to CITY an **original** invoice for all work performed and expenses incurred during the preceding month. The invoice shall detail charges by the following categories: labor (by sub-category), travel, materials, equipment,

supplies, sub-consultant contracts and miscellaneous expenses. CITY shall independently review each invoice submitted by the CONSULTANT to determine whether the work performed and expenses incurred are in compliance with the provisions of this AGREEMENT. In the event that no charges or expenses are disputed, the invoice shall be approved and paid according to the terms set forth in subsection (c). In the event any charges or expenses are disputed by CITY, the original invoice shall be returned by CITY to CONSULTANT for correction and resubmission.

(c) Except as to any charges for work performed or expenses incurred by CONSULTANT which are disputed by CITY, CITY will pay CONSULTANT within thirty (30) days of receipt of CONSULTANT's invoice.

(d) Payment to CONSULTANT for work performed pursuant to this AGREEMENT shall not be deemed to waive any defects in work performed by CONSULTANT.

(e) No member of the City Council shall have any personal responsibility or liability for payment of any fees or costs incurred under this AGREEMENT.

SECTION 5. INSPECTION AND FINAL ACCEPTANCE.

CITY may inspect and accept or reject any of CONSULTANT's work under this AGREEMENT, either during performance or when completed. CITY shall reject or finally accept CONSULTANT's work within Sixty (60) days after submitted to CITY. CITY shall reject work by a timely written explanation, otherwise CONSULTANT's work shall be deemed to have been accepted. CITY's acceptance shall be conclusive as to such work except with respect to latent defects, fraud and such gross mistakes as amount to fraud. Acceptance of any of CONSULTANT's work by CITY shall not constitute a waiver of any of the provisions of this AGREEMENT including, but not limited to, sections 14 and 15, pertaining to indemnification and insurance, respectively.

SECTION 6. OWNERSHIP OF DOCUMENTS.

All original studies, assessments, reports, data, plans, specifications, computer files, files and other documents prepared, developed or discovered by CONSULTANT in the course of providing any services pursuant to this AGREEMENT shall become the sole property of CITY and may be used, reused or otherwise disposed of by CITY without the permission of the CONSULTANT. Upon completion, expiration or termination of this AGREEMENT, CONSULTANT shall turn over to CITY all such original studies, assessments, reports, data, notes, computer files, files and other documents.

SECTION 7. CONSULTANT'S BOOKS AND RECORDS.

(a) CONSULTANT shall maintain any and all documents and records demonstrating or relating to CONSULTANT's performance of services pursuant to this AGREEMENT. CONSULTANT shall maintain any and all ledgers, books of account, invoices, vouchers, canceled checks, or other documents or records evidencing or relating to work, services, expenditures and disbursements charged to CITY pursuant to this AGREEMENT. Any and all such documents or records shall be maintained in accordance with generally accepted accounting principles and shall be sufficiently complete and detailed so as to permit an accurate evaluation of the services provided by CONSULTANT pursuant to this AGREEMENT. Any and all such documents or records shall be maintained for three years from the date of execution of

this AGREEMENT and to the extent required by laws relating to audits of public agencies and their expenditures.

(b) Any and all records or documents required to be maintained pursuant to this section shall be made available for inspection, audit and copying, at any time during regular business hours, upon written request by CITY or its designated representative. Copies of such documents or records shall be provided directly to the CITY for inspection, audit and copying when it is practical to do so; otherwise, unless an alternative is mutually agreed upon, such documents and records shall be made available at CONSULTANT's address indicated for receipt of notices in this AGREEMENT.

(c) Where CITY has reason to believe that any of the documents or records required to be maintained pursuant to this section may be lost or discarded due to dissolution or termination of CONSULTANT's business, CITY may, by written request, require that custody of such documents or records be given to the requesting party and that such documents and records be maintained by the requesting party. Access to such documents and records shall be granted to CITY, as well as to its successors-in-interest and authorized representatives.

SECTION 8. STATUS OF CONSULTANT.

(a) CONSULTANT is and shall at all times remain a wholly independent contractor and not an officer, employee or agent of CITY. CONSULTANT shall have no authority to bind CITY in any manner, nor to incur any obligation, debt or liability of any kind on behalf of or against CITY, whether by contract or otherwise, unless such authority is expressly conferred under this AGREEMENT or is otherwise expressly conferred in writing by CITY.

(b) The personnel performing the services under this AGREEMENT on behalf of CONSULTANT shall at all times be under CONSULTANT's exclusive direction and control. Neither CITY nor any elected or appointed boards, officers, officials, employees or agents of CITY shall have control over the conduct of CONSULTANT or any of CONSULTANT's officers, employees or agents, except as set forth in this AGREEMENT. CONSULTANT shall not at any time or in any manner represent that CONSULTANT or any of CONSULTANT's officers, employees or agents are in any manner officials, officers, employees or agents of CITY.

(c) Neither CONSULTANT, nor any of CONSULTANT's officers, employees or agents, shall obtain any rights to retirement, health care or any other benefits which may otherwise accrue to CITY'S employees. CONSULTANT expressly waives any claim CONSULTANT may have to any such rights.

SECTION 9. STANDARD OF PERFORMANCE.

CONSULTANT represents and warrants that it has the qualifications, experience and facilities necessary to properly perform the services required under this AGREEMENT in a thorough, competent and professional manner. CONSULTANT shall at all times faithfully, competently and to the best of its ability, experience and talent, perform all services described herein. In meeting its obligations under this AGREEMENT, CONSULTANT shall employ, at a minimum, generally accepted standards and practices utilized by persons engaged in providing services similar to those required of CONSULTANT under this AGREEMENT.

SECTION 10. COMPLIANCE WITH APPLICABLE LAWS; PERMITS AND LICENSES.

CONSULTANT shall keep itself informed of and comply with all applicable federal, state and local laws, statutes, codes, ordinances, regulations and rules in effect during the term of this AGREEMENT. CONSULTANT shall obtain any and all licenses, permits and authorizations necessary to perform the services set forth in this AGREEMENT. Neither CITY nor any elected or appointed boards, officers, officials, employees or agents of CITY, shall be liable, at law or in equity, as a result of any failure of CONSULTANT to comply with this section.

SECTION 11. NONDISCRIMINATION.

CONSULTANT shall not discriminate, in any way, against any person on the basis of race, color, religious creed, national origin, ancestry, sex, age, physical handicap, medical condition or marital status in connection with or related to the performance of this AGREEMENT.

SECTION 12. CONFLICTS OF INTEREST.

