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June 24, 2015

VIA EMAIL (zashandler@santafenm.gov)

Zachary Shandler, Esq.
Assistant City Attorney
City of Santa Fe
200 Lincoln Avenue
Santa Fe, NM 87501

Re: Verizon Wireless Site: NM4 Silva, 1401 Agua Fria Street, Santa Fe, NM 87505

Dear Mr. Shandler:

At the May 5, 2015 Board of Adjustment hearing, the Board requested an updated Radio Frequency Exposure Post-Installation FCC Compliance Assessment. Attached is the updated report.

If you have any questions, please do not hesitate to contact me.

Sincerely,



Mark W. Williams

MWW/dlf
Enclosure



Radio Frequency Exposure Post-Installation FCC Compliance Assessment

Site Specific Information			
Site Name	NM4-Silva	Categorically Excluded?	No
Street Address	1402 Agua Fria St.	5% Contributor To Areas Requiring Mitigation?	No
City, State, Zip	Santa Fe, NM 87505		
Multi-Licensee Facility	No	Verizon's Max % MPE (Predictive-Occupational)	322%
Structure Type	Rooftop	Verizon's Max % MPE (Measured-Occupational)	70%
Broadcast Equipment	No	Assessment Date	04/07/2015
# of Access Points	0	Assessment Purpose	Site Audit
Compliance Status		In Compliance	

<input type="checkbox"/>	Verizon's Worst-case RF power density levels are BELOW the MPE for General Population/Uncontrolled Environments in accessible areas.
<input type="checkbox"/>	Verizon's Worst-case RF power density levels are ABOVE the MPE for General Population/Uncontrolled Environments but BELOW the MPE for Occupational/Controlled environments.
<input checked="" type="checkbox"/>	Verizon's Worst-case RF power density levels are ABOVE the MPE for Occupational/Controlled Environments but BELOW 10x the MPE for Occupational/Controlled environments.
<input type="checkbox"/>	Verizon's Worst-case RF power density levels are ABOVE 10x the MPE for Occupational/Controlled environments.

<u>Compliance Requirements</u>						
	Guidelines	Notice	Caution	Warning	NOC Information	Barrier/Marker
Access Points	[#]	[#]	[#]	[#]	[#]	
Alpha	[#]	[#]	[#]	[#]	[#]	
Beta	[#]	[#]	[#]	[#]	[#]	
Gamma	[#]	[#]	[#]	[#]	[#]	

Additional Compliance Requirements(s):

Barriers have been constructed with signage placed, but administrative controls should be employed to ensure compliance due to the lack of a defined access point. However, controls are not in place. See Conclusion Narrative, page 9. Landlord must ensure that Verizon Wireless antenna access will be restricted to personnel that have been authorized by Verizon Wireless (EME Awareness trained personnel only). This would include all maintenance personnel and contractors accessing the antenna area.

Consultant Legal Name	Global RF Solutions	Phone/Fax	480-814-1393/509-275-0709
Address	1900 W. Chandler Blvd. Ste-15-228, Chandler, AZ 85224		

Confidential & proprietary material for authorized Verizon Wireless personnel only. Use, disclosure or distribution of this material is not permitted to any unauthorized persons or third parties except by written agreement | Verizon Wireless

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1. Executive Summary

Verizon Wireless has contracted with Global RF Solutions, an independent Radio Frequency consulting firm, to conduct a Radio Frequency Exposure (RFE) Compliance **Post-Installation Assessment** of the NM4-Silva cell site. The following report contains a detailed summary of the Radio Frequency environment as it relates to Federal Communications Commission (FCC) and Occupational Safety & Health Administration (OSHA) Rules and Regulations for all individuals.

The Verizon Wireless antenna data was provided by:

Name	Christopher J. Sheppard
Title	FCC RF Compliance-Network Regulatory
Date	02/20/2015
Region	Headquarters

This post-installation compliance assessment and report has been prepared and reviewed by:

	Preparer	Reviewer
Name	Marvin Wessel	Harry Young
Title	CEO	Field Engineer
Date	05/07/2015	05/07/2015

This report utilizes the following for predictive modeling of the ambient RF environment:

MPE Modeling Program: RoofView®, Version 4.15

Required Modeling Assumptions: 100% Duty Cycle and Maximum Total Power Output.

Additional Modeling Assumptions:

The RoofView® model may have been adjusted based on site specific details (such as additional attenuation factors), empirical data, or our specific working knowledge of the RoofView® model. The model has been globally adjusted to account for the attenuation of the antenna screens, thus more closely aligning with the survey measurements.

Azimuth changes made to account for building orientation? Adjusted +15 degrees.

Collocated data assumptions made? N/A

Other: N/A

2. Site Characteristics

a. Structure

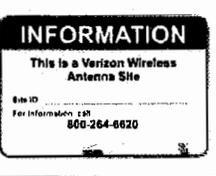
Physical Description	This communications site is located in stealth enclosures on the roof of a single-story commercial building.
Site Latitude (NAD 83)	N 35.67953889
Site Longitude (NAD 83)	W 105.9653806
Site Elevation (AMSL)	N/A
Structure Height (AGL)	17'10"
Overall Structure Height	25'11"

b. Accessibility

Roof access is by extension ladder only, which is on the premises and available upon request made to local personnel in the store. No identification is required. Access is not restricted to EME Awareness trained personnel and an RF Safety plan is not in place.

All access points locked at time of assessment?	No
All access points alarmed at time of assessment?	No

c. Verizon Wireless Signage

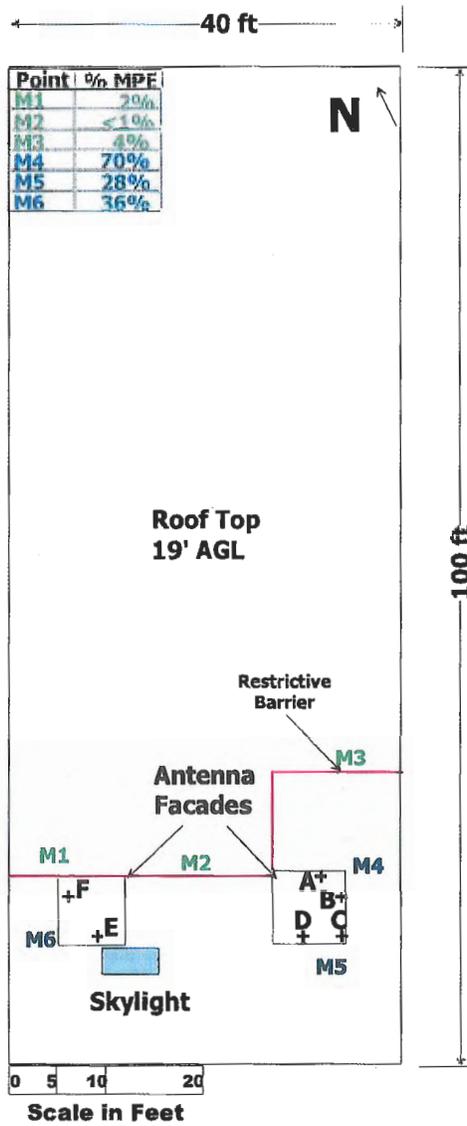
<u>Existing Signage</u>						
	Guidelines	Notice	Caution	Warning	NOC Information	Barrier
Access Points	1 [#]	1 [#]	1 [#]	1 [#]	1 [#]	<input type="checkbox"/>
Alpha	x [1]	1 [#]	x [1]	1 [#]	1 [#]	x
Beta	x [1]	1 [#]	x [1]	1 [#]	x [1]	x
Gamma	x [1]	1 [#]	x [1]	1 [#]	x [1]	x
Existing Signage Adheres to VZW Signage & Demarcation Policy?						Yes

d. Antenna Inventory

ID	Name	(MHz) Freq	Trans Power	Trans Count	Coax Len	Coax Type	Other Loss	Input Power	Calc Power	Mfg	Model	(ft) X	(ft) Y	(ft) Z	Type	(ft) Aper	dBd Gain	BWdth Pt Dir
A	Verizon	875.00000	20.0	2			0.5	35.7	Antel	BXA-70080/6CF	29.0	19.0	1.0	TX	6.0	13	82;30	
a	Verizon	885.00000	20.0	8			0.5	142.6	Antel	BXA-70080/6CF	29.0	19.0	1.0	TX	6.0	13	82;30	
B	Verizon	752.00000	60.0	2			0.5	107.0	Antel	QXW-806080120BF	34.0	17.0	1.0	TX	7.0	13	84;30	
b	Verizon	2125.00000	60.0	2			0.5	120.0	Antel	QXW-806080120BF	34.0	17.0	1.0	TX	7.0	15.5	81;30	
C	Verizon	875.00000	20.0	2			0.5	35.7	Antel	BXA-70080/6CF	33.0	13.0	1.0	TX	6.0	13	82;150	
c	Verizon	885.00000	20.0	8			0.5	142.6	Antel	BXA-70080/6CF	33.0	13.0	1.0	TX	6.0	13	82;150	
D	Verizon	752.00000	60.0	2			0.5	107.0	Antel	QXW-806080120BF	28.0	13.0	1.0	TX	7.0	13	84;200	
d	Verizon	2125.00000	60.0	2			0.5	120.0	Antel	QXW-806080120BF	28.0	13.0	1.0	TX	7.0	15.5	81;200	
E	Verizon	875.00000	20.0	2			0.5	35.7	Antel	BXA-70080/6CF	9.0	13.0	1.0	TX	6.0	13	82;225	
e	Verizon	885.00000	20.0	8			0.5	142.6	Antel	BXA-70080/6CF	9.0	13.0	1.0	TX	6.0	13	82;225	
F	Verizon	752.00000	60.0	2			0.5	107.0	Antel	QXW-806080120BF	8.0	17.0	1.0	TX	7.0	13	84;225	
f	Verizon	2125.00000	60.0	2			0.5	120.0	Antel	QXW-806080120BF	8.0	17.0	1.0	TX	7.0	15.5	81;225	

3. Analysis

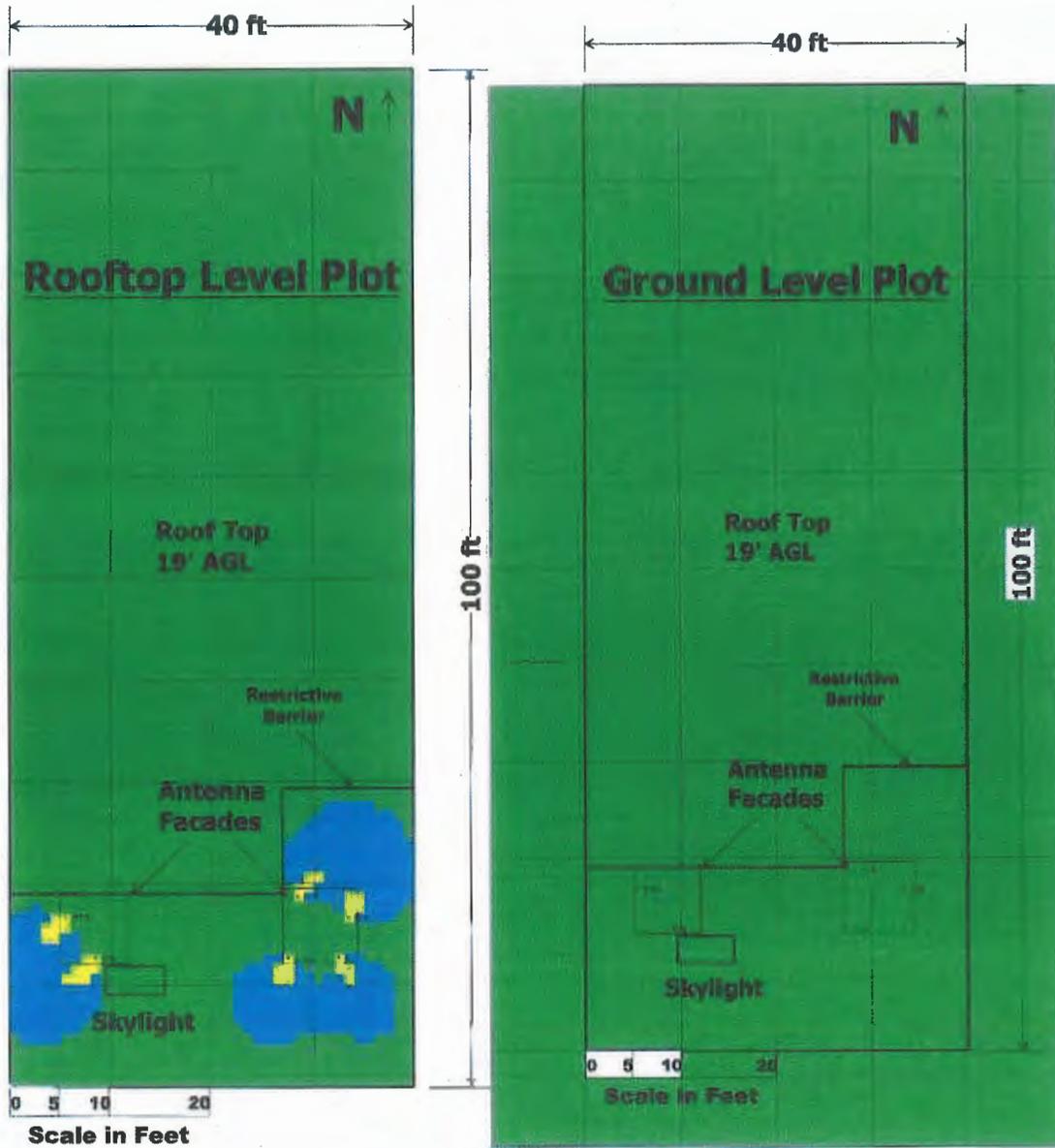
a. Field Measurements Level:



Survey Start Time	14:13	Survey End Time	14:21
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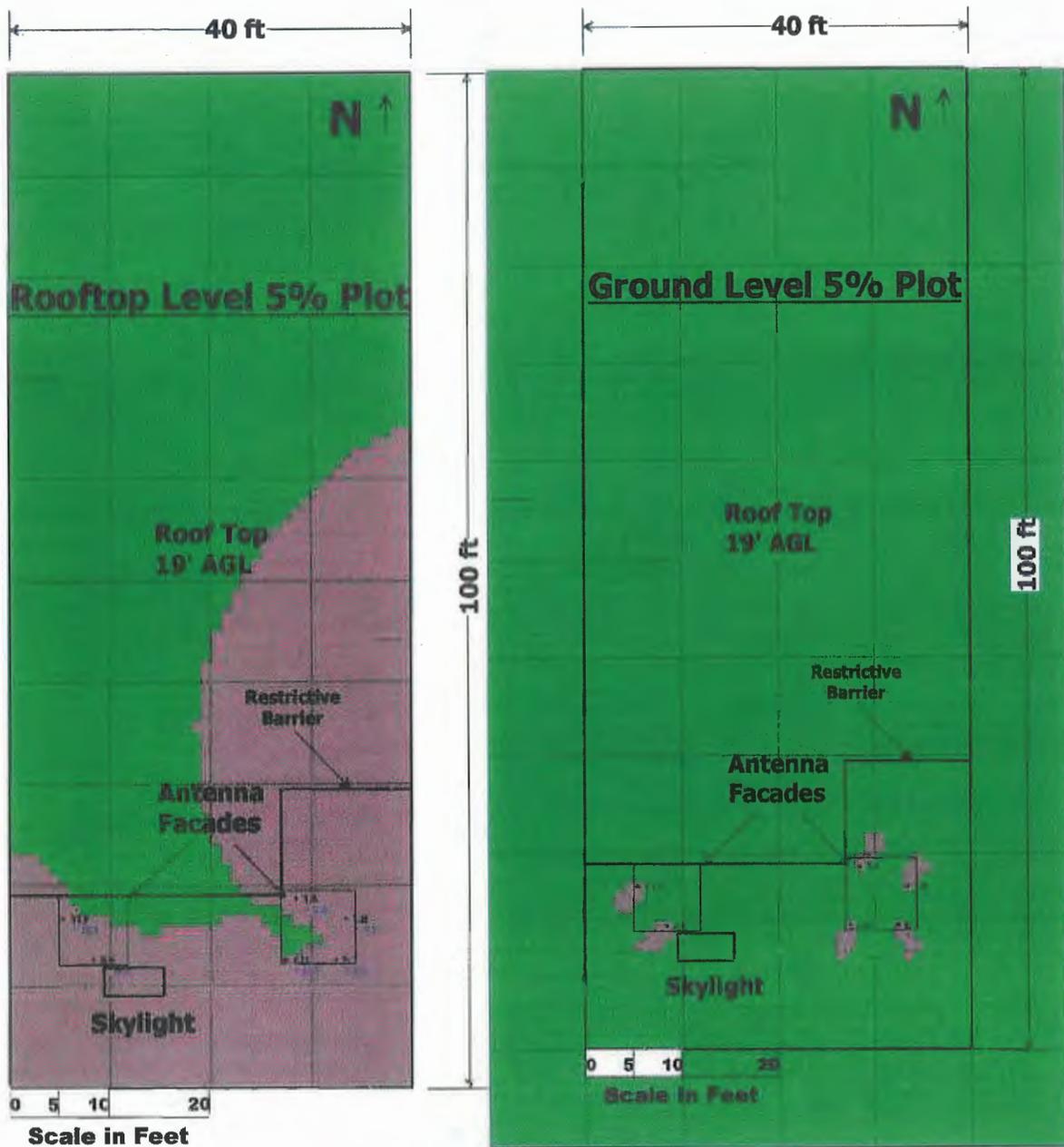
Spatially-Averaged Power Density Levels (mW/cm ²)	% Occupational MPE
Below General Population MPE	0 to 20
Above General Population MPE Below Occupational MPE	20 to 100
Above Occupational MPE	Greater Than 100
Above 10x Occupational MPE	Greater Than 1000

b. Predictive Model Rooftop and Ground Level: All Transmitters



Color	% Occupational MPE
Green	0 to 20
Blue	20 to 100
Yellow	Greater Than 100
Red	Greater Than 1000

c. Predictive Model Rooftop and Ground Level: Significant Contribution of Verizon Wireless



Color	% Occupational MPE
Green	0 to 1
Blue	> 1%

4. Conclusion

a. Conclusion Narrative

Description of MPE-Limit Exceeding Areas:

Verizon Wireless can exceed FCC Public and FCC Occupational standards in accessible areas, i.e. inside the restrictive barriers at this site. Because of the existence of an on premise extension ladder that can be used to allow personnel roof access where signage is not visible, administrative controls need to be employed at this site. This will require informing the landlord of the RF environment on the roof, with the understanding that Verizon Wireless should be contacted prior to allowing access inside the barriers. Verizon Wireless must be prepared to power down the antennas should personnel require access inside the barriers. Note that sign placement is limited to areas not visible from the ground, per landlord request, pursuant to City of Santa Fe signage policies. Note that signs must remain in place with contact information reaching personnel capable of providing safety guidance to those requesting access inside the barriers,

At the time of the site visit, local personnel were unaware of any such administrative controls.

Collocator Significant Contribution Areas:

N/A

c. Structure



d. Access Point(s)

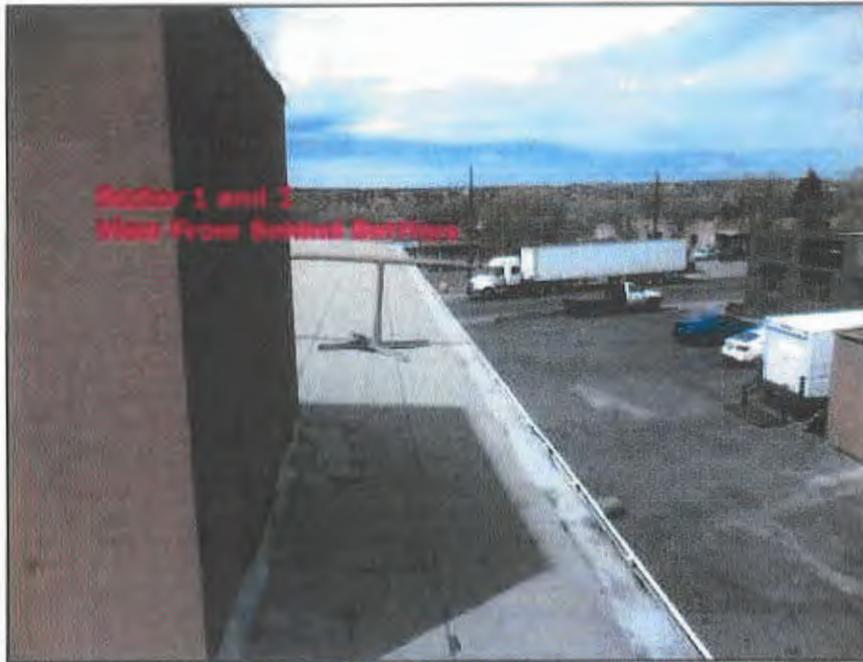


e. Individual Sectors



f. Miscellaneous





5. Appendix B: Survey Methodology

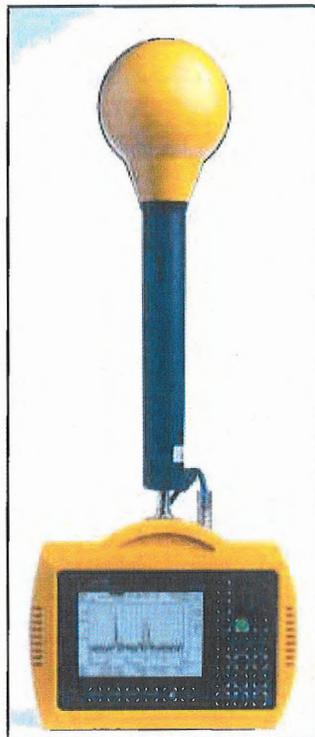
a. Survey Procedures

The field survey defines exclusion areas at the site. Electromagnetic energy (EME) fields were assessed through direct measurement at the transmitter site, using properly calibrated field probes.

An SRM-3000 Selective Measurement Device was used for the measurement phase of this survey. This meter represents the latest generation of equipment designed to measure RF energy by Narda Safety Test Solutions.

This device uses an isotropic antenna that is calibrated to measure Radio Frequency power densities using specific selectable frequencies. Measurements were made for SMR, PCS, Cellular, AWS, paging, land mobile, etc., and commercial broadcast frequencies that includes FM radio and television.