(a) CONSULTANT covenants that neither it, nor any officer or principal of its firm, has or shall acquire any interest, directly or indirectly, which would conflict in any manner with the interests of CITY or which would in any way hinder CONSULTANT's performance of services under this AGREEMENT. CONSULTANT further covenants that in the performance of this AGREEMENT, no person having any such interest shall be employed by it as an officer, employee, agent or subcontractor without the express written consent of the City Manager. CONSULTANT agrees to at all times avoid conflicts of interest or the appearance of any conflicts of interest with the interests of CITY in the performance of this AGREEMENT.

(b) CITY understands and acknowledges that CONSULTANT is, as of the date of execution of this AGREEMENT, independently involved in the performance of non-related services for other governmental agencies and private parties. CONSULTANT is unaware of any stated position of CITY relative to such projects. Any future position of CITY on such projects shall not be considered a conflict of interest for purposes of this section.

SECTION 13. CONFIDENTIAL INFORMATION; RELEASE OF INFORMATION.

(a) All information gained or work product produced by CONSULTANT in performance of this AGREEMENT shall be considered confidential, unless such information is in the public domain or already known to CONSULTANT. CONSULTANT shall not release or disclose any such information or work product to persons or entities other than CITY without prior written authorization from the City Manager, except as may be required by law.

(b) CONSULTANT, its officers, employees, agents or subcontractors, shall not, without prior written authorization from the City Manager or unless requested by the City Attorney of CITY, voluntarily provide declarations, letters of support, testimony at depositions, response to interrogatories or other information concerning the work performed under this AGREEMENT. Response to a subpoena or court order shall not be considered "voluntary" provided CONSULTANT gives CITY notice of such court order or subpoena.

(c) If CONSULTANT, or any officer, employee, agent or subcontractor of CONSULTANT, provides any information or work product in violation of this AGREEMENT, then

CITY shall have the right to reimbursement and indemnity from CONSULTANT for any damages, costs and fees, including attorney fees, caused by or incurred as a result of CONSULTANT's conduct.

(d) CONSULTANT shall promptly notify CITY should CONSULTANT, its officers, employees, agents or subcontractors be served with any summons, complaint, subpoena, notice of deposition, request for documents, interrogatories, request for admissions or other discovery request, court order or subpoena from any party regarding this AGREEMENT and the work performed thereunder.

SECTION 14. INDEMNIFICATION.

(a) CITY and its respective elected and appointed boards, officials, officers, agents, employees and volunteers (individually and collectively, "INDEMNITEES") shall have no liability to CONSULTANT or any other person for, and CONSULTANT shall indemnify, defend, protect and hold harmless INDEMNITEES from and against, any and all liabilities, claims, actions, causes of action, proceedings, suits, damages, judgments, liens, levies, costs and expenses of whatever nature, including reasonable attorneys' fees and disbursements (collectively "CLAIMS"), which INDEMNITEES may suffer or incur or to which INDEMNITEES may become subject by reason of or arising out of any injury to or death of any person(s), damage to property, loss of use of property, economic loss or otherwise to the extent occurring as a result of or allegedly caused by the CONSULTANT's negligent acts or omissions or willful misconduct of CONSULTANT, its agents, officers, directors, subcontractors or employees, committed in performing any of the services under this AGREEMENT, except to the extent such actions, claims, damages to persons or property, penalties, obligations, or liabilities arise from the negligent acts, omissions, or willful misconduct of the INDEMNITEES.

(b) If any action or proceeding is brought against INDEMNITEES by reason of any of the matters against which CONSULTANT has agreed to indemnify INDEMNITEES as provided above, CONSULTANT, upon notice from CITY, shall defend INDEMNITEES at CONSULTANT's expense by counsel acceptable to CITY, such acceptance not to be unreasonably withheld. INDEMNITEES need not have first paid for any of the matters to which INDEMNITEES are entitled to indemnification in order to be so indemnified. The insurance required to be maintained by CONSULTANT under Section 15 shall ensure CONSULTANT's obligations under this section, but the limits of such insurance shall not limit the liability of CONSULTANT hereunder. The provisions of this section shall survive the expiration or earlier termination of this AGREEMENT.

(c) The provisions of this section do not apply to CLAIMS occurring as a result of the CITY's sole negligence or willful acts or omissions.

SECTION 15. INSURANCE.

A. Insurance Requirements. CONSULTANT shall provide and maintain insurance, acceptable to the City Attorney, in full force and effect throughout the term of this AGREEMENT, against claims for injuries to persons or damages to property which may arise from or in connection with the performance of the work hereunder by CONSULTANT, its agents, representatives or employees. Insurance is to be placed with insurers with a current A.M. Best's rating of no less than A:VII. CONSULTANT shall provide the following scope and limits of insurance:

B. Workers' Compensation. Consultant shall, at its sole cost and expense, maintain Statutory Workers' Compensation Insurance and Employer's Liability Insurance for any and all persons employed directly or indirectly by Consultant. The Statutory Workers' Compensation Insurance and Employer's Liability Insurance shall be provided with limits of not less than ONE MILLION DOLLARS ($1,000,000.00) per accident. In the alternative, Consultant may rely on a self-insurance program to meet those requirements, but only if the program of self-insurance complies fully with the provisions of the California Labor Code. Determination of whether a self-insurance program meets the standards of the Labor Code shall be solely in the discretion of the Contract Administrator. The insurer, if insurance is provided, or the Consultant, if a program of self-insurance is provided, shall waive all rights of subrogation against the City and its officers, officials, employees, and authorized volunteers for loss arising from work performed under this Agreement.

C. Commercial General Automobile Liability Insurance.

General requirements. Consultant, at its own cost and expense, shall maintain commercial general and automobile liability insurance for the term of this Agreement in an amount not less than ONE MILLION DOLLARS ($1,000,000.00) per occurrence, combined single limit coverage, for risks associated with the work contemplated by this Agreement. If a Commercial General Liability Insurance or an Automobile Liability form or other form with a general aggregate limit is used, either the general aggregate limit shall apply separately to the work to be performed under this Agreement or the general aggregate limit shall be at least twice the required occurrence limit. Such coverage shall include but shall not be limited to, protection against claims arising from bodily and personal injury, including death resulting therefrom, and damage to property resulting from activities contemplated under this Agreement, including the use of owned and non-owned automobiles.

Minimum scope of coverage. Commercial general coverage shall be at least as broad as Insurance Services Office Commercial General Liability occurrence form CG 0001 or GL 0002 (most recent editions) covering comprehensive General Liability and Insurance Services Office form number GL 0404 covering Broad Form Comprehensive General Liability. Automobile coverage shall be at least as broad as Insurance Services Office Automobile Liability form CA 0001 (ed. 12/90) Code 8 and 9. No endorsement shall be attached limiting the coverage.