Narda SRM-3000



b. Survey Equipment Certification

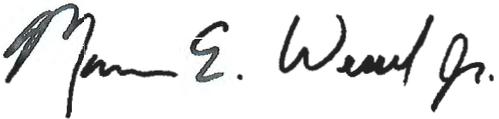
Calibration Certificate		Calibration Certificate	
<p>Narda Safety Test Solutions hereby certifies that the object referred to in this certificate has been calibrated for specified parameters using Narda's approved procedures. The calibration was carried out in accordance with a certified quality management system which conforms to ISO 9001.</p>		<p>Narda Safety Test Solutions hereby certifies that the object referred to in this certificate has been calibrated by qualified personnel using Narda's approved procedures. The calibration was carried out in accordance with a certified quality management system which conforms to ISO 9001.</p>	
OBJECT	Selective Radiation Meter Basic Law SRM-3000	OBJECT	Antenna Three-Axis, E-Field, 50 MHz to 3 GHz
MANUFACTURER	Narda Safety Test Solutions GmbH	MANUFACTURER	Narda Safety Test Solutions GmbH
PART NUMBER (P/N)	300101	PART NUMBER (P/N)	350102
SERIAL NUMBER (S/N)	N-0010	SERIAL NUMBER (S/N)	N-0307
CUSTOMER		CUSTOMER	
CALIBRATION DATE	14 Feb 2014	CALIBRATION DATE	2014-02-13
RESULT ASSESSMENT	within specifications	RESULT ASSESSMENT	within specifications
AMBIENT CONDITIONS	Temperature: (23 ± 2) °C Relative humidity: (20 to 60) %	AMBIENT CONDITIONS	Temperature: (23 ± 2) °C Relative humidity: (20 to 60) %
CALIBRATION PROCEDURE	3000-8701-00A	CALIBRATION PROCEDURE	3000-8702-00A
ISSUE DATE	2014-02-14	ISSUE DATE	2014-02-13
  <small>Certified by DQS License # 90 2001 2003 (Reg. No. 0000100004)</small>		  <small>Certified by DQS License # 90 2001 2003 (Reg. No. 0000100004)</small>	
<small>This calibration certificate may not be reproduced or used in any way without the permission of the issuing authority. Calibration results will be provided upon request.</small>		<small>This calibration certificate may not be reproduced or used in any way without the permission of the issuing authority. Calibration results will be provided upon request.</small>	
<small>CPB13/CAL_201401-0016/140114/001</small>		<small>CPB13/CAL_201402-01-140213</small>	
<small>PAGE 1 OF 1</small>		<small>PAGE 1 OF 1</small>	

Global RF Solutions performs calibration conformance tests several times a year on every SRM-3000 measurement system to ensure they remain within factory performance specifications.

6. Appendix C: RF Consultant Certifications

a. Preparer Certification

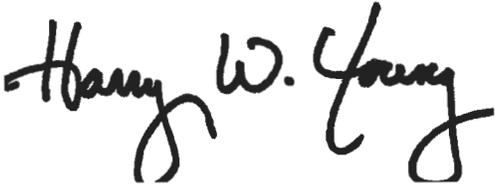
I, Marvin Wessel, the preparer of this report, am fully aware of and familiar with the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation. I am also fully aware of and familiar with the Verizon Wireless Signage & Demarcation Policy. I have reviewed this Radio Frequency Exposure Assessment report and believe it to be both true and accurate to the best of my knowledge.



Marvin E. Wessel Jr.

b. Reviewer Certification

I, Harry Young, the reviewer, approved of this report, and am fully aware of and familiar with the Rules and Regulations of both the Federal Communications Commissions (FCC) and the Occupational Safety and Health Administration (OSHA) with regard to Human Exposure to Radio Frequency Radiation. I am also fully aware of and familiar with the Verizon Wireless Signage & Demarcation Policy. I have reviewed this Radio Frequency Exposure Assessment report and believe it to be both true and accurate to the best of my knowledge.



Harry W. Young

7. Appendix D: Reference Information

a. FCC Rules & Regulations

The Federal Communications Commission (FCC) has established safety guidelines relating to RF exposure from cell sites. The FCC developed those standards, known as Maximum Permissible Exposure (MPE) limits, in consultation with numerous other federal agencies, including the Environmental Protection Agency, the Food and Drug Administration, and the Occupational Safety and Health Administration. The standards were developed by expert scientists and engineers after extensive reviews of the scientific literature related to RF biological effects. The FCC explains that its standards “incorporate prudent margins of safety.” The following represents explanations of the most applicable information:

Two Classifications for Exposure Limits

Occupational – Applies to situations in which persons are “exposed as a consequence of their <i>employment</i> ” and are “ <i>fully aware</i> of the potential for exposure and can <i>exercise control</i> over their exposure”.	General Population – Applies to situations in which persons are “exposed as a consequence of their employment <i>may not be made fully aware</i> of the potential for exposure or <i>cannot exercise control</i> over their exposure”. Generally speaking, those without significant and documented RF Safety & Awareness training would be in the General Population classification.
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Environment Classification

Controlled – Applies to environments that are restricted or “controlled” in order to prevent access from members of the General Population classification.	Uncontrolled – Applies to environments that are unrestricted or “uncontrolled” that allow access from members of the General Population classification.
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<i>Limits for Occupational/Controlled Exposure</i>		
Frequency	Power Density	Averaging Time
Range	(S)	$ E ^2$, $ H ^2$, or S
(MHz)	(mW/cm ²)	(minutes)
300-1500	$f/300$	6
1500-100,000	5	6
<i>Limits for General Population/Uncontrolled Exposure</i>		
Frequency	Power Density	Averaging Time
Range	(S)	$ E ^2$, $ H ^2$, or S
(MHz)	(mW/cm ²)	(minutes)
300-1500	$f/1500$	30
1500-100,000	1	30

f = frequency in MHz

Significant Contribution to the RF Environment

Any carrier contributing an aggregate MPE percentage of 5 or more (to the applicable RF Environment Classification) is defined as a significant contributor. This means that if any area is determined to be out of compliance with FCC rules, all significant contributors are jointly responsible for correcting any deficiencies.

b. Occupational Safety and Health Administration (OSHA) Requirements

A formal adopter of FCC Standards, OSHA stipulates that those in the Occupational classification must complete training in the following: RF Safety, RF Awareness, and Utilization of Personal Protective Equipment. OSHA also provides options for Hazard Prevention and Control:

Hazard Prevention	Control
<ul style="list-style-type: none"> Utilization of good equipment Enact control of hazard areas Limit exposures Employ medical surveillance and accident response 	<ul style="list-style-type: none"> Employ Lockout/Tag out Utilize personal alarms & protective clothing Prevent access to hazardous locations Develop or operate an administrative control program

c. RF Signage

Areas or portions of any transmitter site may be susceptible to high power densities that could cause personnel exposures in excess of the FCC guidelines. These areas must be demarcated by conspicuously posted signage that identifies the potential exposure. Signage MUST be viewable regardless of the viewer's position.

GUIDELINES	NOTICE	CAUTION	WARNING
<p>This sign will inform anyone of the basic precautions to follow when entering an area with transmitting radiofrequency equipment.</p>	<p>This sign indicates that RF emissions may exceed the FCC General Population MPE limit.</p>	<p>This sign indicates that RF emissions may exceed the FCC Occupational MPE limit.</p>	<p>This sign indicates that RF emissions may exceed at least 10x the FCC Occupational MPE limit.</p>
			

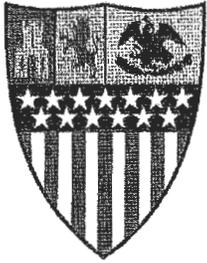
INFORMATION SIGN	
<p>Information signs are used as a means to provide contact information for any questions or concerns. They will include specific cell site identification information and the Verizon Wireless Network Operations Center phone number.</p>	

d. Physical Barriers

Physical barriers are control measures that require awareness and participation of personnel. Physical barriers are employed as an additional administration control to complement RF signage and physically demarcate an area in which RF exposure levels may exceed the FCC General Population limit.

e. Indicative Markers

Indicative markers are visible control measures that require awareness and participation of personnel, as they cannot physically prevent someone from entering an area of potential concern. Indicative markers are employed as an additional administration control to complement RF signage and visually demarcate an area in which RF exposure levels may exceed the FCC General Population limit.



City of Santa Fe, New Mexico

200 Lincoln Avenue, P.O. Box 909, Santa Fe, N.M. 87504-0909

www.santafenm.gov

Javier M. Gonzales, Mayor

Councilors:

Peter N. Ives, Mayor Pro Tem, Dist. 2

Patti J. Bushee, Dist. 1

Signe I. Lindell, Dist. 1

Joseph M. Maestas, Dist. 2

Carmichael A. Dominguez, Dist. 3

Christopher M. Rivera, Dist. 3

Ronald S. Trujillo, Dist. 4

Bill Dimas, Dist. 4

Response to Mr. Firstenberg's May 11, 2015 Letter

To: Members of the Board of Adjustment

From: Zachary Shandler *ZS*
Assistant City Attorney

Re: Appeal by the Cellular Phone Task Force, Arthur Firstenberg and fifty-one citizens from the October 30, 2013 Decision of the Land Use Department to Issue a Building Permit #13-2097 to John Malone and Verizon Wireless regarding replacement of telecommunications antennas at 1402 Agua Fria.
Land Use Case No. 2013-116

Appeal by the Cellular Phone Task Force, Arthur Firstenberg and twenty-one citizens from the July 15, 2014 Decision of the Land Use Department to Issue a Building Permit #14-813 to John Malone and Verizon Wireless regarding replacement of telecommunications antennas at 1402 Agua Fria.
Land Use Case No. 2014-82

Date: June 23, 2015 for the July 7, 2015 Meeting of the Board of Adjustment

Mr. Firstenberg's Letter

On May 11, 2015, Mr. Firstenberg submitted a letter to the Board of Adjustment and City Attorney's Office raising several procedural issues about the May 5, 2015 public hearing. The City Attorney's Office wishes to respond to these issues in writing for submittal in the record.

Issue #1: Examination and cross examination regarding to the updated radio frequency radiation compliance document.

Mr. Firstenberg has alleged that he should have an opportunity to examine and cross-examine witnesses about RF issues, such as Verizon's updated radio frequency radiation compliance document, at the July hearing. City Code Section 14-6.2(E) (5)(l) provides that a telecommunication company, as part of an application and administrative review process, shall provide "certification" that the telecommunications facilities "remain in compliance with the radio frequency exposure limits set out in 47 C.F.R. 1.310 Table 1(A) and (B)." Verizon provided this document as part of its 2014 application packet. Since approximately eighteen months has passed since this submittal, Board Member Werwath, according to page twelve of the May 5, 2015 minutes, asked: "is it possible for Verizon to provide current FCC compliance for the current installed antennas....Can you provide an updated current document that you are in FCC compliance?"

Mr. Firstenberg's letter has asserted that the submittal of an updated compliance letter opens the door to allow him to conduct examination and cross examination regarding radio frequency radiation. The courts are clear that Mr. Firstenberg cannot attempt to call or cross examine witnesses about the substance of documents governing RF emissions. Mr. Firstenberg should be aware of these court rulings, since he has been a party to many of the key cases. The Courts have written:

"[F]ederal law provided (and still provides) that to the extent that the facilities comply with the regulations of the FCC concerning such emissions, state and local governments may not regulate the placement or modification of wireless facilities based on the alleged environmental effects of RF emissions."

Arthur Firstenberg v. City of Santa Fe, AT & T Mobility Services, LLC, pp. 5-6, (D-101-CV-201004296) (10/30/13), affirmed by N.M. Ct. of Appeals (No. 33, 441) and cert. denied by N.M. Supreme Ct. (No. 35,157)

"Section 704 thus expressly preempts state and local governments from regulating wireless facilities on the basis of the alleged environmental effects of RF emissions, such as health concerns."

Arthur Firstenberg v. City of Santa Fe, AT & T Mobility Services, LLC, p. 8, (D-101-CV-201004296) (10/30/13), affirmed by N.M. Ct. of Appeals (No. 33, 441) and cert. denied by N.M. Supreme Ct. (No. 35,157)

"As a result, even if the City's Code were construed to require the City to regulate AT & T's wireless facilities on the basis of the alleged impact of RF emissions on the health of Petitioner and others, it would expressly conflict with and be preempted by federal law."

Arthur Firstenberg v. City of Santa Fe, AT & T Mobility Services, LLC, p. 9, (D-101-CV-201004296) (10/30/13), affirmed by N.M. Ct. of Appeals (No. 33, 441) and cert. denied by N.M. Supreme Ct. (No. 35,157)

"Petitioner argues that the Court should disregard Section 704 of the TCA in light of the Americans with Disabilities Act ("ADA") and the due process and equal protection guarantees of the Fifth and Fourteenth Amendments. The Court rejects these arguments."

Arthur Firstenberg v. City of Santa Fe, AT & T Mobility Services, LLC, p. 9, (D-101-CV-201004296) (10/30/13), affirmed by N.M. Ct. of Appeals (No. 33, 441) and cert. denied by N.M. Supreme Ct. (No. 35,157)

“In effecting the congressional mandate, the FCC set limits on the RF emissions for cell phones and other devices... In order to prevail in a lawsuit based on an alleged injury caused by RF emissions from cell phones, a jury would have to accept the premise that FCC’s regulations are inadequate to ensure the safe use of cell phones. This would allow cell phone providers to “be held liable even though they indisputably complied with” FCC regulatory requirements, thereby imposing a legal duty that would directly conflict with federal mandates. Such lawsuits are therefore preempted.”

Arthur Firstenberg v. Raphaela Monribot, 2015 WL 993820 para. 33, (N.M. Ct. of Appeals) (March 5, 2015).

Issue #2: City Appeal Hearing Procedures state: “The Presiding Officer shall cross examine the Applicant and the Applicant’s witnesses on behalf of the parties, or permit direct cross examination.”

Mr. Firstenberg has alleged that he did not get to cross-examine witnesses about RF and health issues at the May hearing. Witness testimony helps resolve factual disputes. At the May hearing, there was only one factual dispute: did Verizon build without a permit in 2005? Verizon and the City Attorney’s Office did not put on witnesses for “examination” on this issue. This was because no witness had knowledge of what occurred ten years ago with the 2005 permit process. Therefore, there was no “cross examination” period to follow up because there was no “examination” period of witnesses. Instead, Verizon’s attorney conceded that the action did occur.

Verizon did make Ms. Lisa Hansen, Verizon Real Estate Specialist, available for Board questions, but she did not have personal knowledge of the 2005 permit process. According to page seven of the May 5, 2015 minutes, the Board asked her four questions:

1. How many similar sites do you have in Santa Fe?
2. How many current antennas are in the structure, 6 or 9?
3. Is there any other entity trying to relocate in to that structure?
4. What is the cost to remove?

Ms. Hansen was unable to answer several of these questions. Assuming these questions constitute as an “examination” of Ms. Hansen, the generally accepted tenet of courtroom and administrative law is that a “cross examination” cannot exceed the scope of the “examination.” Therefore, Mr. Firstenberg’s wish to cross examine Ms. Hansen about issues beyond these types of questions, like RF and health issues, would not have been permissible.

Issue #3: City Appeal Hearing Procedures state: "The Appellant shall address questions to staff."

Mr. Firstenberg has alleged that he did not get to ask questions to City staff. The City Attorney's Office made a legal presentation and did not call any witnesses. The City Attorney's Office did make Mr. Dan Esquibel, Land Use Department, available for Board questions.

City Board and committee chairpersons, via generally understood Robert's Rules of Order principles, do allow a party to ask a question, via the chairperson, to staff (i.e. everything goes through the chair). According to the May 5, 2015 minutes, this procedure was used. For example, on page eight, there was back and forth from Mr. Firstenberg, via the chair, to City staff about the 2005 events:

"Mr. Firstenberg: In 2011, Santa Fe had revised its land development code so that telecommunications facilities are now a permitted use and no longer require a special exception....Thinking it could now surreptitiously legalize its facility, Verizon quietly applied for a building permit for the antennas."

Chairperson Winston: "Are you alleging that in 2005 the application was unpermitted?"

"Mr. Esquibel: I am not sure what the contractor did in 2005, or how they actually installed the equipment."

On page five of the minutes, the Board Member Reynolds asked Mr. Esquibel about Mr. Firstenberg's contention that the double fee sanction was too light:

"Ms. Reynolds: In looking at some of the ways you can remedy something that has taken place illegally, it looks like you could have done some other things. The common application was to double the fee, but there were other ways you can have addressed the illegal structure."

Mr. Esquibel: It has been a common practice for a long time...

Ms. Reynolds: But are there other ways?

Mr. Esquibel: In some cases where the applicant has not resolved the issue, it turns in to a violation and through the process it ends up in a court of law where the Judge will determine whether or not they need to remove it."

On the page eight of the minutes, Chairperson Winston asked Mr. Esquibel about Mr. Firstenberg's question about the height of the antennas:

"The Chair asked staff, 'Mr. Firstenberg says the boxes show the antennas Are 7' tall. What are the correct dimensions?"

"Mr. Firstenberg: In 2013 all of the antennas were 6' tall, and they were changed to 7' antenna. If you go by there you can see one antenna. The drawing did not show them sticking up."

Dan Esquibel: "There is an exception that the antennas can be 100 feet."

Therefore, the Chairperson or the Board members asked Mr. Firstenberg's relevant questions, via the Chair, to Mr. Esquibel.

Issue #4: Closing Arguments

Mr. Firstenberg has alleged that he should get a chance to make closing arguments and to re-open the public comment portion of the hearing. Chairperson Winston, near the end of the May hearing, closed the public comment portion of the hearing. City Appeal Procedures provide that the Appellant shall make closing argument prior to the close of the public hearing. Some chairpersons, however, interpret this provision to mean that once the public is done with their public comment, then the public comment portion of the hearing is closed and then the parties/lawyers get to make closing arguments.

The City Attorney's Office, however, does not object if the Chairperson would like to grant Mr. Firstenberg and the other parties/lawyers time to make closing remarks at the July hearing. Closing arguments may allow Mr. Firstenberg the opportunity to rebut any of the statements in this memorandum. This does not mean the City Attorney's Office consents to the public being allowed to make public comment a second time. They were allowed that opportunity for several hours at the May hearing and the public comment portion of the hearing is complete.

Issue #5: Supplementing the Record

Mr. Firstenberg has alleged that the City's failure to provide all permit documents/material to the Board about the 2005 permit, 2013 permit and 2014 permit has damaged his case. (City staff will supplement the record with these documents for the July hearing in case Mr. Firstenberg wants to raise this issue on district court appeal). He has claimed that his case was hurt because the Board did not have adequate time to review these documents, specifically regarding whether electronic roof shelters (a/k/a shroud) were permitted in 2005 and whether the current antennas exceed the height of the electronic roof shelters.

As a procedural matter, Mr. Firstenberg had prior access to these documents and actually used them as part of his presentation during the May hearing. Mr. Firstenberg could have submitted his alleged "key missing" documents earlier to staff because he knew the process of submittal. For example, he submitted a written witness list to staff ten days in advance of the hearing. He could have submitted these documents to staff at the same time so they could have been circulated in the Board packet in advance of the meeting.¹

As stated in City Attorney's Office's April 10 memorandum, the debate of whether the antennas exceeded the height of the electronic roof shelters (a/k/a shroud) without a variance is a red herring. As stated in that memorandum, the antennas, without a shroud, may go up to 100 feet. This point was also made at the May hearing.

¹ City staff had produced the exact same record in at least two prior public City Council meetings during the February-March 2015 timetable. This means members of the public, like Mr. Firstenberg, have known for months what was (and was not) in the record. Mr. Firstenberg, who regularly comes to the City Attorney's Office to make public record requests, and who met with staff in advance of the May hearing, as staff assisted him on submitting the proper notices to the residents, could have, but not, state: "you haven't been including all of the elevation drawings to clarify the issue of the height of the shrouds, you should add them."

City Code reads: “Telecommunications facilities located on existing structures shall not exceed the height of the structure upon which the facility is located *unless otherwise allowed under this section.*” SFCC 1987, § 14-6.2(E)(5)(b) (emphasis added). The next sentence of the subsection reads: “Telecommunications facilities located on new structures shall not exceed the maximum height for buildings otherwise allowed as set forth in Chapter 14 with the *exception* that in C-2, I-1 and I-2 districts the height limit of telecommunications facilities shall be one hundred feet.” Code § 14-6.2(E)(5)(b) (emphasis added). Reading the two sentences together, the “Exception” language means that towers within the C-2, I-1 and I-2 districts can have a maximum height of 100 feet. One could also read the “Exception” language to mean this tower could be built on a new structure provided in the first sentence or an existing structure provided in the second sentence.

The City Attorney’s Office memorandum also relied on a second explanation on the antennae height that the antennas were not visible from behind the shroud. This was based on observations of the site and review of the 2014 permit review. Based on public comment, the City Attorney’s Office returned to the site. The City Attorney’s Office does wish to clarify for the record: it does appear that the top of one pole-like structure (per each shroud) is slightly visible over the shrouds.² Yet, as stated above, the antennas without a shroud may go up to 100 feet.

Second, there was debate at the May hearing whether the shrouds were approved as part of the 2005 permit. Part of the confusion is whether they should be called electronic shelters, electronic roof shelters, enclosures or shrouds. This terminology may have changed over time. It is confusing because the 2005 permit also refers to a ground electronic shelter. There are clues to conclude that the shrouds were included in the permit authorization: (a) the 2005 permit request identifies the shrouds, called fiberglass antenna enclosures, in the drawings, and distinguishes them from the antennas; (b) the note on the 2005 permit states: “the antennas are not approved at this time”—it does not say the antennas *and* shrouds are not approved and (c) the permit states the material to be used is fiberglass and the shrouds were made of fiberglass. There are clues to conclude that they were not included: (a) the 2005 permit request did also identify a ground shelter that housed electronic equipment; (b) the permit request listed 216 square feet, which was the size of the ground shelter and not the shroud square footage and (c) the permit referred elsewhere to the 216 square footage number, where referring to the required surface water storage calculation.

² What is the current pole-like structure? The 2005 permit request had an elevation drawing called “New East Elevation” that stated the shroud was 25’8” high and it showed a picture of a shorter antenna pole. The pole holds an antenna that is beneath the shroud. The 2013 permit request had an elevation drawing called “Existing Northwest Elevation” where the shroud appeared to be down to 25’4” high and antenna pole at 25’8” on the picture. The 2013 permit request had another elevation drawing called “New Northwest Elevation” which proposed that the antenna pole go up to 25’11” in the picture. (There was a short window of time between when the 2013 permit was approved to when it was appealed, which may have resulted in the installation of the “taller” pole.) The 2014 permit request has a drawing called the “New Northwest Elevation.” In this drawing, the antennas and shroud are both shown at 25’8” in the drawing. With all of that information, the City Attorney’s Office would expect that if or when the 2014 permit is released from “red tag” status (due to this appeal) that Verizon would follow the 2014 drawings and ensure that the pole and shroud are both at 25’8” in this matter.