Additional requirements. Each of the following shall be included in the insurance coverage or added as a certified endorsement to the policy:

a. The insurance shall cover on an occurrence or an accident basis, and not on a claims-made basis.

b. Any failure of Consultant to comply with reporting provisions of the policy shall not affect coverage provided to City and its officers, employees, agents, and volunteers.

D. Professional Liability Insurance.

General requirements. Consultant, at its own cost and expense, shall maintain for the period covered by this Agreement professional liability insurance for licensed professionals

performing work pursuant to this Agreement in an amount not less than ONE MILLION DOLLARS ($1,000,000) covering the licensed professionals' errors and omissions. Any deductible or self-insured retention shall not exceed $150,000 per claim.

Claims-made limitations. The following provisions shall apply if the professional liability coverage is written on a claims-made form:

a. The retroactive date of the policy must be shown and must be before the date of the Agreement.

b. Insurance must be maintained and evidence of insurance must be provided for at least five years after completion of the Agreement or the work, so long as commercially available at reasonable rates.

c. If coverage is canceled or not renewed and it is not replaced with another claims-made policy form with a retroactive date that precedes the date of this Agreement, Consultant must provide extended reporting coverage for a minimum of five years after completion of the Agreement or the work. The City shall have the right to exercise, at the Consultant's sole cost and expense, any extended reporting provisions of the policy, if the Consultant cancels or does not renew the coverage.

d. A copy of the claim reporting requirements must be submitted to the City prior to the commencement of any work under this Agreement.

E. All Policies Requirements.

Acceptability of insurers. All insurance required by this section is to be placed with insurers with a Bests' rating of no less than A:VII.

Verification of coverage. Prior to beginning any work under this Agreement, Consultant shall furnish City with Certificates of Insurance, and upon request, complete certified copies of all policies, including complete certified copies of all endorsements. All copies of policies and certified endorsements shall show the signature of a person authorized by that insurer to bind coverage on its behalf.

Notice of Reduction in or Cancellation of Coverage. A certified endorsement shall be attached to all insurance obtained pursuant to this Agreement stating that coverage shall not be suspended, voided, canceled by either party, or reduced in coverage or in limits, except after thirty (30) days' prior written notice by certified, mail, return receipt requested, has been given to the City. In the event that any coverage required by this section is reduced, limited, cancelled, or materially affected in any other manner, Consultant shall provide written notice to City at Consultant's earliest possible opportunity and in no case later than ten (10) working days after Consultant is notified of the change in coverage.

Additional insured; primary insurance. City and its officers, employees, agents, and authorized volunteers shall be covered as additional insureds with respect to each of the following: liability arising out of activities performed by or on behalf of Consultant, including the insured's general supervision of Consultant; products and completed operations of Consultant, as applicable; premises owned, occupied, or used by Consultant; and automobiles owned, leased, or used by the Consultant in the course of providing services pursuant to this Agreement. The coverage shall contain no special limitations on the scope of protection

afforded to City or its officers, employees, agents, or authorized volunteers.

A certified endorsement must be attached to all policies stating that coverage is primary insurance with respect to the City and its officers, officials, employees and volunteers, and that no insurance or self-insurance maintained by the City shall be called upon to contribute to a loss under the coverage.

Deductibles and Self-insured Retentions. Consultant shall disclose to and obtain the approval of City for the self-insured retentions and deductibles before beginning any of the services or work called for by any term of this Agreement.

During the period covered by this Agreement, only upon the prior express written authorization of City Manager or designee, Consultant may increase such deductibles or self-insured retentions with respect to City, its officers, employees, agents, and volunteers. The City Manager or designee may condition approval of an increase in deductible or self-insured retention levels with a requirement that Consultant procure a bond guaranteeing payment of losses and related investigations, claim administration, and defense expenses that is satisfactory in all respects to each of them.

Subcontractors. Consultant shall include all subcontractors as insureds under its policies or shall furnish separate certificates and certified endorsements for each subcontractor. All coverages for subcontractors shall be subject to all of the requirements stated herein.

Variation. City Manager or designee may approve in writing a variation in the foregoing insurance requirements, upon a determination that the coverage, scope, limits, and forms of such insurance are either not commercially available, or that the City's interests are otherwise fully protected.

Remedies. In addition to any other remedies City may have if Consultant fails to provide or maintain any insurance policies or policy endorsements to the extent and within the time herein required, City may, at its sole option, exercise any of the following remedies, which are alternatives to other remedies City may have and are not the exclusive remedy for Consultant's breach:

- Obtain such insurance and deduct and retain the amount of the premiums for such insurance from any sums due under the Agreement;
- Order Consultant to stop work under this Agreement or withhold any payment that becomes due to Consultant hereunder, or both stop work and withhold any payment, until Consultant demonstrates compliance with the requirements hereof; and/or
- Terminate this Agreement.

SECTION 16. ASSIGNMENT.

The expertise and experience of CONSULTANT are material considerations for this AGREEMENT. CITY has an interest in the qualifications of and capability of the persons and entities who will fulfill the duties and obligations imposed upon CONSULTANT under this AGREEMENT. In recognition of that interest, CONSULTANT shall not assign or transfer this Agreement or any portion of this AGREEMENT or the performance of any of CONSULTANT's

duties or obligations under this AGREEMENT without the prior written consent of the City Council. Any attempted assignment shall be ineffective, null and void, and shall constitute a material breach of this AGREEMENT entitling CITY to any and all remedies at law or in equity, including summary termination of this AGREEMENT. CITY acknowledges, however, that CONSULTANT, in the performance of its duties pursuant to this AGREEMENT, may utilize subcontractors.

SECTION 17. CONTINUITY OF PERSONNEL.

CONSULTANT shall make every reasonable effort to maintain the stability and continuity of CONSULTANT's staff assigned to perform the services required under this AGREEMENT. CONSULTANT shall notify CITY of any changes in CONSULTANT's staff assigned to perform the services required under this AGREEMENT, prior to any such performance.

SECTION 18. TERMINATION OF AGREEMENT.

(b) CITY may terminate this AGREEMENT, with or without cause, at any time by giving thirty (30) days written notice of termination to CONSULTANT. In the event such notice is given, CONSULTANT shall cease immediately all work in progress.

(c) CONSULTANT may terminate this AGREEMENT at any time upon thirty (30) days written notice of termination to CITY.

(d) If either CONSULTANT or CITY fails to perform any material obligation under this AGREEMENT, then, in addition to any other remedies, either CONSULTANT, or CITY may terminate this AGREEMENT immediately upon written notice.

(e) Upon termination of this AGREEMENT by either CONSULTANT or CITY, all property belonging exclusively to CITY which is in CONSULTANT's possession shall be returned to CITY. CONSULTANT shall furnish to CITY a final invoice for work performed and expenses incurred by CONSULTANT, prepared as set forth in SECTION 4 of this AGREEMENT. This final invoice shall be reviewed and paid in the same manner as set forth in SECTION 4 of this AGREEMENT.

SECTION 19. DEFAULT.

In the event that CONSULTANT is in default under the terms of this AGREEMENT, the CITY shall not have any obligation or duty to continue compensating CONSULTANT for any work performed after the date of default and may terminate this AGREEMENT immediately by written notice to the CONSULTANT.

SECTION 20. COOPERATION BY CITY.

All public information, data, reports, records, and maps as are existing and available to CITY as public records, and which are necessary for carrying out the work as outlined in the EXHIBIT "A" "SCOPE OF SERVICES", "FEE SCHEDULE" shall be furnished to CONSULTANT in every reasonable way to facilitate, without undue delay, the work to be performed under this AGREEMENT.

SECTION 21. NOTICES.

All notices required or permitted to be given under this AGREEMENT shall be in writing and shall be personally delivered, or sent by telecopier or certified mail, postage prepaid and return receipt requested, addressed as follows:

To CITY: Michele Nissen
City Manager

To CONSULTANT: MCE Corporation
6515 Trinity Court
Dublin, CA 94568
Attn: Steve Loweree, Senior Vice President

Notice shall be deemed effective on the date personally delivered or transmitted by facsimile or, if mailed, three (3) days after deposit of the same in the custody of the United States Postal Service.

SECTION 22. AUTHORITY TO EXECUTE.

The person or persons executing this AGREEMENT on behalf of CONSULTANT represents and warrants that he/she/they has/have the authority to so execute this AGREEMENT and to bind CONSULTANT to the performance of its obligations hereunder.

The City Council has authorized the undersigned to execute this AGREEMENT.

SECTION 23. BINDING EFFECT.

This AGREEMENT shall be binding upon the heirs, executors, administrators, successors and assigns of the parties.

SECTION 24. MODIFICATION OF AGREEMENT.

No amendment to or modification of this AGREEMENT shall be valid unless made in writing and approved by the CONSULTANT and by the City Council. The parties agree that this requirement for written modifications cannot be waived and that any attempted waiver shall be void.

SECTION 25. WAIVER.

Waiver by any party to this AGREEMENT of any term, condition, or covenant of this AGREEMENT shall not constitute a waiver of any other term, condition, or covenant. Waiver by any party of any breach of the provisions of this AGREEMENT shall not constitute a waiver of any other provision, nor a waiver of any subsequent breach or violation of any provision of this AGREEMENT. Acceptance by CITY of any work or services by CONSULTANT shall not constitute a waiver of any of the provisions of this AGREEMENT.

SECTION 26. LAW TO GOVERN; VENUE.

This AGREEMENT shall be interpreted, construed and governed according to

the laws of the State of California. In the event of litigation between the parties, venue in state trial courts shall lie exclusively in the County of Riverside.

SECTION 27. ATTORNEYS FEES, COSTS AND EXPENSES.

In the event litigation or other proceeding is required to enforce or interpret any provision of this AGREEMENT, the prevailing party in such litigation or other proceeding shall be entitled to an award of reasonable attorney's fees, costs and expenses, in addition to any other relief to which it may be entitled.

SECTION 28. ENTIRE AGREEMENT.

This AGREEMENT, including the attached ATTACHMENT "A" are the entire, complete, final and exclusive expression of the parties with respect to the matters addressed therein and supersedes all other agreements or understandings, whether oral or written, or entered into between CONSULTANT and CITY prior to the execution of this AGREEMENT. No statements, representations or other agreements, whether oral or written, made by any parties which are not embodied herein shall be valid and binding. No amendment to this AGREEMENT shall be valid and binding unless in writing duly executed by the parties or their authorized representatives.

SECTION 29. SEVERABILITY.

If any term, condition or covenant of this AGREEMENT is declared or determined by any court of competent jurisdiction to be invalid, void or unenforceable, the remaining provisions of this AGREEMENT shall not be affected thereby and the AGREEMENT shall be read and construed without the invalid, void or unenforceable provision(s).

IN WITNESS WHEREOF, the parties hereto have caused this AGREEMENT to be executed the day and year first above written.

CITY OF EASTVALE

By_____
Ike Bootsma, Mayor

ATTEST:

_____
Marc Donohue, City Clerk

APPROVED AS TO FORM:

_____
John E. Cavanaugh, City Attorney

CONSULTANT:

By_____
SR. VICE PRESIDENT

EXHIBIT "A"

Request For Proposals For On Call Miscellaneous Maintenance Services

City of Eastvale
12363 Limonite Avenue
Eastvale, CA 91752

Submitted By:

MCE Corporation
6515 Trinity Court
Dublin, California 94568
Due: Monday, June 13, 2016
By 3:00 PM
Attn: City Clerk

UNBOUND ORIGINAL

Craig Bradshaw
Supervising Engineer
City of Eastvale
12363 Limonite Avenue
Eastvale, CA 91752

June 10, 2016

RE: Request for Proposals – On Call Miscellaneous Maintenance Services

Dear Craig:

Thank you for the opportunity to submit our proposal. We believe our proposal to be complete and consistent with the intent of the above referenced RFP.

Our maintenance division primarily works for public agencies allowing MCE to gain the proper perspective on working in the public sector. We maintain a fairly small roster of clients which allows field and management personnel to treat all of our customers with the attention they deserve. The City of Eastvale project fits very well into our growth plan and we are excited about the opportunity.

Our experience providing contract services in a variety of Public Works Maintenance disciplines, we believe, provides MCE a very clear and complete understanding of your system and its many facets. We have the unique experience of currently providing multi-faceted maintenance programs in park, landscape, streets, facilities and drainage maintenance to multiple public agencies.

MCE will not, likely, be the lowest proposer. We rarely are. We will, however, be the most complete and flexible which will give you the benefit of dealing with a company that can change gears quickly due to budget constraints or increased inventory or levels of service.

One of the unique aspects of our services is our employees. MCE is an ESOP (Employee Stock Ownership Plan) and this gives our employees added motivation to do the right thing for our clients and MCE, as they have a vested interest in MCE's overall performance. We take our duty to serve very seriously.

We hope to be granted an interview. There is so much more about MCE than can be communicated in an RFP format. We have programs and policies in place to ensure we provide the best value and wish to share them with the City of Eastvale.

MCE typically provides our municipal clients with all the advantages of our Maintenance Management System (MMS). The MMS provides a performance based work program and budget, tracking reports of accomplishments, vandalism, graffiti and many other elements useful in managing the work. Unfortunately due to page limitations we cannot provide a full range of our MMS capabilities. Ultimately the use of a performance based work program and budget is the most cost effective approach to providing public works maintenance. We would welcome the opportunity to meet with the City to discuss our proposal and how we can best serve the residents of Eastvale.