Supplemental Material

2005 documents

CITY OF SANTA FE, NEW MEXICO
P.O. BOX 909
SANTA FE, NEW MEXICO 87504-0909
(505) 955-6646

* * * * * ELECTRICAL PERMIT * * * * *

Application Number 05-00000553 Date 4/11/05
Property Address 1402 AGUA FRIA ST
Application description MISCELLANEOUS
Subdivision Name DORIS LUNA LOT LINE
Property Zoning GENERAL COMMERCIAL
Application valuation 15000

Owner Contractor

MALONE, JOHN DW TOWER
VERIZON WIRELESS (LEASED) PO BOX 91586
4821 EUBANK NE ALBUQUERQUE NM 87109
ALBUQUERQUE NM 87111 (505) 872-8400

Structure Information: SHELTER TO HOUSE EQUIPMT CELL SITE "VER"

Permit ELECTRIC PERMIT
Additional desc
Sub Contractor BROKEN ARROW ELECTRIC CO INC
Permit Fee 36.00
Issue Date 4/11/05 Valuation 0
Expiration Date 4/11/06

Qty	Unit Charge	Per	Extension
		BASE FEE	10.00
1.00	6.0000 EA	ELEC WHTER LOOPS 150A-200A	6.00
1.00	20.0000 EA	ELEC LOW VOLTAGE	20.00

Special Notes and Comments
I, THE OWNER OR AGENT FOR THE OWNER, HAVE RECEIVED THE FOLLOWING REVIEW SHEETS. I UNDERSTAND I AM TO COMPLY WITH ALL CONDITIONS INDICATED ON THE REVIEW SHEETS. INITIALS _____

Fee summary	Charged	Paid	Credited	Due
Permit Fee Total	36.00	36.00	.00	.00
Grand Total	36.00	36.00	.00	.00

Applicant hereby agrees that all work done under this permit shall comply with the latest State and N.E.C Electrical Codes

Issued By _____ Date 4-11-05
Contractor _____ Date _____

By my signature above I hereby agree to abide with all the laws of the City of Santa Fe as well as with all the conditions stated above; I further state that I understand that this is not a permit to construct anything in violation of the codes adopted by the State of New Mexico. Further, I understand that this permit may be appealed within thirty (30) days of issuance (the "appeal period") pursuant to 14-7-4 SFCO (1987) and in the event an appeal is upheld this permit may be revoked. I hereby agree that any grading, building, alteration, repairing or any other construction done pursuant to this permit during this appeal period is done at my own risk and without reliance on the issuance of this permit. I also agree that in the event an appeal is upheld and this permit is revoked I may be required to remove any building, grading, altering, repairing or any other construction done during the appeal period. I hereby certify that I have read the foregoing and understand the same and by my signature assent to the terms stated herein.

CITY OF SANTA FE, NEW MEXICO
P.O. BOX 909
SANTA FE, NEW MEXICO 87504-0909
(505) 955-6646 OR (505) 955-6645

***** BUILDING PERMIT *****

Application Number 05-00000553 Date 4/07/05
Property Address 1402 AGUA FRIA ST
Application description MISCELLANEOUS
Subdivision Name DORIS LUNA LOT LINE
Property Zoning GENERAL COMMERCIAL
Application valuation 15000

Owner Contractor

MALONE, JOHN DW TOWER
VERIZON WIRELESS (LEASED) PO BOX 91586
4821 EUBANK NE ALBUQUERQUE NM 87109
ALBUQUERQUE NM 87111 (505) 872-8400

Structure Information: SHELTER TO HOUSE EQUIPMENT CELL SITE "VER"
Construction Type UPDATE
Occupancy Type (OLD CODE) UPDATE
Flood Zone UPDATE

Permit BUILDING PERMIT COMMERCIAL
Additional desc
Permit Fee 162.25 Plan Check Fee 100.69
Issue Date 4/07/05 Valuation 15000
Expiration Date 4/07/07

Special Notes and Comments
I, THE OWNER OR AGENT FOR THE OWNER, HAVE RECEIVED THE FOLLOWING REVIEW SHEETS. I UNDERSTAND I AM TO COMPLY WITH ALL CONDITIONS INDICATED ON THE REVIEW SHEETS. INITIALS [Signature]
LAND MGMT: SEE REVIEW SHEET.
Approved based upon submitted plans.

NOTE: ALL INSPECTIONS MUST BE SCHEDULED 24 HOURS IN ADVANCE
APPROVED BY [Signature] DATE 4.7.05
APPLICANT [Signature] DATE 4.7.05

By my signature above I hereby agree to abide with all the laws of the City of Santa Fe as well as with all the conditions stated above. I further state that I understand that this is not a permit to construct anything in violation of the codes adopted by the State of New Mexico. Further, I understand that this permit may be appealed within thirty (30) days of its issuance (the "appeal period") pursuant to 14-2-4 SFGC (1987) and in the event an appeal is upheld this permit may be revoked. I hereby agree that any grading, building, alteration, repairing or any other construction done pursuant to this permit during this appeal period is done at my own risk and without reliance on the issuance of this permit. I also agree that in the event an appeal is upheld and this permit is revoked I may be required to remove any building, grading, altering, repairing or any other construction done during the appeal period. I hereby certify that I have read the foregoing and understand the same and by my signature assent to the terms stated herein.

CITY OF SANTA FE, NEW MEXICO
P.O. BOX 909
SANTA FE, NEW MEXICO 87504-0909
(505) 955-6646 OR (505) 955-6645

***** BUILDING PERMIT *****

Application Number 05-00000533

Page 2
Date 4/07/05

Special Notes and Comments

Conditions of Approval:

1. Provide for 50 cubic feet of surface storage (312x.16 =50).
2. Provide for dispersal of stormwater within 24 hours, as per code.
3. Provide appropriate erosion protection for the discharge and overflow from storage to result in non-erosive flows.
4. Provide appropriate erosion protection from new impervious surface to storage.
5. Maintain existing drainage pattern and conform to all other applicable terrain management code requirements
6. All disturbed areas shall be revegetated with native grasses or other drought-tolerant plants, or have other erosion control treatment.

FINAL GRADING AND DRAINAGE INSPECTION REQUIRED

Site is not in escarpment overlay or floodplain.

Contact Wendy Blackwell, 955-6127, with questions.

Shall comply with IRC 2003, The International Fire Code 2003 edition.

Fee summary	Charged	Paid	Credited	Due
Permit Fee Total	162.25	162.25	.00	.00
Plan Check Total	100.69	100.69	.00	.00
Grand Total	262.94	262.94	.00	.00

NOTE: ALL INSPECTIONS MUST BE SCHEDULED 24 HOURS IN ADVANCE

APPROVED BY

DATE

4.7.05

APPLICANT

DATE

4.7.05

By my signature above, I hereby agree to abide with all the laws of the City of Santa Fe as well as with all the conditions stated above. I further state that I understand that this is not a permit to construct anything in violation of the codes adopted by the State of New Mexico. Further, I understand that this permit may be appealed within thirty (30) days of its issuance (the "appeal period") pursuant to 14-7-4 SFCC (1987) and in the event an appeal is upheld this permit may be revoked. I hereby agree that any grading, building, alteration, repairing, or any other construction done pursuant to this permit during this appeal period is done at my own risk and without reliance on the issuance of this permit. I also agree that in the event an appeal is upheld and this permit is revoked I may be required to remove any building, grading, altering, repairing or any other construction done during the appeal period. I hereby certify that I have read the foregoing and understand the same and by my signature assent to the terms stated herein.

DISTRIBUTION: COPIES TO ORIGINATING OFFICE and APPLICANT.

B1006.PMD 11/86

Plan CK Form B002101105006 T169

LM

Application Tracking #
05-553

City of Santa Fe
BUILDING PERMIT APPLICATION

PLEASE USE A BALLPOINT PEN (PRESS FIRMLY)
↓ FOR OFFICE USE ONLY ↓

Type MISC Class _____ Accepted by Deanna V. Tamm Date Accepted 3/18/05 11:10
 Amount Paid: Plan Check Fee \$ 100.69 Water/Budget Fee \$ _____ Balance Due Permit Fee \$ 162.25
 Type of Construction: _____ Occupancy Group: _____ Division: _____
 I II III IV V FR HT N A B E F H I M R S U 1 1.1 1.2 2 2.1 3 4 5 6 7
 Zone/District _____ Occupant Load _____

↓ TO BE COMPLETED BY APPLICANT ↓

SITE ADDRESS 1402 AGUA FRIA Suite or Space # Tract A
 Subdivision _____ Lot _____ Block _____
 Lot Square Footage Total 445 AC ±
 PROPOSED WORK: (Check all that apply)
 New Construction Walls/Fences Signs:
 Additions Grading/Utilities/Landscaping Free Standing Wall Mounted
 Exterior Alterations/Repairs Pools/Spas SHED FOR Existing _____ sq. ft.
 Interior Remodel Other EQUIPMENT Proposed# _____ sq. ft.
 Total _____
 DESCRIPTION OF WORK: i.e. Bathroom addition, new 4 room residential addition, new 8 room residence, new commercial building, etc. (Note: Work listed herein must be depicted on accompanying plans and/or information if consideration of review requested)
SHED TO HOUSE ELECTRONIC EQUIPMENT FOR A WIRELESS CELL SITE
 PROPOSED USE: i.e. residential, commercial, industrial, time share, retail, etc. COMMERCIAL

Construction Valuation \$ <u>15,000</u>	SQUARE FOOTAGE		
	Existing	Proposed	Total
Heated <u>15,000</u>	—	—	—
Garage	—	—	—
Ratio Porch <u>WELTER</u>	—	<u>312</u>	<u>312</u>
Total Roofed	—	<u>312</u>	<u>312</u>
Total Square Footage	—	<u>312</u>	<u>312</u>

Type of Sewage Disposal
 Public Sewer Private System
 No. of buildings _____ No. of stories _____
 Will the proposed construction result in an increase in the number of residential units?
 Yes No / How many? _____
 Will the proposed construction result in an increase in water use?
 Yes No

Number of Plumbing Fixtures Proposed
 Sinks _____ Showers _____ Tubs _____ Toilets _____ Urinals _____ Water Fountains _____ Other _____

Property Owner JOHN MALONE - ACTUAL PROPERTY OWNER
 LEASED BY: VENTZON WIRELESS
 Mailing Address 1821 EUBANK NE
ALB, NM 87111

OWNER/BUILDER CONTRACTOR

Daytime Telephone # _____

Contractor OUT TO BID
 Mailing Address _____
 State License # _____ City License # _____
 Daytime Telephone # _____

I hereby certify that I am the duly appointed agent authorized to act on behalf of the property owner. I also certify that the information provided in this application is true and correct and it represents the current and proposed status of the subject property; that the plans submitted with this application are complete and in compliance with the building standards set forth in the Santa Fe City Code; and that the plans illustrate all public and private easements located on the property. I also certify that plans and submittals have been prepared in accordance with the submittal checklist. I further understand that failure to follow submittal checklist will result in the delay or rejection of my application.

Contact Name PATRICK GOODMAN TOWERCOM TECHNOLOGIES Address 1500 MONTGOMERY NE SUITE 5 ALB, NM 87109
 Daytime Telephone 505 362 1949 Signature Applicant/Agent Patrick Goodman Date MARCH 8, 2005

City of Santa Fe, New Mexico

05-553

Address Application Review

Preapplication Review: Yes No Application Review: Yes No
Date: 3/8/05 Processed by: [Signature]
Address Assigned: 1402 Santa Fe Trail SE
Legal Description: [Signature] Lot: Block: Tract: A Plat No. 90-98
Proposed Construction: Addition

IDENTIFIED:

Zoning District: C2
Hillside Overlay District: N/A
Zip Code: 87505
Census District: 3
City Council District: 3
Historic District: yes no
Downtown / Eastside
Historic Review
Historic Transition
Don Gaspar
Westside Guadalupe
Archaeological District: yes no
Historic downtown
River & trails
Suburban

Wellhead Protection Area: yes no
Grading & Drainage
Located in 100 Flood Plain: yes no
Escarpment Overlay District: yes no
Foothill: yes no
Ridgetop: yes no
Terrain Management Required: yes no
In Moratorium Area: yes no

Surface Disturbance:
2500 s.f. or more: yes no
Requires staff/Board Review: yes no

- POSTING OF OFFICIAL ADDRESS - The property owner shall place the assigned street number in a readily visible location at the front entrance to the home or structure.
Address shall be posted at construction site, in accordance with the Address Ordinance, within thirty (30) days of issuance of building permit.
Approved subdivision plat with city approvals, county recording date, property line showing bearings and distances is applicable.
Approved final development plan is applicable.
Copy of Warranty Deed to the property dated prior to 1962 (Initial date of adoption of City of Santa Fe Subdivision Regulations) is applicable.
Capital Impact Fees are applicable.
Affordable Housing Agreement is applicable.

NOTIFIED: TIME: AM / PM DATE:

City of Santa Fe, New Mexico

ELECTRICAL REVIEW SHEET

DATE IN: _____ TRACT NO. 05-553
DATE OUT: 3/21/05
REVIEWED BY S.F.VHO Circle One: 10:00 AM 2:00 PM 4:00 PM
ADDRESS 1402 AGUA FEIA
ACTION: () APP () CAPP () REJ () REJH

Forwarded to: B.P.G.

- Service equipment shall be located in rooms or spaces dedicated to such equipment.
- Provide adequate working clearance about service equipment.
- Boxes over 16 sq. inches shall not be installed in Fire Rated Walls.
- An engineer's stamp is required on these plans.
- Submit revised drawings.

1.) Conditional Approval, Per Elec. Engineers Design
2.) All Elec. Construction shall comply with the 2002
NATIONAL Elec. Code, New Mex. Elec. Code, New Mex.
Bldg. Code.

Left message on _____ with _____

City of Santa Fe, New Mexico
LAND MANAGEMENT REVIEW SHEET

Date In: 3/16/05 Date Out: 3/16/05 Reviewed By: [Signature] Track No. 05553

Project Address: 1402 [unclear] St.

Plans Forwarded To: [unclear]

Action: Approved Conditional Approval Rejected

- N/A Comply with Storm Drainage Performance Standards; Storm Drainage SFQC-14-90.4.
- N/A Need 4 ft. wide sidewalk installation, repair or replacement next to property line along city rights-of-way or match existing.
- N/A Need installation of 18" C.M.P. culverts where applicable.
- N/A Locate and flag property boundary corners along city right-of-way, for inspection by this department.
- N/A No encroachment of structures, landscaping, fencing, etc. into city rights-of-way allowed.
- N/A Applicant to comply with visibility requirements at driveways and intersections.
- N/A Applicant to apply for license agreement for existing encroachments.
- N/A No retaining ponds or other structure encroachments allowed into utility, drainage or sewer easements.
- N/A Site plan, drainage plan, plat of survey, etc. must match as to lot configuration and location of easements.
- N/A Gates to open inward.
- N/A No drainage allowed into city right-of-way without approval of city Subdivision Engineer.
- N/A Parking not to encroach into public alley or any other city property.
- N/A This permit does not approve or authorize any construction on city right-of-way.

OTHER: Approved per site plan

NOTIFIED: _____ TIME: _____ AM / PM DATE: _____

COMMENTS: _____

BP250J02

City of Santa Fe
Application Tracking Individual Step Maintenance

3/18/05
15:42:08

Application number : 05 00000553
 Application type : MISCELLANEOUS
 Revision number :
 Agency/path/step/seq : ZONING A 01 01
 Date submitted, resulted : 31805 31805
 Approval code (F4) : AP APPROVED
 Reviewed by (F4) : GP GARY PARK
 Revised est cp1 date : 32305
 Copies of plans : 1
 1=Add new comment 2=Change comment 4=Delete comment

Opt Seq Comments
 - 1.00 Approved based upon submitted plans.
 - 2.00
 - 3.00
 - 4.00
 - 5.00
 - 6.00

Prt Date
 Y 31805

 More...

F3=Exit F4=Prompt F8=Log maint F9=Add std comments F12=Cancel
 F14=Req'd insp maint

BP255U02

City of Santa Fe
Application Tracking Action Log Maintenance

3/30/05
09:48:45

Application number 05 0000553
Address 1402 AGUA FRIA ST
Application type MISCELLANEOUS
Revision number
Path/step/seq B 01 00
Agency FIRE DEPARTMENT

Type information, press Enter

Action date 3/22/05
Action by DRA DANIEL R. ARCHULETA
Action code AP APPROVED
Time spent (hours) 00

Correction report item N Y=Yes, N=No
1=Add new comment 2=Change comment 4=Delete comment

Opt sec Comments Print
- 1.00 Shall comply with IFC 2003, The International Fire code 2003 edition. Y
- 2.00

F3=EXIT F9=Add std comment F12=Cancel

Bottom

City of Santa Fe, New Mexico

Building Code Review

Date In: 3/16 Date Out: 4/1 Reviewed By: cje Tracking No. 05-0553

Plans Forwarded To: BRC

Project Address: 1402 AGUA FRIA

Action: Approved Conditional Approval Rejected

DESCRIPTION OF WORK ELECTRONIC EQUIPMENT SHELTER

SIZE OF BLDG. (total sq. ft.) 312 OCCUPANCY GROUP S-2

CONSTRUCTION TYPE: I-VN V1hr IV III One hr IIN II One Hr IIFR IFR

PRINCIPAL TYPE OF FRAME

- Masonry (wall bearing)
- Structural Steel
- Wood Frame
- Reinforced concrete
- Other FIBERGLASS
- Is there an elevator in this building?
 - Yes
 - No

TYPE OF HEATING FUEL

- Gas
 - Electricity
 - Other
- NOTE: Backup Heat is Required on Solar

TYPE OF SEWAGE DISPOSAL

- Public Sewer
- Private System (septic tank, etc.)

TYPE OF WATER SUPPLY

- Public
- Private (well, cistern)

FOR RESIDENTIAL BUILDINGS ONLY

Number of bedrooms _____

Number of bathrooms _____

- Must comply with Chapter 11 of the UBC and ICC/ANSI A117.1-1998.
- Must provide wall section and/or roof framing plan.
- Fuel fired furnaces and water heaters must be in one hour enclosure.
- Provide proper fire egress.
- Penetrations in fire-rated walls shall comply with Section 709.6 through 709.8.
- Submit revised drawings.
- New Mexico Licensed Architects/Engineers stamp required.

NOTE: THIS PERMIT IS FOR THE EQUIPMENT SHELTER ONLY — THE ANTENNAS ARE NOT APPROVED @ THIS TIME — SEPARATE PERMIT IS REQ'D.

Premises shall not be occupied until a Certificate of Occupancy has been issued pursuant to Sections 101 and 109 of the Uniform Administrative Code.

NOTIFIED: _____ TIME: _____ AM/PM DATE: _____

COMMENTS: _____

BP250002

City of Santa Fe
Application Tracking Individual Step Maintenance

3/17/05
15:06:59

Application number : 05 00000553
Application type : MISCELLANEOUS
Revision number :
Agency/path/step/seq : GRADING & DRAINAGE B 01 01
Date submitted, resulted . . . : 31605 31705
Approval code (F4) : AP APPROVED
Reviewed by (F4) : WB WENDY BLACKWELL
Revised est cpl date : 31905
Copies of plans :
1=Add new comment 2=Change comment 4=Delete comment

Opt Seq Comments
1.00

Prt Date
Y 31705

Conditions of Approval:
1. Provide for 50 cubic feet of surface storage (312x.16
=50). 2. Provide for dispersal of stormwater within 24
hours, as per code. 3. Provide appropriate erosion
protection for the discharge and overflow from storage
to result in non-erosive flows. 4. Provide appropriate

More...

F3=Exit F4=Prompt F8=Log maint F9=Add std comments F12=Cancel
F14=Req'd insp maint

BP250U02

City of Santa Fe
Application Tracking Individual Step Maintenance

3/17/05
15:06:59

Application number : 05 00000553
Application type : MISCELLANEOUS
Revision number :
Agency/path/step/seq : GRADING & DRAINAGE B 01 01
Date submitted, resulted : 31605 31705
Approval code (F4) : AP APPROVED
Reviewed by (F4) : WB WENDY BLACKWELL
Revised est cpl date : 31905

Copies of plans :
1=Add new comment 2=Change comment 4=Delete comment
Opt Seq Comments

Prt Date

FINAL GRADING AND DRAINAGE INSPECTION REQUIRED
Site is not in escarpment overlay or floodplain.
Contact Wendy Blackwell, 955-6127, with questions.

2.00
3.00
4.00

More...

F3=Exit F4=Prompt F8=Log maint F9=Add std comments F12=Cancel
F14=Req'd insp maint

BP25000?

City of Santa Fe
Application Tracking Individual Step Maintenance

3/17/05
15:06:59

Application number : 05 0000553
Application type : MISCELLANEOUS
Revision number :
Agency/path/step/seq : GRADING & DRAINAGE B 01 01
Date submitted, resulted . . . : 31605 31705
Approval code (F4) : AP APPROVED
Reviewed by (F4) : WB WENDY BLACKWELL
Revised est cpl date : 31905

Copies of plans :

1=Add new comment 2=Change comment 4=Delete comment

Opt Seq Comments

Prt Date

erosion protection from new impervious surface to storage.
5. Maintain existing drainage pattern and conform to all
other applicable terrain management code requirements
6. All disturbed areas shall be revegetated with native
grasses or other drought tolerant plants or have other
erosion control treatment.

More...

F3=Exit F4=Prompt F8=Log maint F9=Add std comments F12=Cancel
F14=Req'd insp maint

BP250U01

City of Santa Fe
Application Tracking Step Selection

4/01/05
16:31:58

Application number : 05 00000553
Address : 1402 AGUA FRIA ST
Parcel Code :
Application type : MISCELLANEOUS
County Assessor Acct Num :
Tenant name, number :

Type options, press Enter.
2=Change 4=Delete 5=View 6=Fast log 8=Action log maintenance 9=In/out maint

Opt Agency description	Rev	Step	Req	--- Key Dates ---		-- Review Summary --	
				In	Est Cpl	Resulted	Stat By
ELECTRICAL	A	01	Y	3/22/05	3/25/05	3/21/05	AP STM
LAND MGMT (CITY-OWNE	A	01	Y	3/16/05	3/21/05	3/16/05	AP RS
ZONING	A	01	Y	3/18/05	3/23/05	3/18/05	AP GP
FIRE DEPARTMENT	B	01	Y	3/22/05	3/24/05	3/22/05	AP DRA
GRADING & DRAINAGE	B	01	Y	3/16/05	3/19/05	3/17/05	AP WB

F3=Exit F5=Land inquiry F6=Add F7=Revisions F8=Misc info inquiry
F10=View 2 F12=Cancel F14=Action log inquiry F24=More keys

*Roofing App
Add 4/1/05*

City of Santa Fe
Cashiers Office
Santa Fe, NM 87504
(505)956-4333

04/11/2005 10:23:07 AM
Your cashier was Amanda
B002101105098 T91

Building Permits
broken arrow
11001.420500 \$36.00

Total \$36.00

Check 15214 \$36.00

Change \$0.00

Tax

BP250U01.

City of Santa Fe
Application Tracking Step Selection

4/01/05
16:31:58

Application number : 05 00000553
Address : 1402 AGUA FRIA ST
Parcel Code :
Application type : MISCELLANEOUS
County Assessor Acct Num :
Tenant name, number :

Type options, press Enter.
2=change 4=Delete 5=view 6=Fast log 8=Action log maintenance 9=In/out maint

Opt Agency description	Rev	Path Step Req	--- Key Dates ---	Est Cpl	-- Review Summary --
			In		Resulted Stat By
- ELECTRICAL	A 01	Y	3/22/05	3/25/05	3/21/05 AP STM
- LAND MGMT (CITY-OWNE	A 01	Y	3/16/05	3/21/05	3/16/05 AP RS
- ZONING	A 01	Y	3/18/05	3/23/05	3/18/05 AP GP
- FIRE DEPARTMENT	B 01	Y	3/22/05	3/24/05	3/22/05 AP DRA
- GRADING & DRAINAGE	B 01	Y	3/16/05	3/19/05	3/17/05 AP WB

More...

F3=Exit F5=Land inquiry F6=Add F7=Revisions F8=Misc info inquiry
F10=View 2 F12=Cancel F14=Action log inquiry F24=More keys

*Routing App
Add 4/1/05*

City of Santa Fe
Cashiers Office
Santa Fe, NM 87504
(505)956-4333

04/11/2005 10:23:07 AM
Your cashier was Amanda
B002101105098 T91

Building Permits
broken arrow
11001.420500

\$36.00

Total

\$36.00

Check
15214

\$36.00

Change

\$0.00

Thank you!

BP250001.