Lastly, in addition to the references noted in this document, MCE was recently awarded the Public Works maintenance contract for Jurupa Valley. We begin service July 1.

MCE is registered for SB 854.
Registration Number: 1000001789

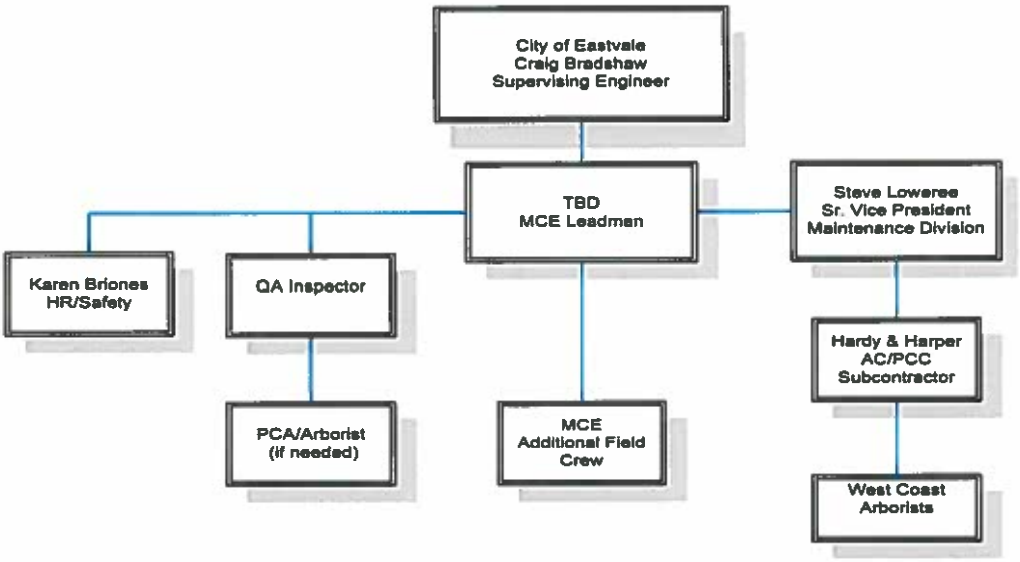
Sincerely,

Steve Loweree
Senior Vice President- Maintenance Division/ Corporate Secretary
MCE Corporation
Office 925-452-2709
Cell 925-766-0756
Fax 925-803-4404
sloweree@mce-corp.com

B. Conflict of Interest: MCE has no financial, business or other relationships with the City of Eastvale.

C. Qualifications and Experience
   a. Firm Qualifications: See Minimum Qualifications Section.
   b. Project Team;

City of Eastvale Proposed Staffing Chart



Principal In Charge
Steve Loweree Sr. Vice-President - Maintenance Division - 31 Year Employee

Vice President-Maintenance Division- MCE: Mr. Loweree has been providing overall supervision of all maintenance management contracts and the division since 1996. Duties include meeting with clients to review work programs, budgets and schedules of work. In this capacity he has developed bid specifications, bid various subcontract services, hired

dedicated in-house staff, developed annual work programs and budgets, worked with City staff to develop system protocols for service requests, emergency call out procedures, and emergency response manuals, in addition to, performing various other start up activities.

Maintenance Superintendent - MCE: Assigned for nine years to this position in the City of Dublin. Developed and implemented work programs and budgets for two new departments (Park and Buildings), as well as an existing department (Streets). Supervised the work performed by in-house crews, as well as all subcontract work and the negotiation of subcontract prices and specifications.

Landscape Foreman-MCE: Landscape Foreman for municipal landscape planting and irrigation projects for two years.

Landscape Foreman-Philips Landscaping: Seven years with Phillips Landscaping in Hudson, Ohio, after starting as a laborer. Responsible for both construction and maintenance accounts, including crew supervision, scheduling and customer service.

Dean McDonald **Vice President/Certified Arborist/Tree Risk Assessment Qualified- 20 Year Employee**

Certifications: ISA Certified Arborist- WE10335A

Vice President / Project Manager - MCE: Mr. McDonald is currently providing direct field supervision of maintenance contracts in Dublin, Lafayette and Atherton. On all projects, Mr. McDonald is the direct contact with the client and actively participates in the on-site quality assurance program, quarterly performance reviews, safety inspections, annual revision and approval of work programs / budgets and provides for technical and management assistance on an as needed basis.

Branch Manager – Tru Green Landcare: Responsible for assisting in the overall management of the Concord Branch. Directly supervised 19 employees and serviced 73 customers with monthly revenue of $500,000.

Maintenance Superintendent – MCE: Mr. McDonald started in 1989 as a landscape laborer and was promoted to Park Foreman in 1990. Promoted to Sr. Foreman in 1992. Placed in City of Alameda as Park Manager in 1994. In this position was responsible for supervision of City park personnel and all park maintenance operations. 1995 returned to Dublin as Maintenance Superintendent. As Superintendent, his duties included

maintaining facilities including streets, parks, building and right of ways. Duties included oversight of all daily functions of Park and Street crews. Reviewed daily, weekly and monthly schedules. Responded directly to calls or formal service requests from the City staff or residents and attended meetings of City staff and other agencies at the request of City. Provided inspections on landscapes and other facilities that were turned over to City.

Ed Murdock	**Quality Assurance/PCA/Certified Arborist- 10 Year Employee**
Certifications:	Pest Control Advisors License- No. 73962, QAC- No. 121774, QAL- No. 124447 and ISA Certified Arborist- WE1913A

Quality Assurance Inspector – MCE: Since 2012, Mr. Murdock's primary functions with MCE has been as a quality assurance inspector for MCE's contract with the City of Fremont in which he provides inspections of the city's maintenance contractor. In addition to these duties, he provides safety inspections and compliance monitoring, arborist and pest control advisor services and training of MCE employees engaged in chemical applications.

Maintenance Superintendent – MCE: From 2006 to 2011, Mr. Murdock was Maintenance Superintendent in cities such as Brentwood, Lafayette and Dublin. He served a variety of capacities in these cities similar to his previous duties with the City of Livermore and LARPD.

Maintenance Supervisor – City of Livermore: From 1990 to 2005, Mr. Murdock was with the City in a variety of capacities. He retired in 2005 as the Maintenance Supervisor. Mr. Murdock was responsible for the daily supervision of all crews performing landscape maintenance in addition to managing contract services.

Senior Supervisor – Livermore Area Park & Recreation District (LARPD): From 1981 to 1990 Mr. Murdock was with LARPD in a variety of capacities. Mr. Murdock was responsible for the daily supervision of all crews performing landscape maintenance in addition to managing contract services, fleet management and building maintenance

Tom Worster IT Manager – 2 Year Employee

Education: MBA – Information Technologies- University of Phoenix, B.S. Marketing- University of Phoenix

Mr. Worster is responsible for all technologies and application development at MCE Corporation. He has developed specific applications for field maintenance management and supports the MCE maintenance management system (MMS), equipment management systems and cost accounting applications.

His professional background covers more than 30 years in software engineering/application design and development, technology management, financial planning, budgeting, project management, accounting, and supervision.

Prior to joining MCE, Mr. Worster owned and operated several small companies; including a software engineering and consulting firm, a broadband engineering firm and was employed as Director of Information Technology in the medical industry.

Personnel Assigned to the City of Eastvale

Upon notification by the City that MCE is the choice to go to the City Council for award of contract, MCE will begin to immediately finalize the primary MCE responder to the City of Eastvale as well as identify all support personnel. It is MCE's intention to use multiple resources to secure the best and most qualified personnel available for the City of Eastvale.

All MCE employees must pass a physical, drug screen and background check before employment with MCE. Driving records are reviewed routinely.

c. Scope of Work and Approach: MCE is very familiar and experienced with the scope of work as indicated in the Minimum Qualifications Section. Our approach to response will be to develop a primary MCE responder and then his secondary support.

d. Reference Projects: Please see Minimum Qualifications Section.

e. List of Cities with on call contracts: All of our contracts have some element of on call services although none are fully on call. Please see Minimum Qualifications Section for specific city information.

f. Resumes/Certifications: Please b. Project Team

D. Cost and Fee: Please see enclosed Attachment B.

E. Required Statements

a. This proposal shall remain valid for a period not less than 90 calendar days from the date of submittal.

b. MCE has examined and is familiar with the RFP, its terms and conditions and accepts and will comply with the requirements, terms and conditions as outlined.

c. MCE has the necessary experience, knowledge, abilities, skills and resources to satisfactorily finance and complete this project.

ATTACHMENT "B"

PROPOSED PRICES

ASPHALT REPAIR ALONG AREAS OF REPLACED CONCRETE

JOB SITE: VARIOUS LOCATIONS

PER LOCATION

ASPHALT	REPLACE ASPHALT SECTION UP TO 4" THICK	REMOVE & REPLACE ASPHALT SECTION 6" THICK	BUSY STREET SECTION REQUIRING HEAVY TRAFFIC CONTROL UP TO 6" THICK
MINIMUM REPAIR COST INCLUDING MOVE IN	1,760.00	1,760.00	2,310.00
UP TO 100 SQ. FT.	17.60	19.80	26.40
101 SQ. FT. UP TO 200 SQ. FT	14.30	16.50	22.00
ADDITIONAL THICKNESS	1.68 per inch / SF	1.65 per inch / SF	2.20 per inch / SF

ASPHALT BERM 6"	8.80 PER LF
CRUSHER BASE (4")	44.00 PER SF

AUTHORIZED SIGNATURE

PROPOSED PRICES
CONCRETE REPAIR
JOB SITE: VARIOUS LOCATIONS
PER LOCATION

CONCRETE	REMOVE & REPLACE SIDEWALK SECTION 4" THICK	REMOVE & REPLACE SIDEWALK SECTION 6" THICK	REMOVE & REPLACE CROSS GUTTER APPROACH OR STREET SECTION UP TO 8" THICK
MINIMUM REPAIR COST	2,420.00	2,420.00	2,420.00
UP TO 100 SQ. FT.	13.20	16.50	19.80
101 SQ. FT. UP TO 200 SQ. FT	13.20	16.50	19.80
201 SQ. FT UP TO 500 SQ. FT.	13.20	16.50	19.80
501 SQ. FT. UP TO 2000 SQ. FT.	12.10	15.40	18.70
2001 SQ. FT. AND UP	11.00	14.30	17.60
ADDITIONAL THICKNESS	2.20 per inch/SF	2.20 per inch/SF	2.20 per inch/SF
CURB & GUTTER SECTION	2,750.00 MIN. REPAIR	71.50 UP TO 20 LF	66.00 21 LF TO 50 LF
DOWELING	16.50 per LF		

AUTHORIZED SIGNATURE

PROPOSED PRICES
MISCELLANEOUS
JOB SITE: VARIOUS LOCATIONS
PER LOCATION

SAW CUTTING, INCLUDING VACUUM UNIT & TRAFFIC CONTROL, MINIMUM CHARGE	$ 990.00	PLUS	
SAW CUTTING UP TO 300 LF 4" THICK	$ 2.20	PER LF	
SAW CUTTING UP TO 300 LF 6" THICK	$ 2.53	PER LF	
VACUUM & DISPOSAL OF SAW CUT LIQUID & SPOILS	$ 121.00 / hr.		
3500 LB. CONCRETE BREAKER WITH 853 BOBCAT LOADER OR EQUIVALENT	$ 189.50 / hr.		
PICKUP TRUCK OR SERVICE TRUCK RENTAL	$ 12.00 / hr.		
INSTALLATION OF STOP SIGN (ENG. GRADE), CORE DRILL, SLEEVE, POST (EACH)	$ T&M		
RETROFIT OF EXISITING HANDICAP RAMP WITH YELLOW TACTILE INSERT (EACH)	$ 550.00		
REMOVE AND REPLACE CONCRETE (CURB RAMP) (CASE A) (EACH)	$ 3,080.00		
REMOVE AND REPLACE CONCRETE (CURB RAMP) (CASE B) (EACH)	$ 3,080.00		

WEED ABATEMENT

	RATE		
SPRAY WEEDS IN ROADWAY SEAMS, PER LINEAR FEET	$ 0.010		
SPRAY WEEDS IN ROADWAY SEAMS, 500 LIINEAR FEET, PLUS PER LINEAR FOOT	$ 5.00	PLUS	0.010
WEED SPRAYING AND ABATEMENT FOR UP TO 1,000 SQUARE FEET	$ 15.00 / MSF		
WEED SPRAYING AND ABATEMENT FOR UP TO 5,000 SQUARE FEET	$ 60.00 / 5MSF		
WEED SPAYING AND ABATEMENT FOR UP TO 10,890 SQUARE FEET (1/4 ACRE)	$ 64 PER 1/4 ACRE		

AUTHORIZED SIGNATURE

LANDSCAPING AND IRRIGATION MAINTENANCE

	RATE
PARKWAY MAINTENANCE , LANDSCAPING AND IRRIGATION, PER SQUARE FOOT	$ TBD
PARKWAY MAINTENANCE, LANDSCAPING AND IRRIGATION, 500 SF. PLUS PSF	$ TBD PLUS
NEW PARKWAY LANDSCAPING AND IRRIGATION, PER SQUARE FOOT	$ TBD
NEW PARKWAY LANDSCAPING AND IRRIGATION, 500 SF PLUS PSF COST	$ TBD PLUS
WEED SPAYING AND ABATEMENT FOR UP TO 10,890 SQUARE FEET (1/4 ACRE)	$ TBD
LANDSCAPING MAINTNENACE AT FIRESTATION # 27, (7067 Hamner Avenue, biweekly maintenance)	$ TBD