City of Santa Fe
Application Tracking Step selection

4/01/05
16:31:58

Application number : 05 00000553
Address : 1402 AGUA FRIA ST
Parcel Code :
Application type : MISCELLANEOUS
County Assessor Acct Num :
Tenant name, number :

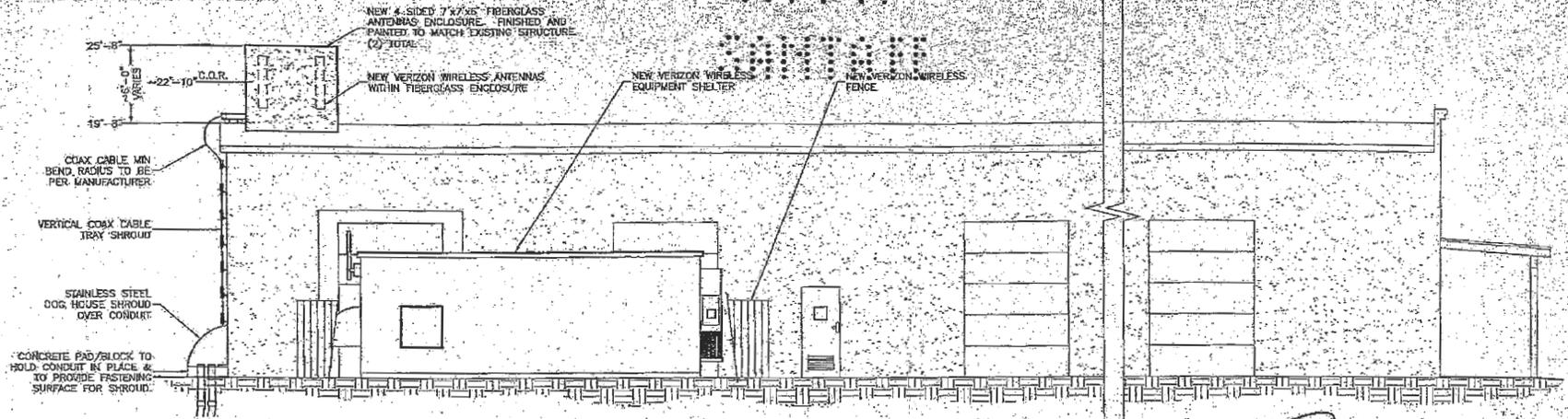
Type options, press Enter.
2=Change 4=Delete 5=View 6=Fast log 8=Action log maintenance 9=In/out maint

Opt Agency description	Rev	Path Step Req	--- Key Dates ---		-- Review Summary --	
			In	Est Cpl	Resulted	Stat By
BUILDING	C 01	Y	3/16/05	3/21/05	4/01/05	AP CJC

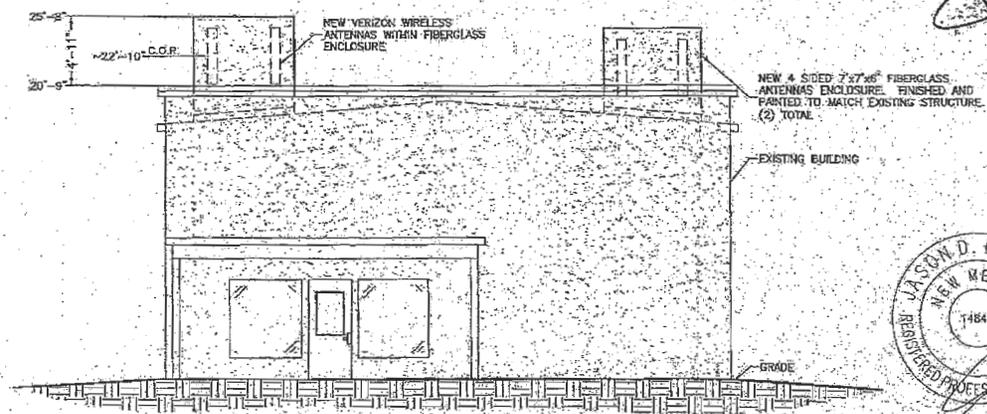
F3=Exit F5=Land inquiry F6=Add F7=Revisions F8=Misc info inquiry Bottom
F10=View 2 F12=Cancel F14=Action log inquiry F24=More keys

NOTES:

1. ALL ELEMENTS OF CABLE TRAY & DOGHOUSE TO BE PAINTED TO MATCH EXISTING BUILDING.
2. FIBERGLASS ENCLOSURES TO BE STUCCO FINISHED WITH RE-TRANSPARENT MATERIAL. TEXTURE AND PAINT TO MATCH EXISTING.

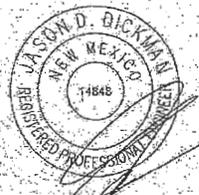


NEW EAST ELEVATION
SCALE: 1/8" = 1'-0"



NEW NORTH ELEVATION
SCALE: 1/8" = 1'-0"

APPROVED FOR CONSTRUCTION



DESIGNED FOR:

verizon wireless
4021 EUBANK NE - ALBUQUERQUE, NEW MEXICO 87111

DESIGNED BY:

TowerCom TECHNOLOGIES
TowerCom Technologies LLC
4520 Montgomery Blvd. NE, Suite 5 - Albuquerque, NM 87109
Tel: 505-232-4854 Fax: 505-232-1898

PROJECT NAME:

NM4-SILVA CONCEALED ANTENNA INSTALLATION

PROJECT ADDRESS:

1402 AGUA FRIA
SANTA FE NM
SANTA FE COUNTY

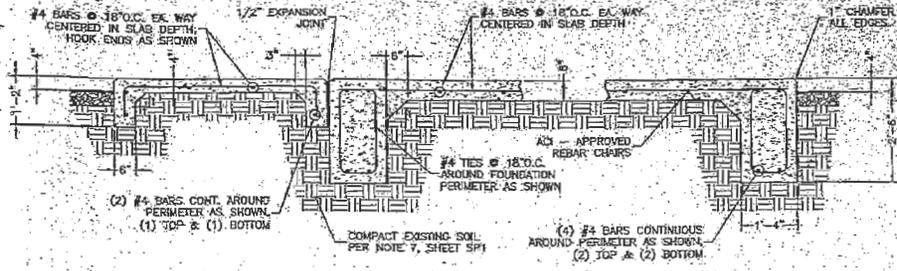
SHEET TITLE:

ELEVATIONS

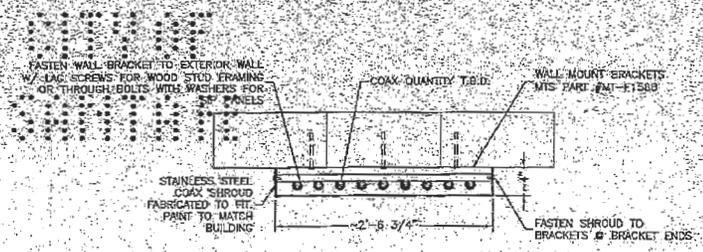
REV	DESCRIPTION	DATE	BY	CHK
0	APPROVED FOR CONSTRUCTION	3/4/05	MC	JDS

PROJECT NUMBER: SHEET NUMBER: **C3**

03-037-25

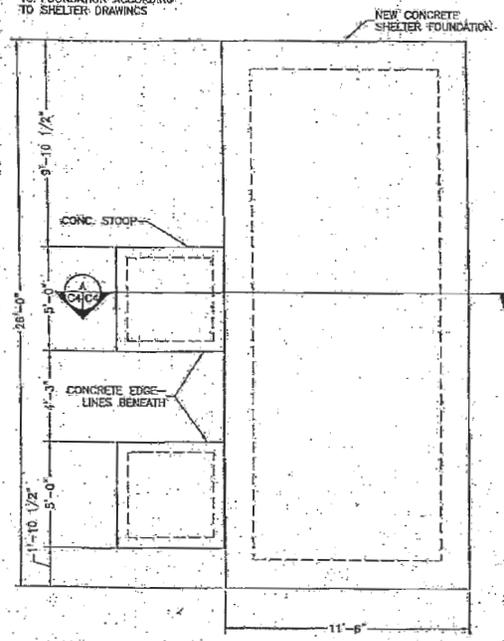


SHELTER FOUNDATION SECTION
SCALE: 3/8" = 1'-0"

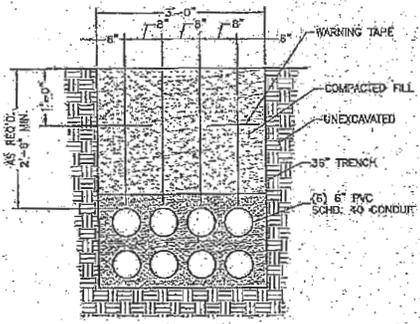


VERTICAL COAX TRAY
SCALE: 3/4" = 1'-0"

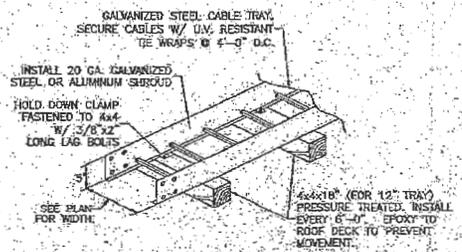
NOTE: FASTEN EQUIPMENT SHELTER TO FOUNDATION ACCORDING TO SHELTER DRAWINGS



SHELTER FOUNDATION PLAN
SCALE: 3/16" = 1'-0"



COAX CABLE TRENCH SECTION
SCALE: 1/2" = 1'-0"



CABLE TRAY DETAIL
SCALE: 1/2" = 1'-0"

APPROVED FOR CONSTRUCTION

DESIGNED FOR:
verizonwireless
4821 EUBANKS NE - ALBUQUERQUE, NEW MEXICO 87111

DESIGNED BY:
TOWERCOM TECHNOLOGIES
Towercom Technologies, LLC
4520 Montgomery Blvd., NE, Suite 35 - Albuquerque, NM 87109
Tel: 505-232-4884 Fax: 505-232-4898

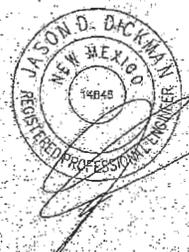
PROJECT NAME:
NM4-SILVA CONCEALED ANTENNA INSTALLATION

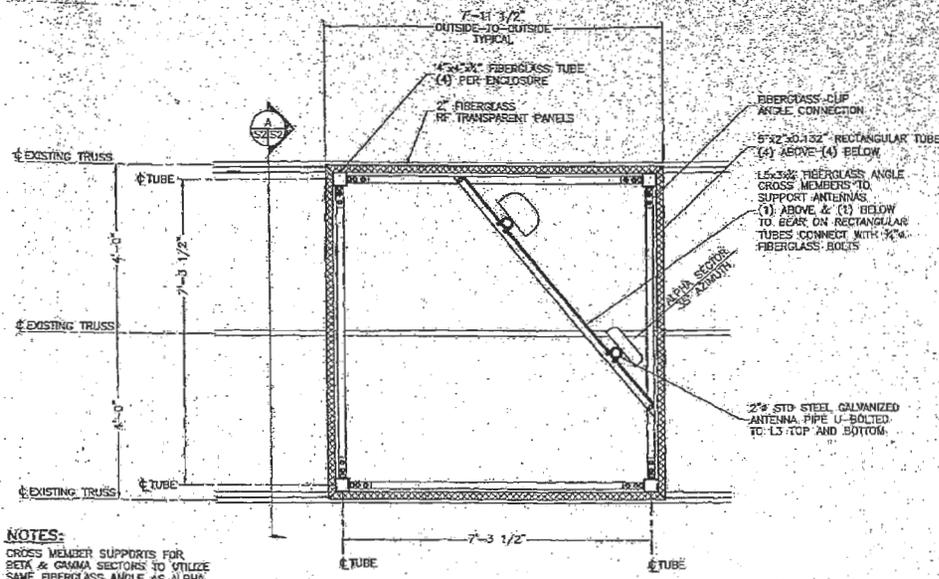
PROJECT ADDRESS:
1402 AGUA FRIA SANTA FE NM SANTA FE COUNTY

SHEET TITLE:
SECTIONS & DETAILS

REV	DESCRIPTION	DATE	BY	CHK
01	APPROVED FOR CONSTRUCTION	3/4/05	MC	JDD

PROJECT NUMBER: 04-037-23 SHEET NUMBER: **C4**





ANTENNA ENCLOSURE FRAMING PLAN
SCALE: 3/8" = 1'-0"



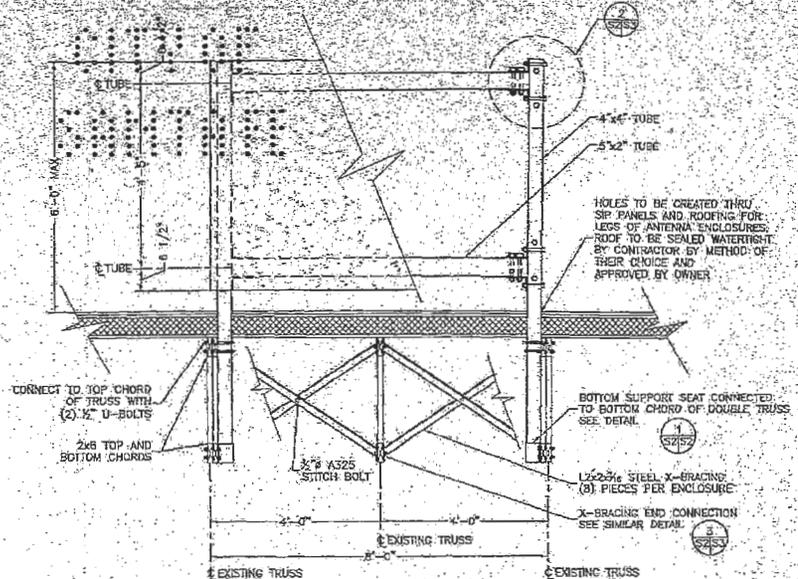
NOTES:
CROSS MEMBER SUPPORTS FOR BETA & GAMMA SECTIONS TO UTILIZE SAME FIBERGLASS ANGLE AS ALPHA SECTOR. ARRANGE (2) CROSS MEMBERS TO ACCOMMODATE REQUIRED CLEARANCES.

FIBERGLASS STRUCTURAL SHAPES:

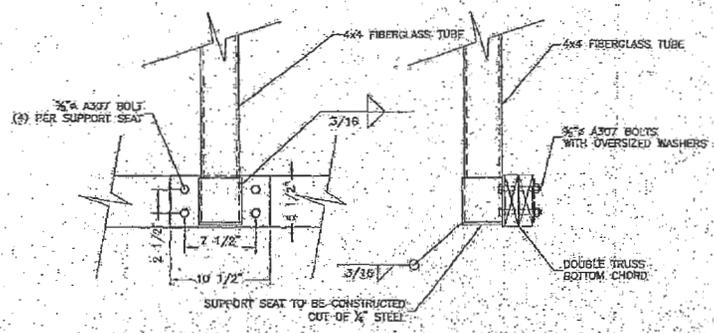
1. ALL STRUCTURAL FIBERGLASS SHAPES SHALL BE SUPPLIED BY: DELTA COMPOSITES, 1611 PEACHTREE ST, HOUSTON, TX 77058, 866-351-2100 / 281-449-4900
2. ALL TUBES AND ANGLE SHAPES SHALL BE MANUFACTURED OF FULTEX SERIES 1500 RESIN.
3. ALL FIBERGLASS BOLTS SHALL BE OF THE "SUPERSTUD" TRADE NAME.
4. ALTERNATE FIBERGLASS PRODUCTS MAY BE USED ONLY UPON WRITTEN APPROVAL BY TOWERCOM TECHNOLOGIES OF AN EQUIVALENT PRODUCT LOCATED BY CONTRACTOR.

FIBERGLASS PANELS:

1. ALL FIBERGLASS PANELING SHALL BE MANUFACTURED BY: CONCEALMENT SOLUTIONS, INC., 3549 FARM BLVD, NORTH CHARLESTON, SC 29406, 800-755-0889
2. ALL FIBERGLASS PANELS SHALL BE SMOOTH SKIN V PANELS AND SHALL BE FASTENED TO VERTICAL FIBERGLASS TUBES IN ACCORDANCE WITH MANUFACTURING GUIDELINES.
3. SIZE AND INSTALLATION METHODS OF PANELS SHALL BE DETERMINED BY CONTRACTOR IN CONJUNCTION WITH MANUFACTURER.
4. THE EXTERIOR SURFACE OF THE SMOOTH SKIN V PANELS MAY BE STUCKO-TEXTURED PROVIDED THE TEXTURE PATTERN HAS BEEN APPROVED BY LANDLORD AND Y2W.
5. ALTERNATE FIBERGLASS PANELS MAY BE USED ONLY UPON WRITTEN APPROVAL BY TOWERCOM TECHNOLOGIES OF AN EQUIVALENT PRODUCT LOCATED BY CONTRACTOR.



VERIZON WIRELESS SITE PLAN
SCALE: 3/8" = 1'-0"

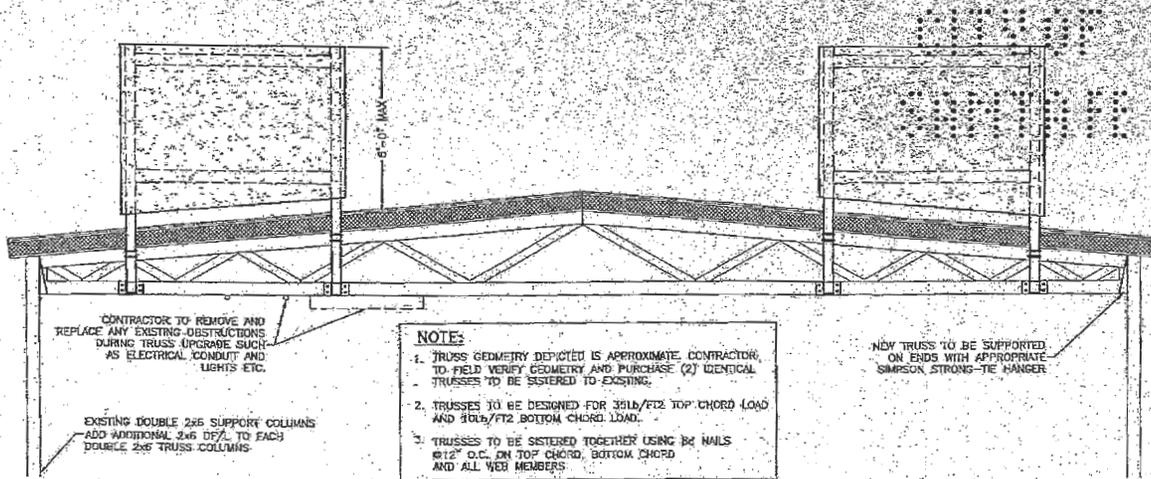


BOTTOM SUPPORT SEAT
SCALE: 1" = 1'-0"



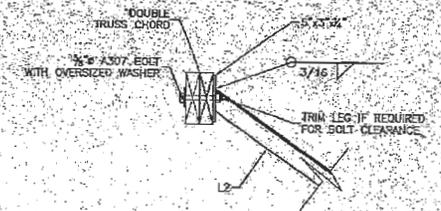
APPROVED FOR CONSTRUCTION

DESIGNED FOR:		verizon wireless	
4821 EUBANK NE - ALBUQUERQUE, NEW MEXICO 87111			
DESIGNED BY:		TowerCOM TECHNOLOGIES	
4520 Beantree Blvd, NE Suite 3 - Albuquerque, NM 87109		Tel: 505-232-4884 Fax: 505-232-4888	
PROJECT NAME:		NM4-SILVA CONCEALED ANTENNA INSTALLATION	
PROJECT ADDRESS:		1402 AGUA FRIA, SANTA FE, NM, SANTA FE COUNTY	
SHEET TITLE:		ENCLOSURE DETAILS	
REV	DESCRIPTION	DATE	BY / CHK
0	APPROVED FOR CONSTRUCTION	3/4/05	MC / JDD
PROJECT NUMBER:		SHEET NUMBER:	S2
04-037-23			



NOTE:

1. TRUSS GEOMETRY DEPICTED IS APPROXIMATE CONTRACTOR TO FIELD VERIFY GEOMETRY AND PURCHASE (2) IDENTICAL TRUSSES TO BE SISTERED TO EXISTING.
2. TRUSSES TO BE DESIGNED FOR 351b/FD2 TOP CHORD LOAD AND 301b/712 BOTTOM CHORD LOAD.
3. TRUSSES TO BE SISTERED TOGETHER USING BY NAILS #12" O.C. ON TOP CHORD, BOTTOM CHORD AND ALL WEB MEMBERS.

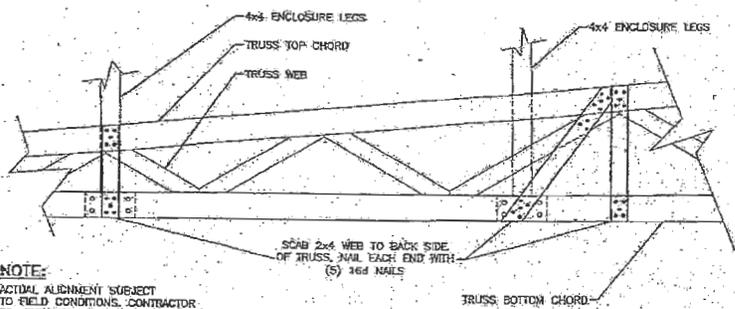


X-BRACE END CONNECTION
SCALE: 1" = 1'-0"

TRUSS GEOMETRY
SCALE: 1/4" = 1'-0"

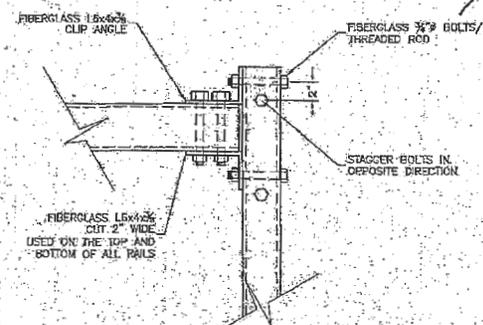


APPROVED FOR CONSTRUCTION



NOTE:
ACTUAL ALIGNMENT SUBJECT TO FIELD CONDITIONS. CONTRACTOR TO THE BOTTOMS/4" TO TRUSS PANEL POINT AS DEPICTED IN THIS DETAIL.

TRUSS PANEL POINT REINFORCEMENT
SCALE: 1/2" = 1'-0"



CLIP ANGLE CONNECTION
SCALE: 1" = 1'-0"

DESIGNED FOR:
verizonwireless
4821 ED BANK NE - ALBUQUERQUE, NEW MEXICO 87114
DESCRIBED BY:
TOWERCOM TECHNOLOGIES
TOWERCOM TECHNOLOGIES LLC
4820 Montecary Blvd. NE, Suite 5 - Albuquerque, NM 87109
Tel: 505-232-4254 Fax: 505-232-4898

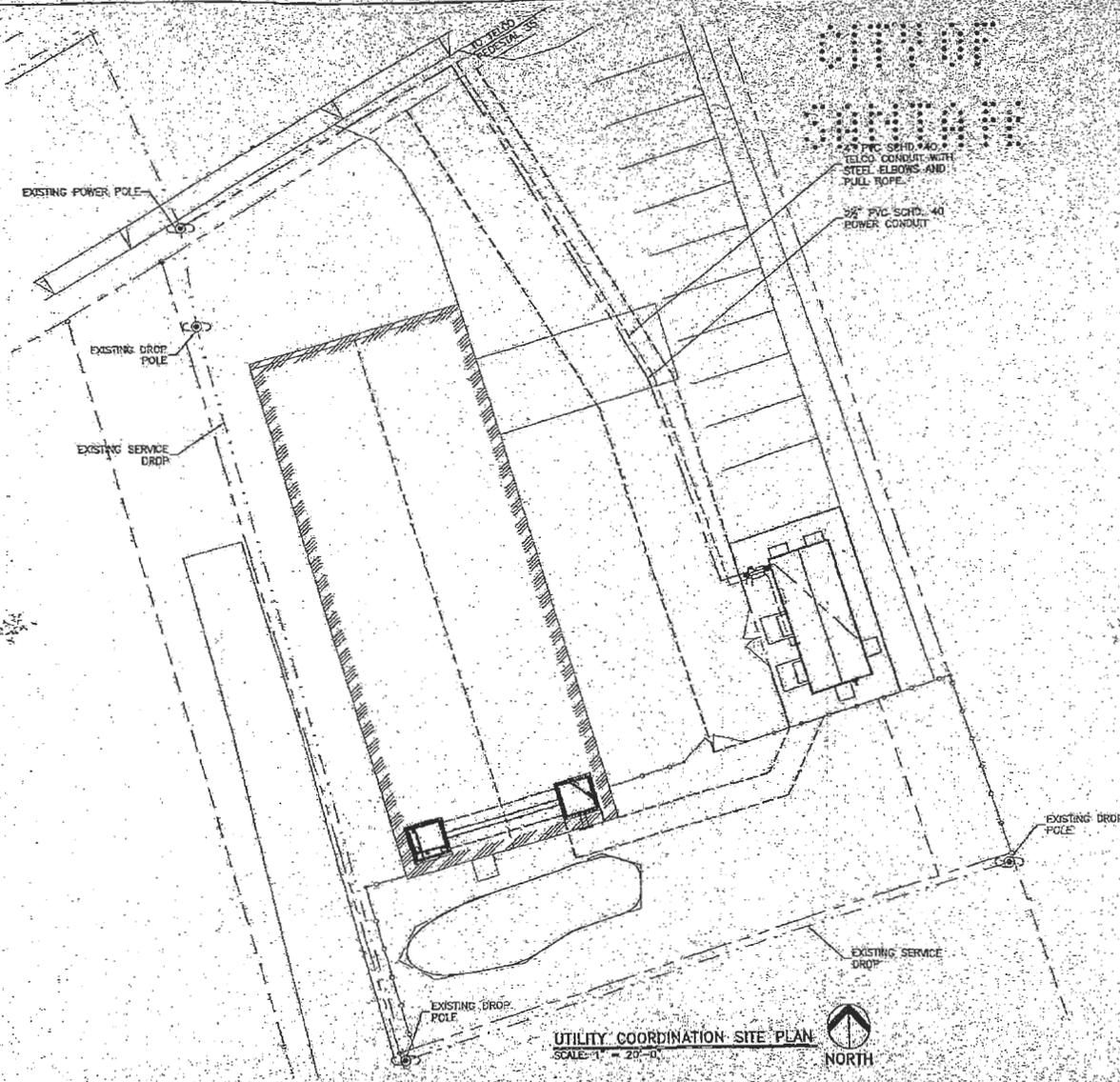
PROJECT NAME:
NM4-SILVA CONCEALED ANTENNA INSTALLATION

PROJECT ADDRESS:
1402 AGUA FRIA
SANTA FE NM
SANTA FE COUNTY

SHEET TITLE:
ENCLOSURE DETAILS

REV	DESCRIPTION	DATE	BY	CHK
D	APPROVED FOR CONSTRUCTION	3/4/05	MC	JDD

PROJECT NUMBER: 04-037-23
SHEET NUMBER: 53



TELCO CONTACT:
 QWEST
 SUE HUSTON
 505-473-2195
 MEL MUST BE NOTIFIED
 PRIOR TO START OF
 CONSTRUCTION

POWER CONTACT:
 FNU
 GREG SHELLEY
 505-435-6935
 GREG MUST BE NOTIFIED
 PRIOR TO START OF
 CONSTRUCTION



**APPROVED
 FOR CONSTRUCTION**

DESIGNED FOR			
verizon wireless			
4821 EUBANK NE - ALBUQUERQUE, NEW MEXICO 87111			
DESIGNED BY			
TOWERCOM TECHNOLOGIES			
Towercom Technologies, LLC 4520 Montgomery Blvd., NE, Suite 5 - Albuquerque, NM 87109 Tel: 505-232-4884 Fax: 505-232-4888			
PROJECT NAME			
NM4-SILVA CONCEALED ANTENNA INSTALLATION			
PROJECT ADDRESS			
1402 AGUA FRIA SANTA FE NM SANTA FE COUNTY			
SHEET TITLE			
UTILITY COORDINATION SITE PLAN			
REV	DESCRIPTION	DATE	BY / CHK
01	APPROVED FOR CONSTRUCTION	12/4/05	MC / BD
PROJECT NUMBER:		SHEET NUMBER:	
04-037-23		UC1	

UTILITY COORDINATION SITE PLAN
 SCALE: 1" = 20'-0"
 NORTH

GENERAL ELECTRICAL NOTES:

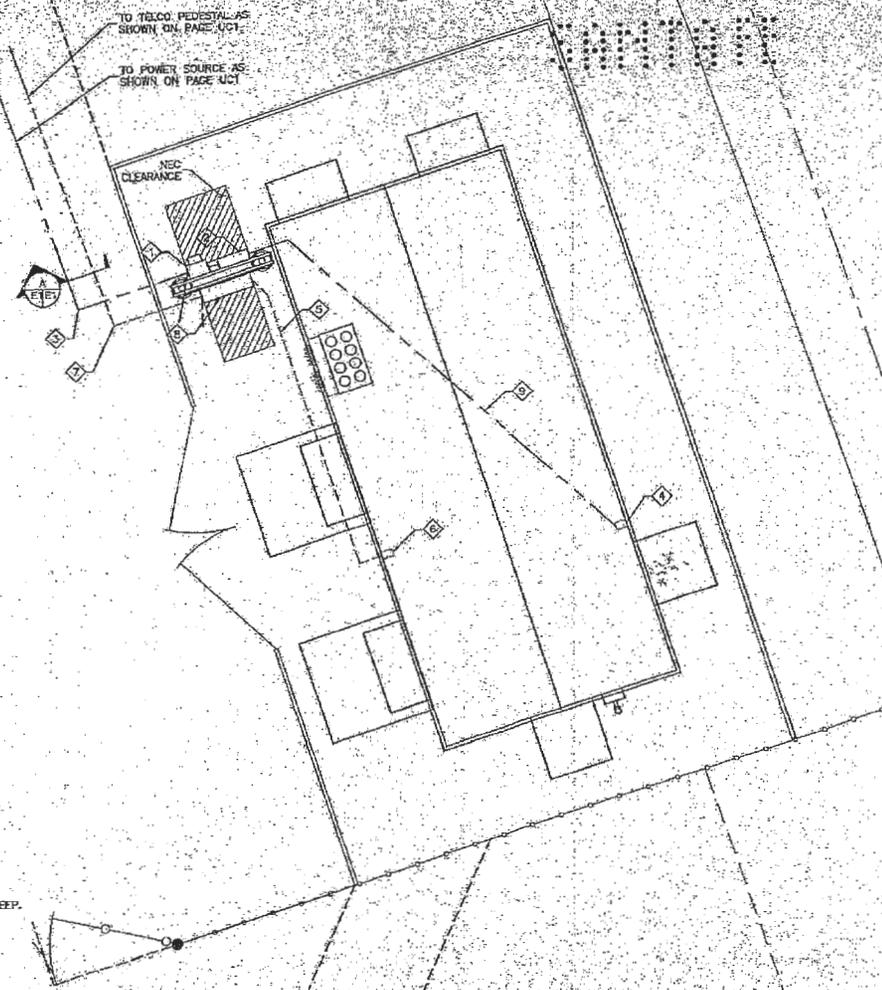
1. THE ELECTRICAL INSTALLATION WORK SHALL COMPLY WITH ALL LOCAL, STATE AND NATIONAL CODES, LAWS AND ORDINANCES APPLICABLE TO ELECTRICAL WORK.
2. CONTRACTOR SHALL VISIT SITE AND VERIFY EXISTING CONDITIONS BEFORE BEGINNING WORK.
3. ALL MATERIAL AND EQUIPMENT FURNISHED AND INSTALLED UNDER THIS CONTRACT SHALL BE NEW, FREE FROM DEFECTS, AND SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER OR HIS REPRESENTATIVE. SHOULD ANY TROUBLE DEVELOP DURING THIS PERIOD DUE TO FAULTY WORKMANSHIP, MATERIAL OR EQUIPMENT, THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS AND LABOR TO CORRECT THE TROUBLE WITHOUT COST TO THE OWNER.
4. ALL WORK TO BE EXECUTED IN A WORKMANLIKE MANNER AND SHALL PRESENT A NEAT MECHANICAL APPEARANCE WHEN COMPLETED.
5. CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CUTTING AND PATCHING RELATED TO ELECTRICAL WORK.
6. ALL BRANCH CIRCUIT CONDUCTORS SHALL BE COPPER TYPE "TH," #12, AND #10 SOLID, #4 AND LARGER STRANDED.
7. CONTRACTOR SHALL FURNISH AS-BUILT DRAWINGS TO THE VERIZON WIRELESS PROJECT MANAGER UPON COMPLETION OF THE JOB.
8. ELECTRICAL WORK SHALL INCLUDE ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED, INCLUDING BUT NOT LIMITED TO COMPLETE ELECTRICAL SYSTEMS POWER AND LIGHTING, TELEPHONE CONDUIT GROUNDING, CONDUIT ONLY SYSTEMS, ETC., AS INDICATED ON ELECTRICAL DRAWINGS AND/OR REQUIRED BY GOVERNING CODES.
9. PRIOR TO INSTALLING ANY ELECTRICAL WORK, THE CONTRACTOR SHALL VERIFY EXACT LOCATIONS AND REQUIREMENTS ON THE JOB, AND BY REFERENCE TO ARCHITECTURE, AND EQUIPMENT SUPPLIER'S DRAWINGS. SHOULD THERE BE ANY QUESTIONS OR PROBLEMS CONCERNING THE NECESSARY PROVISIONS TO BE MADE, PROPER DIRECTIONS FROM THE VERIZON WIRELESS PROJECT MANAGER SHALL BE OBTAINED BEFORE PROCEEDING WITH ANY WORK.
10. THE CONTRACTOR SHALL VERIFY EXISTING SITE CONDITIONS, ELECTRICAL SERVICE REQUIREMENTS AND COORDINATE ALL INTERCONNECTION REQUIREMENTS WITH LOCAL UTILITY AS NECESSARY.
11. THE NOTE, SPECIFICATION OR CODE WHICH PRESCRIBES AND ESTABLISHES THE HIGHEST STANDARD OF PERFORMANCE SHALL PREVAIL. IN THE EVENT OF ANY CONFLICT OR INCONSISTENCY BETWEEN ITEMS SHOWN ON THE PLANS AND/OR SPECIFICATIONS.
12. THE CONTRACTOR SHALL FURNISH AND PAY FOR ALL PERMITS AND RELATED FEES.
13. THE CONTRACTOR SHALL BE RESPONSIBLE FOR CONFORMANCE WITH THE NATIONAL ELECTRICAL CODE, STATE OF NEW MEXICO ELECTRICAL SAFETY ORDERS, ALL CODES AND ORDINANCES AND ALL OTHER ADMINISTRATIVE AUTHORITIES HAVING JURISDICTION OVER THIS WORK.

GENERAL POWER NOTES:

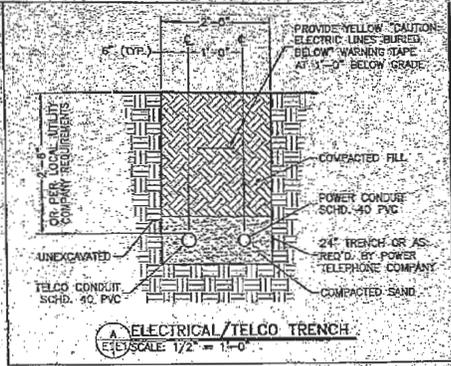
1. CONTRACTOR SHALL COMPLY WITH UTILITY'S ELECTRICAL SERVICE SPECIFICATIONS. OBTAIN A COPY AS NEEDED.
2. BOND THE SERVICE NEUTRAL TO THE GROUND'S ELECTRODE SYSTEM WITH A MINIMUM OF #2/0 AWG BARE COPPER CONDUCTOR.
3. EMERGENCY POWER RECEPTACLE PER VERIZON WIRELESS REQUIREMENTS.

KEYED NOTES:

- ① 200 AMP METER, SPECIFIED ON SINGLE LINE DIAGRAM.
- ② MAIN DISCONNECT, SPECIFIED ON SINGLE LINE DIAGRAM.
- ③ POWER CONDUIT TO POWER POLE, PVC 2", SCHED 40, 30" DEEP.
- ④ J BOX AT SHELTER -- BOND #2 TO SYSTEM GROUND.
- ⑤ TELCO CONDUIT TO TELCO ENTRY, PVC 2", SCHED 40 WITH PULL ROPE 36" DEEP. ALL ELBOWS TO BE LONG SWEEP 90'S.
- ⑥ TELCO ENTRY AT EQUIPMENT SHELTER CONDUIT MUST BE INSTALLED PRIOR TO POURING CONCRETE FOR ENTRY STOOD.
- ⑦ TELCO CONDUIT, PVC 1", SCHED 40 WITH PULL ROPE, 36" DEEP. ALL ELBOWS TO BE STEEL LONG SWEEP 90'S.
- ⑧ SUNWEST TELCO CABINET 36"x36"x12" MODEL No.: TC-03803812 OR VERIZON WIRELESS APPROVED CABINET.
- ⑨ POWER CONDUIT TO SHELTER J BOX, 2" PVC SCHED 40, 30" DEEP.



ELECTRICAL SITE PLAN
SCALE: 3/16" = 1'-0"
NORTH



DESIGNED FOR:

verizon wireless

4821 ELBANK NE - ALBUQUERQUE, NEW MEXICO 87111

DESIGNED BY:

TOWERCOM TECHNOLOGIES
Towercom Technologies, LLC

4520 Montgomery Blvd., NE, Suite 5 - Albuquerque, NM 87109
Tel: 505-232-4884 Fax: 505-232-4898

PROJECT NAME:

**NM4-SILVA
CONCEALED ANTENNA
INSTALLATION**

PROJECT ADDRESS:

**1402 AGUA FRIA
SANTA FE, NM
SANTA FE COUNTY**

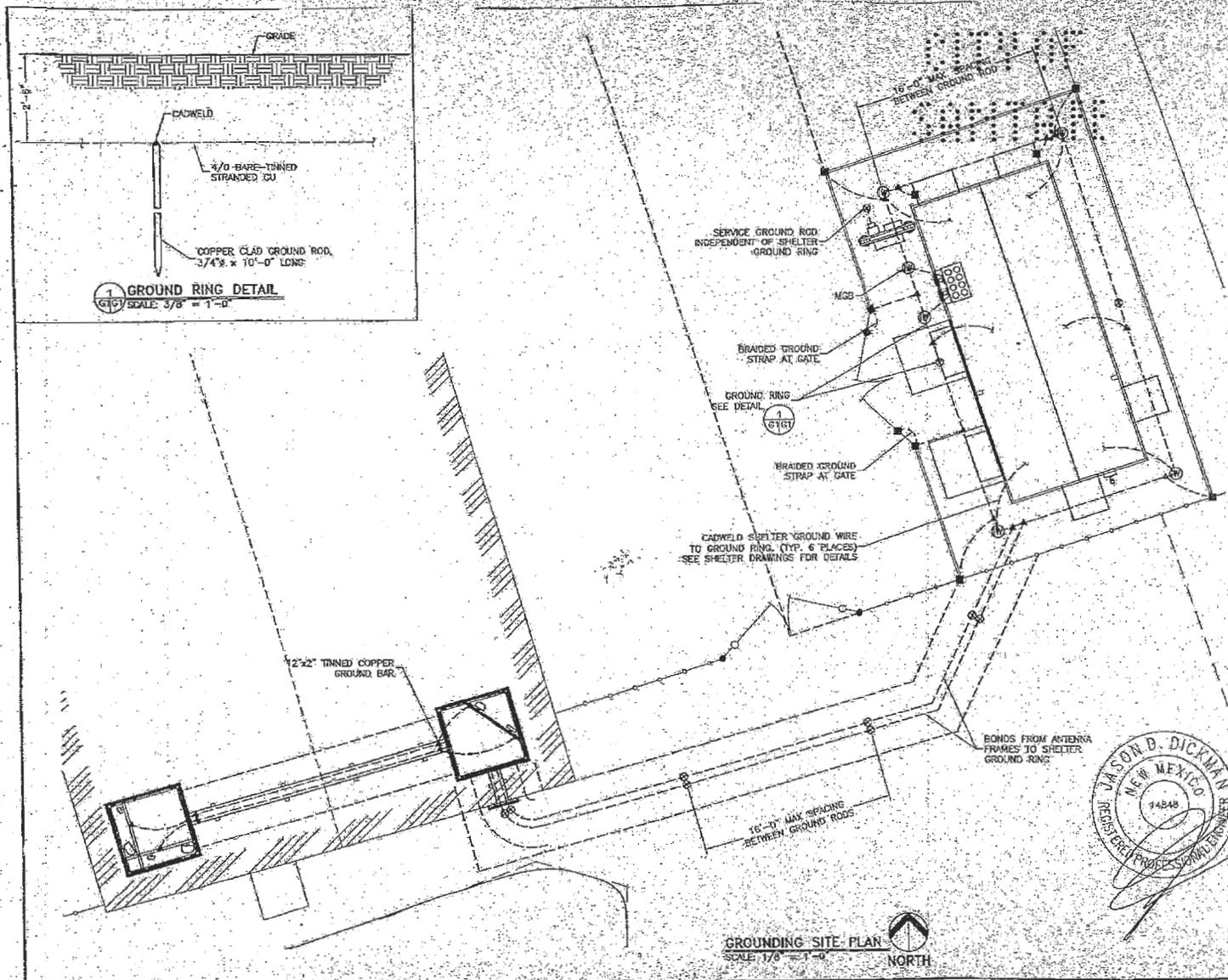
SHEET TITLE:

ELECTRICAL SITE PLAN

REV	DESCRIPTION	DATE	BY	CHK
0	APPROVED FOR CONSTRUCTION	3/4/05	MC	JDD

PROJECT NUMBER: _____ SHEET NUMBER: **E1**

04-037-23



1 GROUND RING DETAIL
SCALE: 3/8" = 1'-0"

- GENERAL GROUNDING NOTES:**
1. CONTRACTOR TO COMPLY WITH VERIZON WIRELESS CELL SITE GROUNDING & BONDING SPECIFICATIONS. IN THE EVENT THAT DRAWINGS CONFLICT WITH VERIZON WIRELESS SPECIFICATIONS, VERIZON WIRELESS SPECIFICATIONS SHALL GOVERN.
 2. ALL DETAILS ARE SHOWN IN GENERAL TERMS. ACTUAL GROUNDING INSTALLATION AND MOUNTING MAY VARY DUE TO SITE SPECIFIC CONDITIONS. AT GROUND MAY BE REQUIRED.
 3. GROUND ROD SHALL BE COPPER CLAD STEEL 5/8" Ø LONG.
 4. INSTALL GROUND AND BONDING CONDUCTORS WITH SUFFICIENT SLACK TO AVOID BREAKING DUE TO SETTLEMENT AND MOVEMENT OF CONDUCTORS AT ATTACHED POINTS.
 5. RESISTANCE TO GROUND SHALL NOT EXCEED 5 OHMS MEASUREMENT. ADDITIONAL GROUND RODS OR OUT-GROUND SHALL BE PROVIDED TO ATTAIN THIS VALUE OR LESS. WHERE MULTIPLE RODS ARE INSTALLED THEY SHALL BE SPACED BETWEEN 8 AND 16 FEET APART.
 6. ALL GROUNDING CONDUCTORS SHALL BE UL LISTED FOR THEIR PURPOSE.
 7. ALL GROUND CONNECTIONS TO GROUND BARS SHALL BE UL #67 LISTED, IRREVERSIBLE COMPRESSION TYPE.
 8. ALL CONNECTIONS TO GROUND BARS SHALL BE COATED WITH ANTI-OXIDANT COMPOUND.
 9. PROVIDE ONE TIME HT 1 lb. HAMMER TEST ON ALL CAD WELDS.

GROUNDING LEGEND

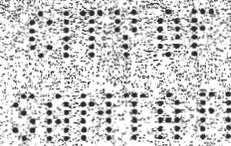
- ▲ CADWELD CONNECTION
- ⊗ 5/8"Ø CU CLAD GROUND ROD
- MECHANICAL CONNECTION
- #2 BARE-TINNED SOLID CU
- ⊙ INSPECTION WELL

APPROVED FOR CONSTRUCTION

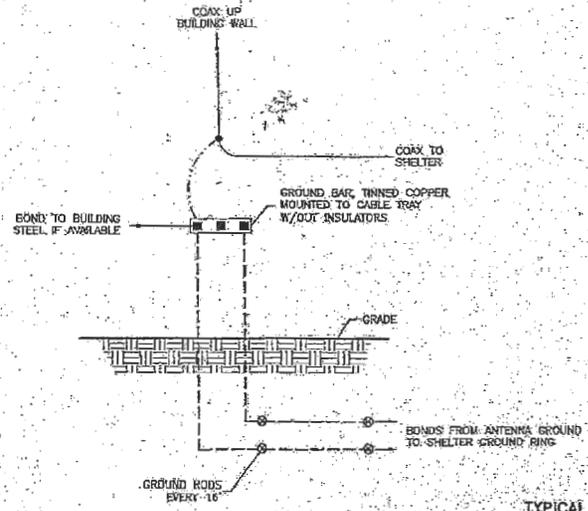
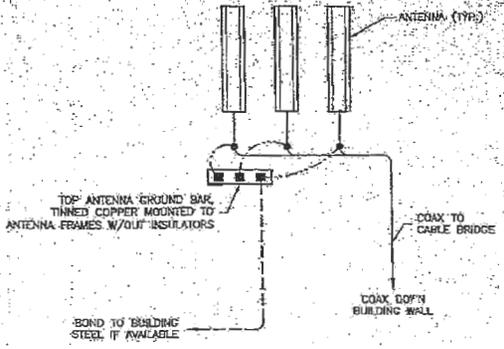
DESIGNED FOR:			
verizonwireless			
4821 EDWARK NE -- ALBUQUERQUE, NEW MEXICO 87111			
DESIGNED BY:			
			
4520 Montgomery Blvd. NE, Suite 5 -- Albuquerque, NM 87109 Tel: 505-232-4864 Fax: 505-232-4898			
PROJECT NAME:			
NM4-SILVA CONCEALED ANTENNA INSTALLATION			
PROJECT ADDRESS:			
1402 AGUA FRIA, SANTA FE NM, SANTA FE COUNTY.			
SHEET TITLE:			
GROUNDING SITE PLAN			
REV	DESCRIPTION	DATE	BY
0	APPROVED FOR CONSTRUCTION	3/4/05	MC JDD
PROJECT NUMBER:		SHEET NUMBER:	
04-037-23		G1	



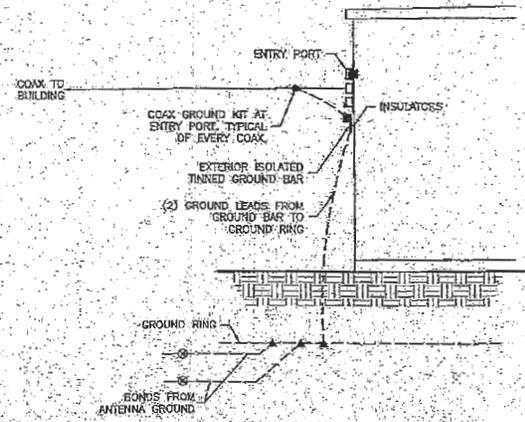
GROUNDING SITE PLAN
SCALE: 1/8" = 1'-0"
NORTH



- GROUNDING LEGEND**
- ▲ WELDED CONNECTION
 - COAX GROUND KIT
 - MECHANICAL CONNECTION
 - 1/2" SOLID TINNED BARE CU
 - #8 - AWG - THIN INSULATED
 - COAX & JUMPERS
 - ⊕ 3/4" x 8' CU CLAS GROUND ROD



TYPICAL GROUNDING ELEVATION
SCALE: N.T.S.