AUTHORIZED SIGNATURE

RATES - PREVAILING WAGES

	STRAIGHT TIME	OVERTIME	DOUBLE TIME
SUIPERINTENDENT/ FOREMAN	$ TBD	$ TBD	$ TBD
EQUIPMENT OPERATOR	$ 79.02	$ 103.98	$ 129.15
GENERAL LABOR	$ 58.81	$ 77.10	$ 95.37
	$ SEE ATTACHED RATE SHEET	$	$

MATERIAL MARK-UP

MATERIAL MARK-UP PERCENTAGE ON TIME AND MATERIAL PROJECTS	10 %

AUTHORIZED SIGNATURE

CITY OF EASTVALE PROPOSED RATES

	Regular Rate/HR	Overtime Rate/HR	Sun & Hol. Rate/HR
MCE MAINTENANCE CREW			
Supervisor	$37.83	$51.07	$68.94
Lead Person	$29.07	$39.04	$52.98
Crew Leader	$24.02	$32.42	$43.77
Laborer	$19.00	$26.60	$37.24
MCE - TRADE PREVAILING WAGES			
Traffic Control Person	$60.75	$81.17	$101.60
Sign Repair Worker	$59.24	$78.91	$98.57
Construction Laborer	$58.81	$77.10	$95.37
Backhoe Operator	$79.02	$103.98	$129.15
Tree Maintenance Laborer	$20.52	$29.85	$39.17

MCE - MAINTENANCE CREW EQUIPMENT	
Pick Up	$9.00
Utility Bed	$10.00
Flatbed Dump	$10.50
String Line Trimmer	$2.00
Backpack Blower	$2.00
Chain Saw	$3.00
Weed Mower	$4.50
Vibra Plate	$6.60

Subcontractor Mark Up - 10%

Materials Mark Up - 10%

Minimum Qualifications

1- MCE's Contractors License Number is 439295. MCE possesses A, B, C8, C12 and C27 licenses.

2- MCE has an on-going master subcontract agreement with West Coast Arborists for varied tree services. WCA has subcontracted with MCE for over 15 years on several municipal projects.

3- Company Background;
   a. MCE Corporation, 6515 Trinity Court, Dublin Ca 94568. Incorporated as an S Corp in 1983.

   b. Eastvale will be serviced from MCE yards in Montclair and Riverside

   c. Employees servicing Eastvale will come from the Montclair and Riverside facilities.

   d. Steve Loweree, Senior Vice President- Maintenance Division is the main contact for this solicitation. Steve is located in the main office at the address above. Email- sloweree@mce-corp.com. Cell number is 925-766-0756. Office number is 925-452-2709.

   e. Following is company background.

      MCE Corporation was established in 1983 and has a history of developing long-term relationships with government clients. MCE has two divisions, Maintenance and Construction. The company is a client-oriented firm and is best known for its innovative accomplishments in managing and performing municipal maintenance services on a contract basis. MCE's Maintenance Division has successfully applied maintenance management principals to the actual hands-on management and performance of numerous municipal contract services throughout California in the areas of:

      - Parks / Roadside Landscape Maintenance
      - Street / Pavement Maintenance
      - Storm Drain / Flood Control Maintenance
      - Buildings / Grounds Maintenance

Our clients receive the benefits of comprehensive management systems that provide for the advanced planning necessary to extend the life and protect the investment in their assets. Our highly qualified staff works with customers to ensure that services provided are high quality, reliable and cost effective. MCE maintains a relatively small client base so that we can better serve our municipal partners.

MCE's Construction Division also works for municipal or utility agencies, primarily in Northern California. The Division has been providing pavement restoration services to PG&E and their subcontractors for 30 years. The Division works in the following areas;

- Site Improvements;
- Pavement Management Programs;
- Asphalt / Concrete Construction / Repairs / Maintenance;
- Drainage Installation / Repairs; and,
- Storm Damage/Slide Repairs.

f. MCE has been providing municipal maintenance services for 33 years.

4- References- Due to page limitations, not all municipal references are shown.

Contract Agency:	**City of Dublin**
Contract Title:	Public Works Municipal Services
Project Manager:	Gary Huisingh Public Works Director City of Dublin 100 Civic Plaza, Dublin, CA 94568 (925) 833-6630 Email ~ gary.huisingh@ci.dublin.ca.us
Contract Period:	1984 to Present. These have been a series of 3 year contracts since 1984. In 2012, MCE was awarded a 5 year contract.
Contract Scope:	Full service Public Works maintenance including parks, streets, landscape, buildings, drainage maintenance and special events including the annual St. Patrick's Day parade and festival.
Contract Amount:	FY 15-16 is estimated at $4,200,000
Staffing:	30

Contract Agency:	**City of Diamond Bar**
Contract Title:	Right of Way and Vegetation Maintenance Services

Project Manager:	David Liu Director of Public Works/City Engineer City of Diamond Bar 21825 East Copley Drive Diamond Bar, California 91765 909-839-7061 E Mail –David.liu@ci.diamond-bar.ca.us
Contract Period:	July 1, 2000 through to June 30, 2019
Contract Scope:	Right of Way vegetation and litter control along major streets.
Contract Amount	FY 15-16 is estimated at $180,000
Staffing:	2

Contract Agency:	**City of Pomona**
Contract Title:	Parks and Landscape Facilities Maintenance
Project Manager:	Antonio Karraa Parks Manager City of Pomona 636 W. Monterey Avenue Pomona, CA 91769 (909) 620-2481 Email – antonio_karraa@ci.pomona.ca
Contract Period:	April 2014 to Present. Contract is for 3 years with options
Contract Scope:	Full service park and landscape maintenance services.
Contract Amount	FY 15-16 is estimated at $1,200,000
Staffing:	20

Contract Agency:	**City of Rancho Cordova**
Contract Title:	Public Works Maintenance Services
Project Manager:	Steve Harriman Operations and Maintenance Manager City of Rancho Cordova 2729 Prospect Park Drive Rancho Cordova, California 95670 (916) 851-8716 Email ~ sharriman@cityofranchocordova.org
Contract Period:	2010 to Present. Contracted through June 30, 2019
Contract Scope:	Public Works Maintenance including street maintenance functions such as sign work, graffiti removal, vegetation control, litter control.