APPROVED FOR CONSTRUCTION

DESIGNED FOR:

verizonwireless

4821 EUBANK NE - ALBUQUERQUE, NEW MEXICO 87111

DESIGNED BY:

TOWERCOM TECHNOLOGIES
Towercom Technologies LLC

4520 Montgomery Blvd. NE, Suite 5 - Albuquerque, NM 87110
Tel: 505-232-4884 Fax: 505-232-4883

PROJECT NAME:

NM4-SILVA CONCEALED ANTENNA INSTALLATION

PROJECT ADDRESS:

1402 AGUA FRIA
SANTA FE, NM
SANTA FE COUNTY

SHEET TITLE:

TYPICAL GROUNDING ELEVATION

REV	DESCRIPTION	DATE	BY	CHK
0	APPROVED FOR CONSTRUCTION	3/4/05	ME	JDD

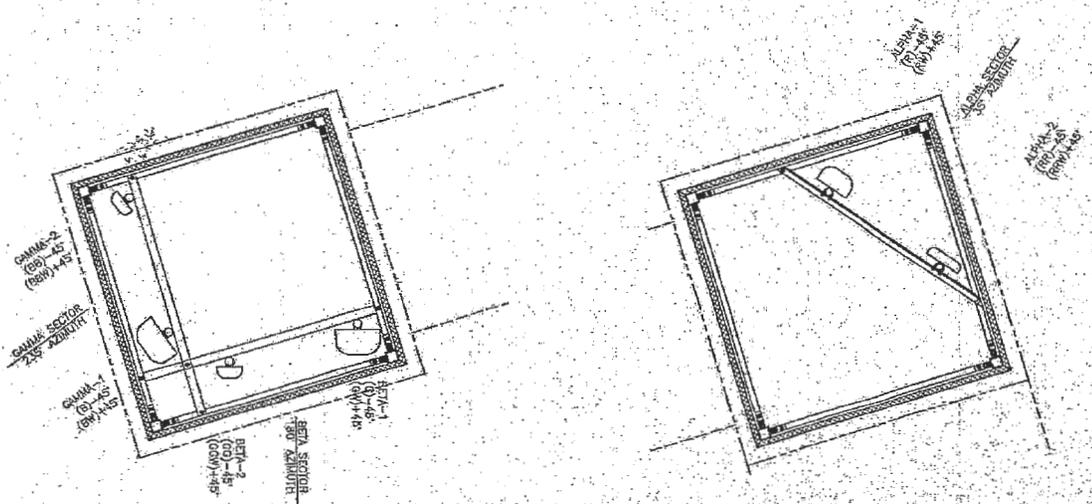
PROJECT NUMBER: 04-057-23 SHEET NUMBER: G2

GENERAL ANTENNA NOTES:

1. DUAL POLAR ANTENNAS REQUIRE TWO RUNS OF COAX PER ANTENNA.
2. LENGTHS GIVEN ON THIS CHART ARE ESTIMATED FROM AVAILABLE INFORMATION.
3. TYPES AND SIZES OF THE ANTENNA CABLES ARE BASED ON THE ESTIMATED LENGTH OF THE CABLES. CONTRACTOR TO VERIFY ALL ACTUAL LENGTHS IN FIELD PRIOR TO INSTALLATION AND NOTIFY THE FIELD ENGINEER FOR VERIFICATION OF SIZES OF CABLES.
4. CONTRACTOR TO PROVIDE AS-BUILTS FOR THE LENGTH OF CABLES UPON COMPLETION OF INSTALLATION.
5. CONTRACTOR TO PROVIDE FINAL CABLE LENGTHS AND RETURN LOSSES FOR ALL CABLES.
6. ALL AZIMUTHS REFERENCE TRUE NORTH. CONSULT REQUIRED QUADRANGLE MAP FOR NECESSARY MECHANICAL DECLINATION.

COLOR CODE	
B	BLUE
G	GREEN
R	RED
W	WHITE

ANTENNA SCHEDULE								
ANTENNA AZIMUTH	SECTOR OR ORIENTATION	NUMBER OF ANTENNAS	ANTENNA TYPE	MECHANICAL DOWN TILT	NUMBER OF COAX CABLES	COAX CABLE DIAMETER	ESTIMATED COAX CABLE LENGTH	HORIZONTAL SEPARATION
35°	22°-10°	1	DB856DC90ESK	0°	2	T60	135'	AS ALLOWED
180°	22°-10°	1	DB854DC90ESK	0°	2	T60	157'	AS ALLOWED
135°	22°-10°	1	DB854DC90ESK	0°	2	T60	157'	AS ALLOWED
35°	22°-10°	1	DB832DC90E-M	0°	2	T60	135'	AS ALLOWED
180°	22°-10°	1	928DC90TSE	0°	2	T60	157'	AS ALLOWED
225°	22°-10°	1	928DC90TSE	0°	2	T60	157'	AS ALLOWED



ANTENNA ORIENTATION & COLOR CODE
SCALE: 3/4" = 3'-0"



APPROVED FOR CONSTRUCTION



DESIGNED FOR:
verizon wireless
4821 EUBANK, NE - ALBUQUERQUE, NEW MEXICO 87111

DESIGNED BY:
TOWERCOM TECHNOLOGIES
4520 Montebello Blvd. NE, Suite B - Albuquerque, NM 87109
Tel: 505-232-4284 Fax: 505-232-4858

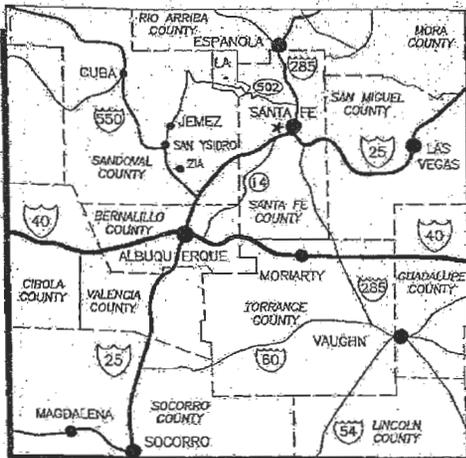
PROJECT NAME:
NM4-SILVA CONCEALED ANTENNA INSTALLATION

PROJECT ADDRESS:
1402 AGUA FRIA
SANTA FE, NM
SANTA FE COUNTY

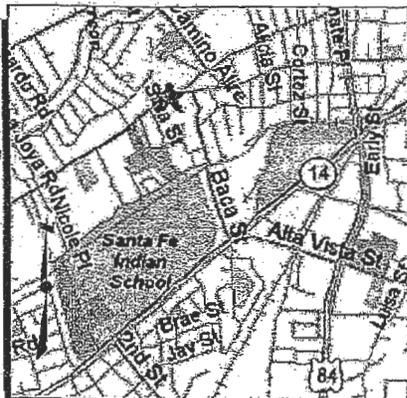
SHEET TITLE:
ANTENNA INFORMATION

REV	DESCRIPTION	DATE	BY	CHK
0	APPROVED FOR CONSTRUCTION	3/4/05	MC	JDD

PROJECT NUMBER: 04-037-25
SHEET NUMBER: RF1



REGIONAL MAP



LOCAL MAP

DRIVING DIRECTIONS:

FROM DOWNTOWN ALBUQUERQUE GO NORTH ON INTERSTATE HWY. 25 FOR 60 MILES TO EXIT #282 IN SANTA FE. TAKE US 84/US 285 (ST. FRANCIS) NORTH INTO SANTA FE FOR ABOUT FOUR MILES. JUST NORTH OF CERRILLOS ROAD TURN LEFT ONTO AGUA FRIA ROAD. HEAD WESTERLY FOR ABOUT 1/4 MILE TO THE SITE AT 1402 AGUA FRIA. AT THE ABSOLUTE FLOORING AND INTERIORS WAREHOUSE.

**SURVEY TYPE:
LEASE AREA**

GENERAL LEGAL DESCRIPTION:

Being a portion of "Tract A" as shown on that certain plat entitled "Plat of Survey for Doris Jeanne Luno, 1402 Agua Fria Street, Santa Fe County, New Mexico, as the same is shown and designated on the plat filed in the office of the County Clerk of Santa Fe County, New Mexico, on October 2, 1998 and recorded in Plat Book 396, Page 32. (SEE SHEET 502 FOR SPECIFIC LEGAL DESCRIPTION)

PROPERTY OWNER:

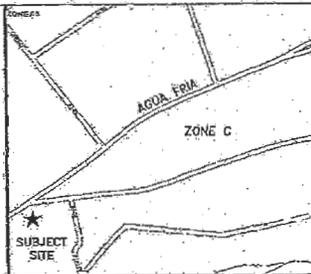
John Malone
1402 Agua Fria Road
Santa Fe, Santa Fe County, New Mexico
Contact: John Malone
Phone: (505) 480-2822

PARCEL #:

1-052-098-515-431

FLOOD INFORMATION:

ZONE: X
COUNTY: SANTA FE,
STATE: NEW MEXICO
FANAL: 550070 000SC
DATE: 4/02/93
NOTE:
AREA DETERMINED
TO BE OUTSIDE
500 YEAR
FLOOD PLAIN



FLOOD INFORMATION & MAP (NTS)

**COORDINATE REPORT
(NAD83/NAV88)**

LATITUDE: N35°40'46.336"
LONGITUDE: W105°57'56.085"
GROUND ELEV.: 6865.2'

**COORDINATE REPORT
(NAD27/NGVD29)**

LATITUDE: N35°40'46.225"
LONGITUDE: W105°57'54.006"
GROUND ELEV.: 6861.8'
MEETS: 1A/2C LETTER REQUIREMENTS AND TIED TO LISTED CORS STATIONS VIA OPUS.
PID DESIGNATION
DE6588 ZAB2
DE822 ABQ1
DF4369 NMSF

SURVEY INDEX:

- SU1-REFERENCE NOTES
- SU2-METES & BOUNDS DESCRIPTIONS
- SU3-OVERVIEW & ENLARGED PLAN VIEW

BASIS OF BEARINGS AND DATUM NOTE:

(1.) ALL DISTANCES ARE SURFACE AND ALL BEARINGS REFERENCED HEREIN ARE TRUE NORTH FOR A LOCAL SURFACE TRANSVERSE MERCATOR PROJECTION. (2.) ORIGIN OF PROJECTION IS CENTERED ON A CONTROL MONUMENT SET OR FOUND IN THE PROJECT AREA AND WAS TIED TO THE NATIONAL CORS USING THE OPUS UTILITY. (3.) THE CONTROL MONUMENT USED FOR ORIGIN HAS A GEODETIC POSITION OF:
LAT.: 35° 40' 46.355"N
LONG.: 105° 57' 55.276"W
EL. HGT.: 6805.4'
ELEV.: 6866.3'
HORIZONTAL DATUM: NAD83 (GCRS86)
VERTICAL DATUM: NAVD88 (GEOID03)

SURVEY REFERENCES:

1. SEARCH AREA REPORT BY: 435 CONSULTING, CONTACT: MARK PAIZ: 305-915-3428
2. SEARCH INFORMATION REPORT BY: LAND AMERICA, DATED: OCTOBER 15, 2004, file no. 56622
3. WARRANTY DEED FILED FOR RECORD IN BOOK 1906, PAGE 57B, SANTA FE COUNTY RECORDS.
4. RIGHT-OF-WAY EASEMENT FILED FOR RECORD JUNE 19, 1973 IN BOOK 502, PAGE 318, SANTA FE COUNTY RECORDS.
5. Commonwealth Land Title Insurance, File No. 55622.

TITLE REFERENCE:

This Survey was done with sufficient research and field gathered data to verify the Parent Parcel of the subject property, however, This Surveyor has relied upon the title provider referenced herein for documents of record, and that this Surveyor makes no guarantee, either expressed or implied as to the quality of the title report/abstract and reference documents provided, and that the documents provided effecting the Lease and immediate area have been plotted.

I hereby Certify that this "Lease Area Survey" is based on an actual field survey performed by me or under my direction. That it correctly depicts existing readily visible improvements and above ground utilities and that the Boundary of the parent parcel was verified from field and record information, but that this "Lease Area Survey" is not a Boundary Survey of the Parent Parcel and this Survey was developed to support the communications facility plan set named herein.

David C. Clausen
DAVID C. CLAUSEN
NM PLS 6547
2/16/05
3/01/05
3/03/05



REQUIRED FOR:

verizon wireless

4821 EUBANK NE - ALBUQUERQUE, NEW MEXICO 87111

DESIGNED BY:

TOWERCOM TECHNOLOGIES
TOWERCOM TECHNOLOGIES LLC
4520 Montgomery Blvd. NE, Suite 5 - Albuquerque, NM 87109
Tel: 505-232-4884 Fax: 505-232-4889

PROJECT NAME:

**VERIZON WIRELESS
NM4 SILVA**

PROJECT ADDRESS:

**1402 AGUA FRIA
CITY OF SANTA FE
SANTA FE COUNTY, NEW MEXICO**

SHEET TITLE:

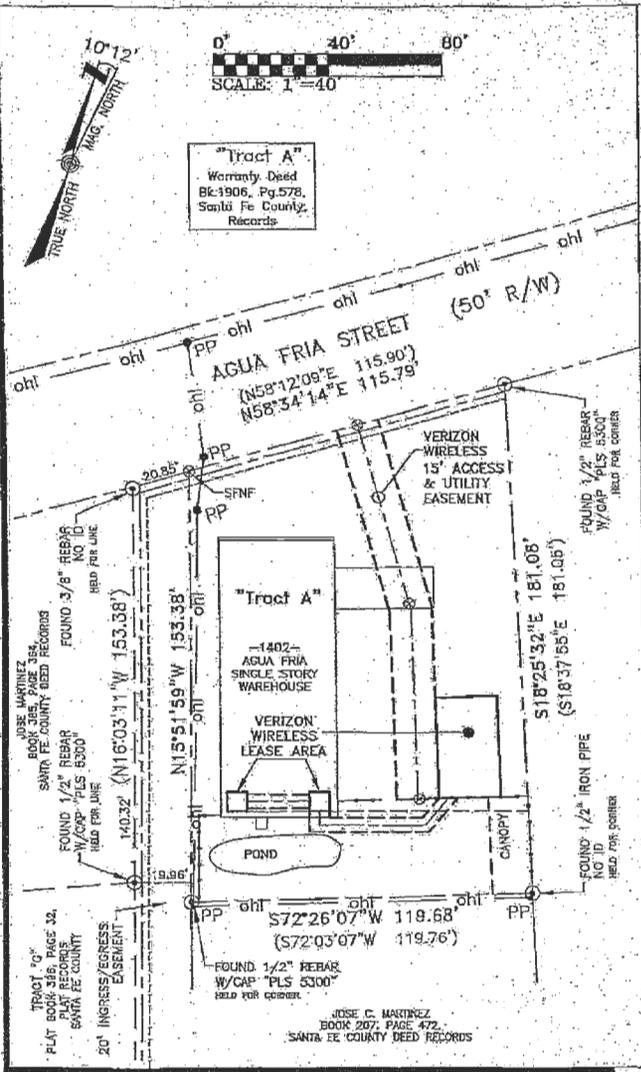
SURVEY REFERENCE NOTES

REV	DESCRIPTION	DATE	BY	CHK
1	SO2 PRELIM REVIEW ONLY	1/11/05	DWM	DCC
1	FINAL	2/16/05	DWM	DCC
2	Revise Access to Util Easmt.	3/01/05	DWM	DCC
3	Remove 5' Util Easmt from SE corner	3/03/05	DWM	DCC

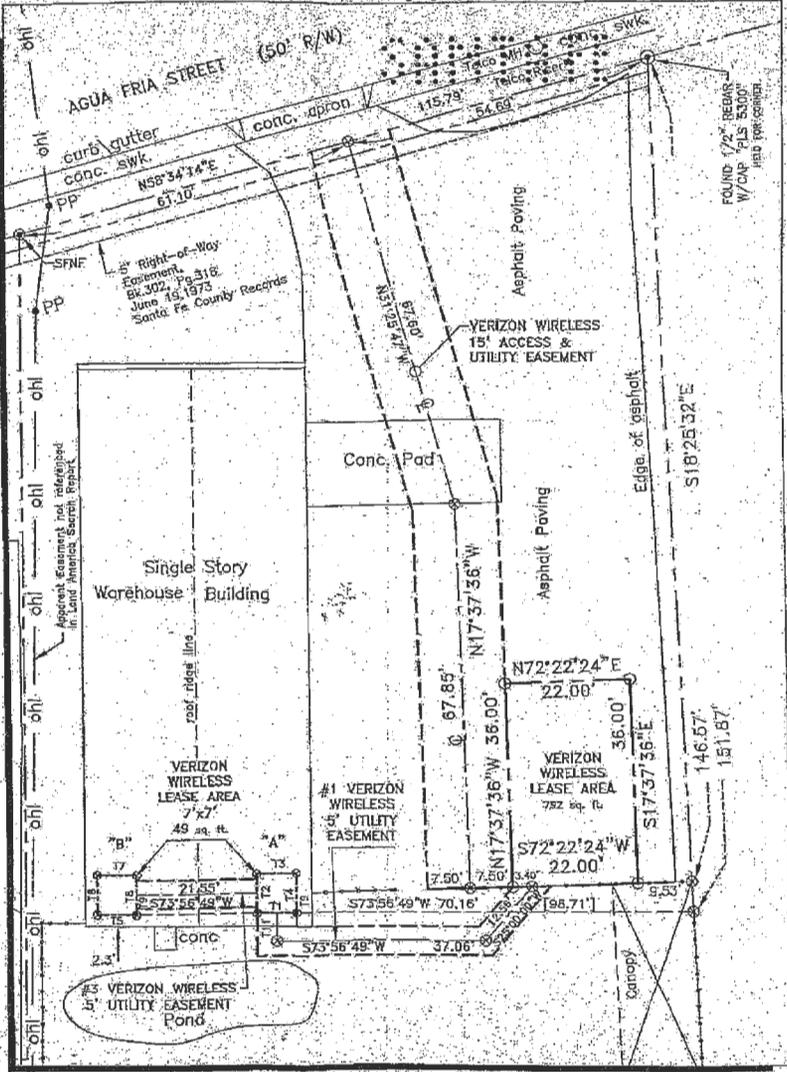
PROJECT NUMBER: SHEET NUMBER: **SU1**



"Tract A"
 Warranty Deed
 Bk-1906, Pg.578,
 Santa Fe County
 Records

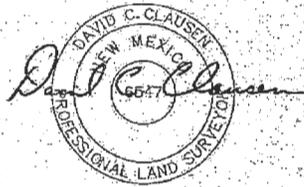


PLAN VIEW SCALE: 1"=40'



ENLARGED PLAN VIEW SCALE: 1"=20'

- LINE TABLE
- T1 S73°56'49"W 7.00'
 - T2 N16°03'11"W 7.00'
 - T3 N73°56'49"E 7.00'
 - T4 S16°03'11"E 7.00'
 - T5 S73°56'49"W 7.00'
 - T6 N16°03'11"W 7.00'
 - T7 N73°56'49"E 7.00'
 - T8 S16°03'11"E 7.00'
 - T9 N16°03'11"W 3.50'
 - T10 N72°22'24"E 6.99'
 - T11 N16°03'11"W 4.95'



DESIGNED BY: **verizon wireless**

4021 ELDONK NC - ALBUQUERQUE, NEW MEXICO 87131-1400
 DESIGNED BY: **TOWERCOM TECHNOLOGIES**
 TOWERCOM TECHNOLOGIES LLC
 4320 Midwayway Blvd. NE, Suite 5 - Albuquerque, NM 87109
 Tel: 505-232-4884 Fax: 505-232-4883

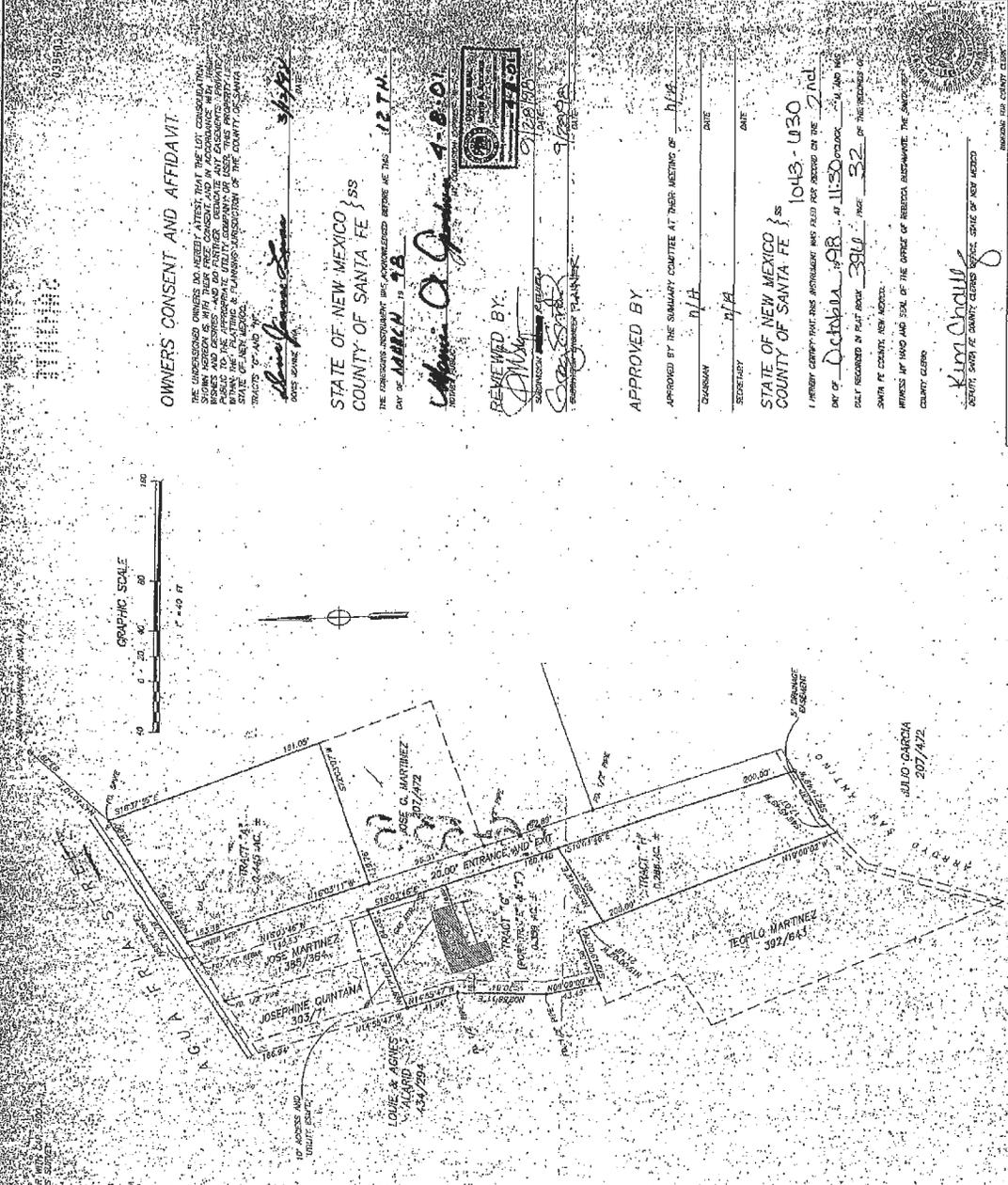
PROJECT NAME: **VERIZON WIRELESS NM4 SILVA**

PROJECT ADDRESS: **1402 AGUA FRIA CITY OF SANTA FE SANTA FE COUNTY, NEW MEXICO**

SHEET TITLE: **ENLARGED PLAN VIEW**

REV	DESCRIPTION	DATE	BY	CHK
A	ROZ PRELIM. REVIEW ONLY	1/11/05	DVM	DCC
1	FINAL	2/16/05	DVM	DCC
2	Revise Access & Util. Easmt.	3/01/05	DVM	DCC
3	Remove 5' Util. Easmt. from SE corner	3/03/05	DVM	DCC

PROJECT NUMBER: SHEET NUMBER: **SU3**



OWNERS' CONSENT AND AFFIDAVIT

THE UNDERSIGNED OWNERS DO HEREBY ATTEST THAT THE LOT CONSOLIDATION, BOUNDARIES AND CORNERS AND DO HEREBY CERTIFY THAT THE SAME HAVE BEEN MEASURED AND FOUND TO BE ACCURATE AND CORRECT AND THAT THE SAME ARE IN ACCORDANCE WITH THE RECORDS OF THE COUNTY OF SANTA FE, NEW MEXICO.

[Signature]
 STATE OF NEW MEXICO }
 COUNTY OF SANTA FE } SS
 ON THE 12TH DAY OF MARCH 1998

[Signature]
 STATE OF NEW MEXICO }
 COUNTY OF SANTA FE } SS
 ON THE 12TH DAY OF MARCH 1998

[Signature]
 STATE OF NEW MEXICO }
 COUNTY OF SANTA FE } SS
 ON THE 12TH DAY OF MARCH 1998

APPROVED BY
 APPROVED BY THE SUMMARY COMMITTEE AT THEIR MEETING OF 1/12/98
 CHAIRMAN [Signature] DATE
 SECRETARY [Signature] DATE

STATE OF NEW MEXICO }
 COUNTY OF SANTA FE } SS
 I HEREBY CERTIFY THAT THIS INSTRUMENT WAS FILED FOR RECORD ON THE 2nd DAY OF October 1998 AT 11:30 O'CLOCK AM AND WAS
 FILED IN BOOK 381 PAGE 32 OF THE RECORDS OF
 SANTA FE COUNTY, NEW MEXICO.
 WITNESS MY HAND AND SEAL OF THE OFFICE OF RECORDER, SANTIAGO, THE SAID 27th
 DAY OF October 1998
 COUNTY CLERK

[Signature]
 COUNTY CLERK

LOT CONSOLIDATION AND LOT
 ADJUSTMENT FOR: **DORIS JEANNE LUNA**
 SURVEYED BY: **DORIS JEANNE LUNA**
 DATE: 10/27/98
 SCALE: 1" = 40'
 COUNTY: SANTA FE
 BOOK: 381 PAGE: 32

A M M SURVEYING COMPANY
 1000 N. GARDEN ST. SUITE 100
 ALBUQUERQUE, NM 87102
 PHONE: (505) 263-1111
 FAX: (505) 263-1111

NOTES AND CONDITIONS
 1. THIS INSTRUMENT IS SUBJECT TO THE RECORDS OF THE COUNTY OF SANTA FE, NEW MEXICO.
 2. THE BOUNDARIES AND CORNERS OF THE LOTS SHOWN ON THIS INSTRUMENT ARE AS SHOWN ON THE RECORDS OF THE COUNTY OF SANTA FE, NEW MEXICO.
 3. THE BOUNDARIES AND CORNERS OF THE LOTS SHOWN ON THIS INSTRUMENT ARE AS SHOWN ON THE RECORDS OF THE COUNTY OF SANTA FE, NEW MEXICO.
 4. THE BOUNDARIES AND CORNERS OF THE LOTS SHOWN ON THIS INSTRUMENT ARE AS SHOWN ON THE RECORDS OF THE COUNTY OF SANTA FE, NEW MEXICO.
 5. THE BOUNDARIES AND CORNERS OF THE LOTS SHOWN ON THIS INSTRUMENT ARE AS SHOWN ON THE RECORDS OF THE COUNTY OF SANTA FE, NEW MEXICO.
 6. THE BOUNDARIES AND CORNERS OF THE LOTS SHOWN ON THIS INSTRUMENT ARE AS SHOWN ON THE RECORDS OF THE COUNTY OF SANTA FE, NEW MEXICO.
 7. THE BOUNDARIES AND CORNERS OF THE LOTS SHOWN ON THIS INSTRUMENT ARE AS SHOWN ON THE RECORDS OF THE COUNTY OF SANTA FE, NEW MEXICO.
 8. THE BOUNDARIES AND CORNERS OF THE LOTS SHOWN ON THIS INSTRUMENT ARE AS SHOWN ON THE RECORDS OF THE COUNTY OF SANTA FE, NEW MEXICO.
 9. THE BOUNDARIES AND CORNERS OF THE LOTS SHOWN ON THIS INSTRUMENT ARE AS SHOWN ON THE RECORDS OF THE COUNTY OF SANTA FE, NEW MEXICO.
 10. THE BOUNDARIES AND CORNERS OF THE LOTS SHOWN ON THIS INSTRUMENT ARE AS SHOWN ON THE RECORDS OF THE COUNTY OF SANTA FE, NEW MEXICO.

[Signature]
 COUNTY CLERK

2013 documents

CITY OF SANTA FE, NEW MEXICO
P.O. BOX 909
SANTA FE, NEW MEXICO 87504-0909

***** BUILDING PERMIT *****

Application Number 13-00002097 Date 10/30/13
Property Address 1402 AGUA FRIA ST
Application type description TELECOMMUNICATION TOWER
Subdivision Name DORIS LUNA LOT LINE
Property Zoning GENERAL COMMERCIAL
Application valuation 30000

Owner Contractor

MALONE, JOHN TSI TOWER SERVICES INC
1402 AGUA FRIA RD. 515 WHEELER AVE SE
SANTA FE NM 87505 ALBUQUERQUE NM 871102
(505) 232-4884 (505) 247-6480

Structure Information 000 000 TELE COMMUNICATIONS RR HEADS
Construction Type UPDATE
Occupancy Type (OLD CODE) UPDATE
Flood Zone MIN. FLOODING/OUTSIDE 500
Other struct info HEIGHT ROOF MOUNT ANTE

Permit BUILDING PERMIT COMMERCIAL
Additional desc
Phone Access Code 1110873
Permit Fee 482.25 Plan Check Fee 331.69
Issue Date 10/30/13 Valuation 30000
Expiration Date 10/28/15

Special Notes and Comments
I, THE OWNER OR AGENT FOR THE OWNER HAVE
RECEIVED THE FOLLOWING REVIEW SHEETS. I
UNDERSTAND I AM TO COMPLY WITH ALL
CONDITIONS INDICATED ON THE REVIEW
SHEETS. INITIALS kk

Other Fees ARCHEOLOGICAL FEE 10.00

For permits issued AFTER 08/01/2009, you MUST use VIPS
for scheduling inspections! Call in by 3:00 PM for a next-
day inspection (based on availability) 955-6110

APPROVED BY _____ DATE 10-30-13
APPLICANT [Signature] DATE 10/30

By my signature above I hereby agree to abide with all the laws of the City of Santa Fe as well as with all the conditions stated above. I further state that I understand that this is not a permit to construct anything in violation of the codes adopted by the State of New Mexico. Further, I understand that this permit may be appealed within fifteen (15) days of its issuance (the "appeal period") pursuant to 14-3.17 SFCC (1987) and in the event an appeal is upheld this permit may be revoked. I hereby agree that any grading, building, alteration, repairing or any other construction done pursuant to this permit during this appeal period is done at my own risk and without reliance on the issuance of this permit. I also agree that in the event an appeal is upheld and this permit is revoked I may be required to remove any building, grading, altering, repairing or any other construction done during the appeal period. I hereby certify that I have read the foregoing and understand the same and by my signature assent to the terms stated herein.

CITY OF SANTA FE, NEW MEXICO
P.O. BOX 909
SANTA FE, NEW MEXICO 87504-0909

***** BUILDING PERMIT *****

Application Number 13-00002097 Page 2
Date 10/30/13

Fee summary	Charged	Paid	Credited	Due
Permit Fee Total	482.25	482.25	.00	.00
Plan Check Total	331.69	331.69	.00	.00
Other Fee Total	10.00	10.00	.00	.00
Grand Total	823.94	823.94	.00	.00

For permits issued AFTER 08/01/2009, you MUST use VIPS
for scheduling inspections! Call in by 3:00 PM for a next-
day inspection (based on availability) 955-6110

APPROVED BY _____ DATE 10-30-13
APPLICANT Vgl Rump DATE 10/30

By my signature above I hereby agree to abide with all the laws of the City of Santa Fe as well as with all the conditions stated above. I further state that I understand that this is not a permit to construct anything in violation of the codes adopted by the State of New Mexico. Further, I understand that this permit may be appealed within fifteen (15) days of its issuance (the "appeal period") pursuant to 14-3-17 SFCC (1987) and in the event an appeal is upheld this permit may be revoked. I hereby agree that any grading, building, alteration, repairing or any other construction done pursuant to this permit during this appeal period is done at my own risk and without reliance on the issuance of this permit. I also agree that in the event an appeal is upheld and this permit is revoked I may be required to remove any building, grading, altering, repairing or any other construction done during the appeal period. I hereby certify that I have read the foregoing and understand the same and by my signature assent to the terms stated herein.

DISTRIBUTION: COPIES TO ORIGINATING OFFICE and APPLICANT.

BICOB.Inpd 02/10

CITY OF SANTA FE, NEW MEXICO
P.O. BOX 909
SANTA FE, NEW MEXICO 87504-0909

* * * * * B U I L D I N G P E R M I T * * * * *

Application Number 13-00002097 Page 3
Property Address 1402 AGUA FRIA ST Date 10/30/13
Application description TELECOMMUNICATION TOWER
Subdivision Name DORIS LUNA LOT LINE
Property Zoning GENERAL COMMERCIAL

Permit BUILDING PERMIT COMMERCIAL

Additional desc . . .
Phone Access Code . . . 1110873

Required Inspections

Seq	Phone Insp#	Insp Code	Description	Initials	Date
10	499	EL04	ELECTRICAL, FINAL		
1000	199	C001	BUILDING, FINAL		

By my signature above I hereby agree to abide with all the laws of the City of Santa Fe as well as with all the conditions stated above. I further state that I understand that this is not a permit to construct anything in violation of the codes adopted by the State of New Mexico. Further, I understand that this permit may be appealed within fifteen (15) days of its issuance (the "appeal period") pursuant to 14-3-17 SFCC (1987) and in the event an appeal is upheld this permit may be revoked. I hereby agree that any grading, building, alteration, repairing or any other construction done pursuant to this permit during this appeal period is done at my own risk and without reliance on the issuance of this permit. I also agree that in the event an appeal is upheld and this permit is revoked I may be required to remove any building, grading, altering, repairing or any other construction done during the appeal period. I hereby certify that I have read the foregoing and understand the same and by my signature assent to the terms stated herein.

DISTRIBUTION: COPIES TO ORIGINATING OFFICE and APPLICANT

BIOC6.Indd 02/13

Application Tracking #
13-2097

City of Santa Fe
BUILDING PERMIT APPLICATION

PLEASE USE A BALL POINT PEN (PRESS FIRMLY)

Type TELE Class _____ Accepted by [Signature] Date Accepted 9/30/13
 Amount Paid: Plan Check Fee \$ 331.69 Water Budget Fee \$ _____ Balance Due Permit Fee \$ 484.25
 Land Use Classification: Residential Floodplain Historical
 Type of Construction: _____ Occupancy Group: _____ Division: _____
 I II III IV V FR 1hr HT N A B E F H I M R S U 1 1.1 1.2 2 2.1 3 4 5 6 7
 Zone District: _____ Occupant Load: _____

TO BE COMPLETED BY APPLICANT

SITE ADDRESS 1402 Agua Fria St. Suite or Space # _____
 Subdivision Survey for Doris Jeanne Lot _____ Block _____

Lot Square Footage Total _____
PROPOSED WORK: (Check all that apply)
 New Construction Walls/Fences Signs:
 Additions Grading/Utilities/Landscaping Free Standing Wall Mounted
 Exterior Alterations/Repairs Pools/Sheds Existing # _____ sq. ft. _____
 Interior Remodel Other Proposed# _____ sq. ft. _____
 Total _____

DESCRIPTION OF WORK: i.e. Bathroom addition, new 4 room residential addition, new 8 room residence, new commercial building, etc. (Note: Work listed herein must be depicted on accompanying plans and/or information if consideration of review requested)
Remove (3) existing panel antennas installing (6) NEW panel antennas, (1) Radio Antenna, (1) Main org

PROPOSED USE: describe what facility is to be used for i.e. new single family residence, new fast food restaurant, new time share residence, new grocery store, etc. Existing Telecommunications Tower

Construction Valuation \$ <u>30,000</u>	SQUARE FOOTAGE			Type of Sewage Disposal	
	Existing	Proposed	Total	<input type="checkbox"/> Public Sewer	<input type="checkbox"/> Private System
Heated	_____	_____	_____	No. of buildings _____	No. of stories <u>2</u>
Garage	_____	_____	_____	Will the proposed construction result in an increase in the number of residential units?	
Patio /Porch	_____	_____	_____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No How many? _____	
Total Roofed	_____	_____	_____	Will the proposed construction result in an increase in water use? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No	
Total Square Footage	_____	_____	_____	Urinals _____ Water Fountains _____ Other _____	
Number of Plumbing Fixtures Proposed					
Sinks _____	Showers _____	Tubs _____	Toilets _____		

Property Owner John Malone **Contractor** TBD
 Mailing Address 1402 Agua Fria Rd Mailing Address _____
Santa Fe NM 87505 State License # _____ City License # _____
 OWNER/BUILDER CONTRACTOR
 Daytime Telephone # (505) 232-4884 Daytime Telephone # _____

I hereby certify that I am the duly appointed agent authorized to act on behalf of the property owner. I also certify that the information provided in this application is true and correct and it represents the current and proposed status of the subject property; that the plans submitted with this application are complete and in compliance with the building standards set forth in the Santa Fe City Code; and that the plans illustrate all public and private easements located on the property. I also certify that plans and submittals have been prepared in accordance with the submittal checklist. I further understand that failure to follow submittal checklist will result in the delay or rejection of my application.

Contact Name Sherry Reshtakai Address 4570 Montgomery Blvd NE #5
 Daytime Telephone 232-4884 Signature Applicant/Agent [Signature] Date 9-30-13

Application Tracking #
13-2097

City of Santa Fe BUILDING PERMIT APPLICATION

PLEASE USE A BALL POINT PEN (PRESS FIRMLY)

Type: EIFE Class: _____ Accepted by: [Signature] Date Accepted: 9-30-13
 Amount Paid: Plan Check Fee \$ 391.00 Water Budget Fee \$ _____ Balance Due Permit Fee \$ 180.00
 Land Use Classification: Escarpment Floodplain Historical
 Type of Construction: _____ Occupancy Group: _____ Division: _____
 I C III IV V RR IIIc HT N A B E F H I M R S U 1 1.1 12 2 2.1 3 4 5 6 7
 Zone District: _____ Occupant Load: _____

TO BE COMPLETED BY APPLICANT

SITE ADDRESS 1402 Agua Fria St. Suite or Space # _____
 Subdivision Survey for Chris Jeanine Lot _____ Block _____

Lot Square Footage Total _____

PROPOSED WORK: (Check all that apply)

<input type="checkbox"/> New Construction	<input type="checkbox"/> Walls/Fences	<input type="checkbox"/> Signs:
<input checked="" type="checkbox"/> Additions	<input type="checkbox"/> Grading/Utilities/Landscaping	<input type="checkbox"/> Free Standing <input type="checkbox"/> Wall Mounted
<input type="checkbox"/> Exterior Alterations/Repairs	<input type="checkbox"/> Pools/Sheds	Existing # _____ sq. ft. _____
<input type="checkbox"/> Interior Remodel	<input type="checkbox"/> Other _____	Proposed # _____ sq. ft. _____
		Total _____

DESCRIPTION OF WORK: i.e. Bathroom addition, new 4 room residential addition, new 8 room residence, new commercial building, etc. (Note: Work listed herein must be depicted on accompanying plans and/or information if consideration of review requested)

Remove (3) existing panel antennas installing (6) NEW panel antennas, (6) Racks & Hoods, (1) main rmp

PROPOSED USE: describe what facility is to be used for i.e. new single family residence, new fast food restaurant, new time share residence, new grocery store, etc. Existing Telecommunication Tower

Construction Valuation \$ <u>32,000</u>	SQUARE FOOTAGE			Type of Sewage Disposal
	Existing	Proposed	Total	<input type="checkbox"/> Public Sewer <input type="checkbox"/> Private System
Heated	_____	_____	_____	No. of buildings _____ No. of stories <u>2</u>
Garage	_____	_____	_____	Will the proposed construction result in an increase in the number of residential units?
Patio /Porch	_____	_____	_____	<input type="checkbox"/> Yes <input checked="" type="checkbox"/> No How many? _____
Total Roofed	_____	_____	_____	Will the proposed construction result in an increase in water use? <input checked="" type="checkbox"/> Yes <input type="checkbox"/> No
Total Square Footage	_____	_____	_____	Urinals _____ Water Fountains _____ Other _____
Number of Plumbing Fixtures Proposed				
Sinks _____ Showers _____ Tubs _____ Toilets _____				

Property Owner <u>John Malone</u>	Contractor <u>TBD</u>
Mailing Address <u>1402 Agua Fria Rd</u>	Mailing Address _____
<u>Santa Fe NM 87505</u>	State License # _____ City License # _____
OWNER/BUILDER <input checked="" type="checkbox"/> CONTRACTOR <input type="checkbox"/>	Daytime Telephone # _____
Daytime Telephone # <u>(505) 732-4884</u>	

I hereby certify that I am the duly appointed agent authorized to act on behalf of the property owner. I also certify that the information provided in this application is true and correct and it represents the current and proposed status of the subject property; that the plans submitted with this application are complete and in compliance with the building standards set forth in the Santa Fe City Code; and that the plans illustrate all public and private easements located on the property. I also certify that plans and submittals have been prepared in accordance with the submittal checklist. I further understand that failure to follow submittal checklist will result in the delay or rejection of my application.

Contact Name Sherry Peshlakai Address 4570 Montgomery Blvd NE #5
 Daytime Telephone 737-4884 Signature Applicant/Agent [Signature] Date 9-30-13



September 9, 2013

Verizon Wireless
Jeff DeWalt
Construction Engineer
4821 Eubank NE
Albuquerque, New Mexico 87111

**RE: Structural Analysis Results for the NM4 Silva Antenna Mount Assemblies -
AWS Project**

Dear Jeff:

TowerCom Technologies is pleased to present the following Structural Analysis report for the NM4 Silva existing antenna mount assemblies located in Santa Fe, New Mexico. It was a pleasure assisting you with this project and we look forward to providing you with our Structural Engineering Services in the future.

If you have any questions concerning the content of this report please do not hesitate to call me at (208) 286-0266.

Thank you,

TowerCom Technologies, LLC



Francis Q. Dong, E.I.T.
Structural Engineer In-Training

TOWERCOM TECHNOLOGIES, LLC
767 N. Star Road Star, ID 83869 (208) 286-0266
Albuquerque, NM • Boise, ID • El Paso, TX • Las Vegas, NV • Denver, CO



September 9, 2013

Verizon Wireless
Jeff DeWalt
Construction Engineer
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Albuquerque, New Mexico 87111

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Thank you,

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Francis Q. Dong, E.I.T.
Structural Engineer In-Training

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767 N. Star Road Star, ID 83669 (208) 286-0266
Albuquerque, NM • Boise, ID • El Paso, TX • Las Vegas, NV • Denver, CO

Jerry Bemis

From: Debbie Connors <dconnors@tsitowers.com>
Sent: Tuesday, October 29, 2013 1:25 PM
To: jbemis@bacom-inc.com
Cc: trout@tsitowers.com
Subject: Permit Information
Attachments: image003.jpg

What's up Jerry! Here is the information that you need.

Company Address: 7201 Broadway Blvd SE, Albuquerque NM 87105
Phone Number: (505) 247-6480
NM State License #: 371968
License Classification: EE98, GF07
NM State Tax #: 03-225736-00-8
Abq Business Reg #: FA-0103859

Let me know if you need anything else!

Debbie Connors
Office Manager



TSI Tower Services, Inc.
Office (505) 247-6480
Fax (505) 247-6485
www.tsitowers.com

13-2098

CITY OF ALBUQUERQUE

ONLY ORIGINAL WILL BE ACCEPTED



City of Albuquerque
Planning Department
Building & Safety Division

Date: 07-20-2011

Expires: December 31, 2011

Building Permits Section:

Please allow this letter to serve as authorization for the following individuals to serve on our behalf, as a duly authorized Agent for (company name) BROKEN ARROW COMMUNICATIONS. And as such, the following individuals may obtain building permits and conduct business on our behalf, including issuance of corporate checks, representation in matters regarding construction and building permits, and business associated with various Departments associated with the Permit Process. If additional space needed, please attach sheet (on company letterhead). Please contact us if you have any questions or comments.

PO Box 1293

Albuquerque

NM 87103

www.cabq.gov

STATE OF NEW MEXICO
COUNTY OF BERNALILLO

Subscribed and Sworn to before me on this
20th day of July
2011.

Notary Public

My commission expires: 11/2/2012

1. BOB KEENEY
2. KYLE KEENEY
3. ROBERT DENTON
4. AARON DUNN
5. TOM O'NEIL

6. RANDY PREEST
7. ROSA FUENTES
8. JASON BOYER
9. JERRY BEMIS
- 10.



Contractor License Holder/Qualifying Party

ROBERT N DENTON

Print Full Name

Signature

Address 8316 CORONA LOOP NE

ALBUQUERQUE, NM 87113

Phone 505-877-2100

NM State License # 90812

License Classification EE98 + GB98

NM State Tax # 0300167140000

Abq. Business Reg. # FA 0055407

Albuquerque - Making History 1706-2006

Exp. 8/31/13

Attach to
A + B

BR250001

City of Santa Fe
Application Tracking Step Selection by Revision.