Contract Amount:	FY 15-16 is estimated at $450,000.
Staffing:	8

Contract Agency:	**City of Cudahy**
Contract Title:	Park & Facilities Maintenance Services
Project Manager:	Michael Allen Community Development Director City of Cudahy 5220 Santa Ana Street Cudahy, CA 90201 (323)-773-5143 Email ~ mallencityofcudahyca.gov
Contract Period:	March, 2016 to June, 2019. Contract is for 3 years with options
Contract Scope:	Full service park and facility maintenance services.
Contract Amount:	Balance of FY 15-16 is estimated at $75,000. FY 16-17 is estimated at $310,000.
Staffing:	4

5- MCE can meet the requirements of Section III. With a combination of in house staff and subcontract support from Hardy & Harper and West Coast Arborists, we will be able to respond to service requests in a timely manner. Additionally, MCE has extensive experience providing traffic control and other support services for community events such as parades and festivals.

6- MCE can execute the agreement.

7- MCE has completed Attachment B with the following changes;

a. We cannot provide unit (SF) pricing on landscape maintenance due to wide variety of landscape types, available water, service levels requested or required and many other factors that must first be determined first. MCE can provide pricing with more information.

b. The City of Eastvale has requested unit (Each) pricing on a stop sign installation. Like landscape maintenance, there are far too many variables to give a single unit price. Whether a sign is installed in dirt or concrete, size of the stop sign and other factors can greatly impact the price. Since a proposer has to cover all variables in a unit price, situations will occur in which the City will pay too much for some or many of these installations. MCE can provide competitive T&M rates for this work and estimated not too exceed costs for sign repair and installations.

c. We have provided the unit pricing for spraying but suggest a T&M format with a not to exceed dollar amount instead.

Use of Technology

MCE utilizes the latest smart-phone/tablet technologies for the project/company's data processing and communication needs; including email and web capabilities. In an effort to reduce paper, increase efficiency and to capture real time project information, all essential crew members have a smart phone and/or tablet in which they directly input their project information at the completion of each task. This allows the On-Site Supervisor to monitor crew activities in real time as soon as work is completed, which provides the ability to manage their projects more effectively.

Supervisory personnel also carry tablets. This allows them to review attached documents to e mails, review work accomplishments from crews, easily search the internet for industry related sites and perform QA's while still being in the field.

MCE takes great pride in the technology tools the Company has developed to stay innovative and responsive in the highly competitive area of landscape maintenance. Our technological advances include:

- Computerized Maintenance Management System which includes programs for development of a performance-based work program and budget, workload distribution/work calendar, periodic performance work reports and invoicing;
- Use of PDF files for sending invoices and other data to clients;
- Use of smart phones, laptops, tablets and development of proprietary software to record inspection assessment for MCE's QA Program.
- Development of a computerized service request tracking program.
- Use of smart phones and tablets and the development of a proprietary web application for employees to enter their time, equipment, materials and accomplishments for each task performed. This is done at the conclusion of each task.

MCE will continue to develop the technology necessary to provide for quality, reliable and cost effective maintenance services. The development and implementation of improved systems, procedures and approaches will be applied to the City of Eastvale Valley as a part of our ongoing commitment to our clients.

MAINTENANCE STANDARDS		
ITEM: General Landscape	TASK: Litter	3/8/2016

ACCEPTABLE

General Notes: Litter is not present in the landscape at all.

UNACCEPTABLE

General Notes: Unacceptable if litter is detracting from the appearance of the landscape. In this photo, there are large pieces of litter in addition to too much small litter and that detracts from the appearance.

MCE TASK MANAGEMENT AND SAFETY STANDARDS		
ACTIVITY: Litter Pickup (Spot)	**CODE**: A6-01	Original: 3/8/2016
LOCATION: All	**UNIT**: Hours	Revised:

ACTIVITY DEFINITION:

Removal of litter from the right-of-way, medians or parks, generally around locations that tend to generate litter such as fast food establishments, schools, etc. The emptying of trash receptacles in parks or right-of-ways is also included in this activity.

Note: Accomplishment for this activity should be reported on the white tag as the number of hours worked per employee.

Acceptable Standard

Unacceptable Standard

Tools Required: Flatbed truck, trash picker, trash bags, traffic control devices (see attachments).

TOP 5 NOTES:

1. Before leaving check the area to make sure that no areas were missed.
2. Secure debris in trucks before leaving.
3. Use good time management. Overtime must be approved by your supervisor.
4. Make sure trash cans have bags and are clean with no odor.
5. Don't waste time picking up small pieces of litter (i.e. cigarette butts).

GENERAL SAFETY:

Fill out a Pre-task Hazard Analysis worksheet. Make sure tools are in good working order. Watch for Biohazards. Try to face traffic whenever possible and be alert at all times.

TRAFFIC CONTROL:

If traffic control is needed, see Traffic Control section of this document. Follow MUTCD standards for cone spacing, advanced warning signage, tapers etc. Generally not needed for this activity. Park off of the roadway and place six cones behind truck.

PPE REQUIRED:

Eye protection required. Proper footwear. Gloves and safety vests with proper ANSI classification must be worn.

BMP's

Below is a list of BMP's needed.

- Tarp loaded debris.
- Make sure a spill kit is on the vehicle.

Report any noted issues to your supervisor.

CITY OF EASTVALE
CITY COUNCIL STAFF REPORT

ITEM 8.5

DATE: **JULY 13, 2016**

TO: **HONORABLE MAYOR AND COUNCILMEMBERS**

FROM: **MARC DONOHUE, CITY CLERK**

SUBJECT: **REVISE THE ORDER OF ITEMS ON THE CITY COUNCIL AGENDA**

RECOMMENDATION: DISCUSS AND PROVIDE DIRECTION TO STAFF.

BACKGROUND

At the June 22, 2016 City Council meeting, Councilmember Lorimore made a request to move City Staff Reports, Councilmember Communications and Committee Reports prior to Public Hearings and City Council Business on the agenda.

DISCUSSION

With the recommended change by Councilmember Lorimore, the order of the agenda would be as follows:

1. Call to Order
2. Flag Salute
3. Presentations/Announcements
4. Student Liaison Report
5. Public Comment
6. Consent Calendar
7. City Manager/City Staff Report
8. City Council Communications
9. Committee Reports
10. Public Hearings
11. City Council Business
12. Closed Session
13. Adjournment

Staff is seeking direction to either keep the agenda order of items as-is or to proceed with the recommendation from Councilmember Lorimore.

FISCAL IMPACT - None

STRATEGIC PLAN IMPACT - None

CITY OF EASTVALE
CITY COUNCIL STAFF REPORT

ITEM 8.5

ATTACHMENT - None

Prepared by: Marc Donohue, City Clerk
Reviewed by: John Cavanaugh, City Attorney
Reviewed by: Michele Nissen, City Manager