10/15/13
16:28:11

Application number : 13 00002097
Address : 1402 AGUA FRIA ST
UPC Code : 1-052-098-515-431- -
Application type : TELECOMMUNICATION TOWER
County Assessor Acct Num :
Tenant name, number :

Type options, press Enter.

2=Change 4=Delete 3=View 6=Fast log 8=Action log maintenance
9=In/out maint

Opt	Agency description	Rev	Path	---- Key Dates ----			- Review Summary -	
			Step Req	In	Est Cmpl	Resulted	Stat	By
	ARCHITECTURAL		A 01 Y	09/30/13	10/03/13	10/15/13	AP	DAE
	ZONING		A 01 Y	09/30/13	10/03/13	10/15/13	AP	DAE
	ELECTRICAL		B 01 Y	10/01/13	10/03/13	10/02/13	AP	TJM
	BUILDING		C 01 Y	10/01/13	10/03/13	10/02/13	AP	JJG

Bottom

F3=Exit F5=Land inquiry F6=Add F7=Revisions F8=Misc info inquiry
F9=Corrections report F10=View 2 F11=Sort by agency F24=More keys

10/15/13
Pass

13-2097

City of Santa Fe
200 Lincoln Ave.
Santa Fe, NM 87504
505-955-4333

SunGard Application
1x 0.00 0.00
Appl-Permit Number: 13-2098

PC - Building Permit Commercial
1x 331.69 331.69
Appl-Permit Number: BLDC00 13-2098

SunGard Application
1x 0.00 0.00
Appl-Permit Number: 13-2097

PC - Building Permit Commercial
1x 331.69 331.69
Appl-Permit Number: BLDC00 13-2097

Payer Name: TOWERCOM TECH

SubTotal: 663.38
Total: 663.38

Check
Number: 15501 663.38

09/30/2013 16:26 LorraineL

#0003581 /3/1
***** DUPLICATE #002 *****

09/30/2013 16:35 LorraineL
Thank You ~

City of Santa Fe
200 Lincoln Ave.
Santa Fe, NM 87504
505-955-4333

SunGard Application
1x 0.00 0.00
Appl-Permit Number: 13-2097

PF - Building Permit Commercial
1x 482.25 482.25
Appl-Permit Number: BLDC00 13-2097

Archeological Fee
1x 10.00 10.00
Appl-Permit Number: 13-2097

Payer Name: KYLE KEENEY

SubTotal: 492.25
Total: 492.25

CH Master Card
7000.101551 492.25
Number: *****5711
Date: 12/13

10/30/2013 10:03 LorraineL

#0013662 /3/1
***** DUPLICATE #001 *****

10/30/2013 10:11 LorraineL
Thank You ~

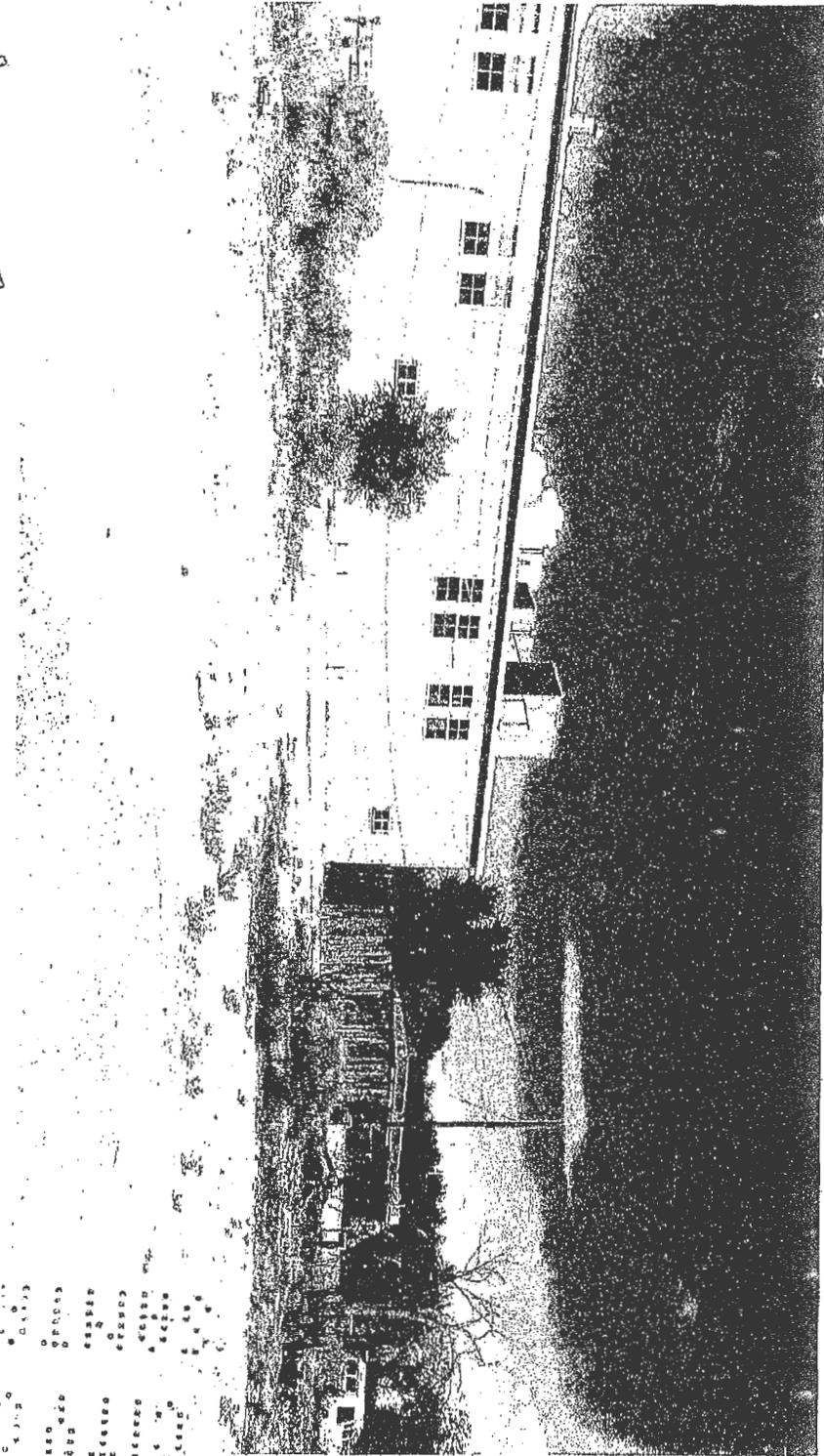


 NINA SILVA

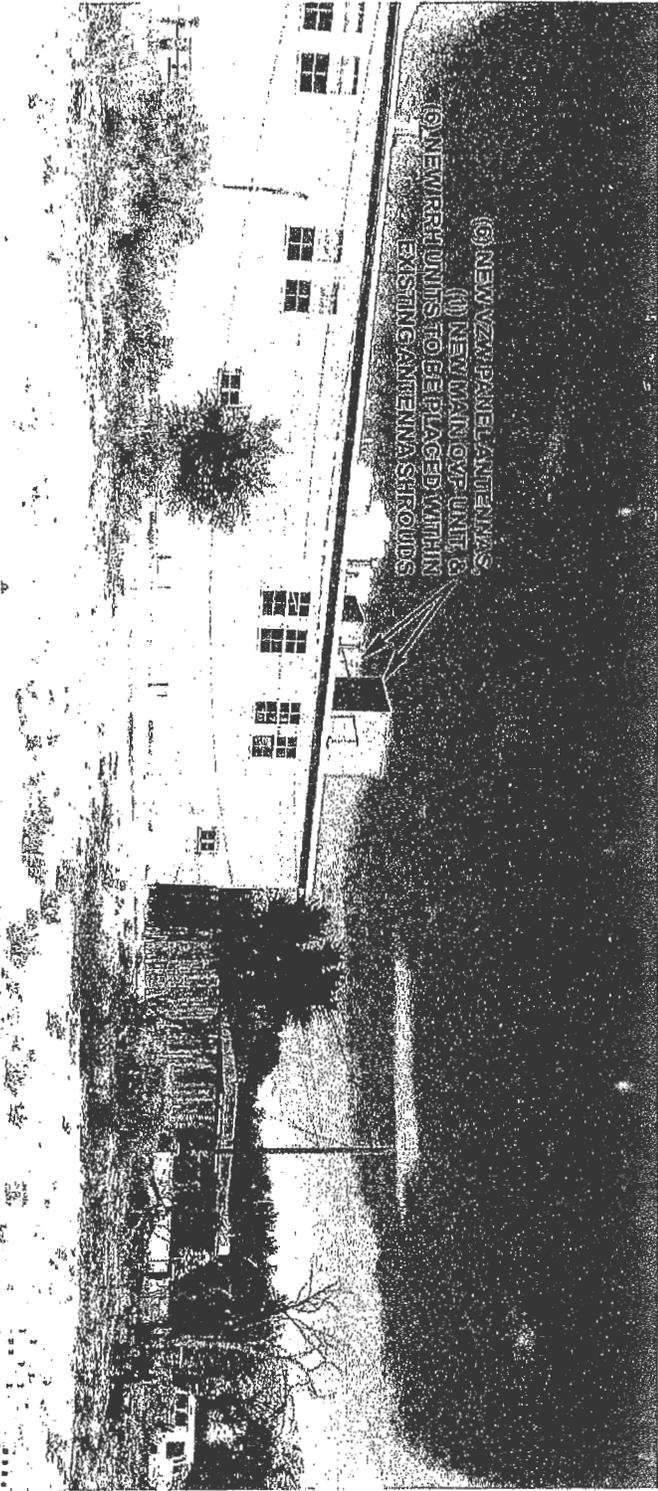
 SITE PHOTO

 EXISTING WEST ELEVATION

 SEPTEMBER 27, 2018

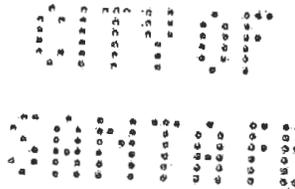


(G) NEW VZWPANEL ANTENNAS
 (H) NEW MAIN OVP-UNIT &
 (I) NEW RRH UNITS TO BE PLACED WITHIN
 EXISTING ANTENNA SHROUDS



NM4 SILVA
 SITE PHOTO
 WEST ELEVATION SIMULATION
 SEPTEMBER 27, 2013





July 23, 2013

Mr. Dan Esquibel
City of Santa Fe Planning Department
200 Lincoln Ave
Santa Fe, NM 87504
605-955-6587

RE: Verizon Wireless/AWS Modification Project

Dear Mr. Esquibel,

Per our previous discussions, please find attached information below on the sites that are requiring modifications within your jurisdiction. Please let us know if these all look ok to proceed with building permit submittal.

Addresses:

- NM4 Majico -2778 Sawmill Road-Self Support Structure
 - We will be adding a remote radio head to each sector to help maintain the power levels at the antennas. The unit is approx. 24"x12"x10" and weighs less than 50 lbs. We will add one to each sector behind on of the antennas so they will be almost completely screened. Please advise if any zoning is needed on this one
- NM4 Cerillos-1684 Paseo De Las Vistas-Self Support Structure
 - Replace two existing antennas (51.4"x34.1"x9.4") (47.5"x23.9"x7.9") per sector (3 sectors) with two new antennas (each are 56.7"x16.2"x7.1") which will allow VZW to broadcast at all of its FCC licensed frequencies.
- NM4 Bandaller-2502 Camino Entrada-Rooftop
 - Replace one existing antenna (96.5"x17.5"x8.8") per sector (3 sectors) with a new antenna (103.1"x12"x7.1") which will allow VZW to broadcast at all of its FCC licensed frequencies.
- NM4 DT Santa Fe-1120 PASEO DE PERALTA 5TH FLR-Self Support Structure
 - Replace one existing antenna (47.5"x17.5"x8.8") per sector (only 1 sector on this site) with a new antenna (54.9"x12"x7.1") which will allow VZW to broadcast at all of its FCC licensed frequencies.
- NM4 KRTC-212 E. Marcy St.-Rooftop
 - Replace one existing antenna (96.5"x17.5"x8.8") per sector (3 sectors) with a new antenna (101.3"x10.6"x5.2") which will allow VZW to broadcast at all of its FCC licensed frequencies.

CONFIDENTIAL

- NM4 Resalona-1214 Camino Carlos Rey-Rooftop
 - Replace one existing antenna (47.5"x17.5"x8.8") per sector (3 sectors on this site) with a new antenna (54.9"x12"x7.1") which will allow VZW to broadcast at all of its FCC licensed frequencies.
- NM Santa Fe-1718 W Alameda-Guyed
 - Replace one existing antenna (47.5"x17.5"x8.8") per sector (3 sectors on this site) with a new antenna (54.9"x12"x7.1") which will allow VZW to broadcast at all of its FCC licensed frequencies.
- NM4 Santa Fe South-2100 Yucca Rd.-Stadium Light
 - Replace one existing antenna (96.5"x17.5"x8.8") per sector (3 sectors) with a new antenna (103.1"x12"x7.1") which will allow VZW to broadcast at all of its FCC licensed frequencies.
- NM4 Silva-4675 W. Alameda-Rooftop
 - Replace one existing antenna (72.9"x17.5"x8.8") per sector (3 sectors) with a new antenna (82.5"x12"x7.1") which will allow VZW to broadcast at all of its FCC licensed frequencies.

This letter confirms that these projects will not increase the height of the existing structures. Please sign this letter confirming that these modifications are minor in nature and that we can proceed to permitting. Once you have signed, please fax the signed letter to me at (302) 861-3900. We understand you are busy, but we need to move forward as soon as possible. If we don't hear back within 10 days we will consider these projects approved to move forward with our building permit submittal.

Thank you for your assistance with this issue and if you have any questions please do not hesitate to call me at (602) 579-0612.

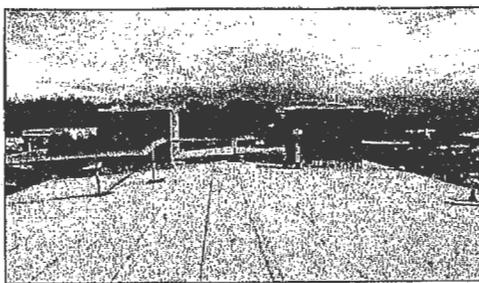
Sincerely,

Ms. Tj Fleming
Consultant to Verizon Wireless
3116 South Mill Avenue, Suite 505
Phoenix, Arizona 85282
c. (602) 579-0612
f. (302) 861-3900
tj.fleming@wirelessresources.com

Dan Esquibel

Planner

Date



NM4 SILVA
AWS PROJECT

STRUCTURAL ANALYSIS
REVISION 0

ANSI TIA-222-G
V=90 MPH (3-SEC. GUST - IBC 2009)
V=40 MPH (0" RADIAL ICE)
• STRUCTURE CLASS II
• TOPOGRAPHY 1
• EXPOSURE C

25'-8" BUILDING
ANTENNA MOUNT ASSEMBLIES

SANTA FE, NM
SANTA FE COUNTY
N35°40'47.1" W105°57'57.0"



SEPTEMBER 9, 2013
REVISION CHART

ANALYSIS RESULTS

LOAD COMBINATION	RESULTS
Proposed Antenna Modifications	Existing Antenna Mount Assemblies are Adequate

REVISION	DATE ISSUED	DESCRIPTION
0	09/09/2013	Initial Report



TOWERCOM TECHNOLOGIES, LLC
767 N. Star Road Star, ID 83869 (208) 286-0266
Albuquerque, NM • Boise, ID • El Paso, TX • Las Vegas, NV • Denver, CO



September 9, 2013

Verizon Wireless
Jeff DeWalt
Construction Engineer
4821 Eubank NE
Albuquerque, New Mexico 87111

**RE: Structural Analysis Results for the NM4 Silva Antenna Mount Assemblies -
AWS Project**

Dear Jeff:

TowerCom Technologies is pleased to present the following Structural Analysis report for the NM4 Silva existing antenna mount assemblies located in Santa Fe, New Mexico. It was a pleasure assisting you with this project and we look forward to providing you with our Structural Engineering Services in the future.

If you have any questions concerning the content of this report please do not hesitate to call me at (208) 286-0266.

Thank you,

TowerCom Technologies, LLC

Francis Q. Dong, E.I.T.
Structural Engineer In-Training

TOWERCOM TECHNOLOGIES, LLC
767 N. Star Road Star, ID 83669 (208) 286-0266
Albuquerque, NM • Boise, ID • El Paso, TX • Las Vegas, NV • Denver, CO

PURPOSE

At the request of Verizon Wireless, TowerCom Technologies performed a Structural Analysis of the NM4 Silva antenna mount assemblies located in Santa Fe, New Mexico. The analysis was performed to determine the existing antenna mount assemblies' capability of supporting Verizon Wireless's proposed antenna modifications.

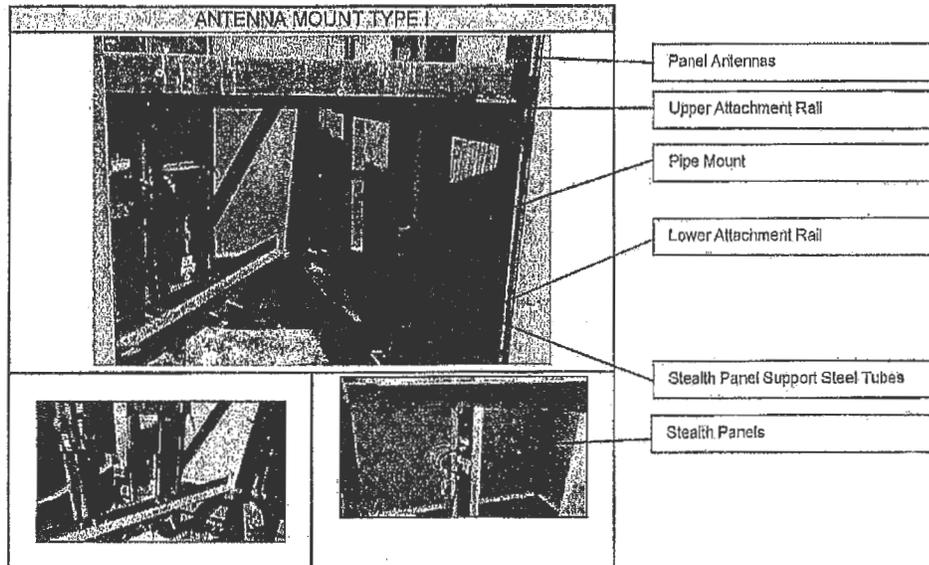
EXECUTIVE SUMMARY

TowerCom Technologies, LLC concludes that the existing antenna mount assemblies are capable of supporting Verizon Wireless's proposed antenna modifications. Please refer to the "Conclusion & Recommendations" portion of this report for further information.

ANTENNA & ANTENNA MOUNT ASSEMBLIES DESCRIPTIONS

- Six (6) existing panel antennas are mounted inside two (2) exterior shrouds. The pipe mounts are attached to angles which are connected to the frame of the shroud.

Please refer to the following photos and attached sketches for further information pertaining to the antenna mount assemblies' locations and geometry.



EXISTING ANTENNAS:

ATTACH LEVEL (GOR)	AZIMUTH* (deg, MN)	ANTENNA TYPE	ANTENNA QUANTITY	MOUNT TYPE	COAX (QTY.) SIZE (Nominal)
22'-10"	35°	Antel BXA-70080/6CF 6' Panel Antenna	3	Type I (See Above)	(6) 7/8"
	45° 180°	Antel QXA-806080120-DP 6' Panel Antenna	3	Type I (See Above)	(6) 1-5/8"

* Azimuths stated in chart are approximate and sufficient for analysis purposes.

VERIZON WIRELESS ANTENNA MODIFICATIONS:

Verizon Wireless proposes the following:

- Remove three (3) existing panel antennas at the 22'-10" level.
- Install six (6) new panel antennas at the 22'-10" level.
- Install three (3) RRH Units at the 22'-10" level.
- Install one (1) new surge suppressor at the 22'-10" level.

This will result in the following final Verizon Wireless antenna configuration at the 22'-10" level:

ATTACH LEVEL (GOR)	AZIMUTH* (deg, MN)	ANTENNA TYPE	ANTENNA QUANTITY	MOUNT TYPE	COAX (QTY.) SIZE (Nominal)
22'-10"	15°	Antel BXA-70080/6CF 6' Panel Antenna	6	Type I (See Above)	(6) 7/8"
	135° 210°	Antel QXW-806080120-DP 6' Panel Antenna	3	Type I (See Above)	(6) 1-5/8"
	-	RRH Units	3	-	-
	-	Surge Suppressor	1	-	-

Note: New appearances are shown in "BOLD".

STRUCTURAL ANALYSIS

ANTENNA MOUNT ASSEMBLY ANALYSIS:

Our Structural Analysis was performed in accordance with the requirements set forth in the ANSI TIA-222-G - Structural Standard for Antenna Supporting Structures and Antennas. Our analysis results are based on field gathered information obtained during a site visit conducted on August 1, 2013 by Nick Brannock and Daniel Bencomo (both of TowerCom).

The design wind speed used for our analysis was 90 mph without ice (3-second gust) and 40 mph with 0" radial ice implementing *Structure Class II, Topography Category 1* and *Exposure C* design parameters. Our analysis wind speed meets the wind speed requirements set forth in the ANSI TIA-222-G - Structural Standard for Antenna Supporting Structures and Antennas and the IBC 2009.

Analysis Wind Speed Code Reference Chart:

The following chart outlines the applicable wind design codes and sections.

DESIGN STANDARD	REFERENCED SECTION(S)
IBC 2009	§1809
ASCE 7-05	Chapter 6

Antenna Loading Chart:

The following chart outlines the maximum anticipated wind and gravity loads as a result of the associated Load Combination.

LOAD COMBINATION	ANTENNA (QTY.) MODEL	WIND FORCE (WIND AREA)	GRAVITY LOAD (WEIGHT)
Existing Antennas (1) Total per Antenna Mount Assembly	(3) Antel BXA-70080/8CF	N/A (Inside Shroud)	65 lbs
	(3) Antel QXA-808080120DP	N/A (Inside Shroud)	288 lbs
	TOTAL (Σ):	N/A	353 lbs
Proposed Antennas (1) Total per Antenna Mount Assembly	(6) Antel BXA-70080/8CF	N/A (Inside Shroud)	130 lbs
	(3) Antel QXW-806080120DP	N/A (Inside Shroud)	220 lbs
	(3) RRH Unit	N/A (Inside Shroud)	187 lbs
	TOTAL (Σ):	N/A	537 lbs

Stress Usage Chart:

The following chart outlines the maximum anticipated antenna mount assemblies stresses (expressed as a percentage of overall capacity) as a result of the associated Load Combination.

LOAD COMBINATION	% USAGE	
	MAXIMUM STRESS	MOUNT MEMBER
Proposed Verizon Wireless Antennas (Worst Case)	10%	Pipe Mount Assembly

Stress usage in excess of 105% represents a condition in which the applied loading exceeds the code-allowable loading limits. Stress usage at or below 105% represents a structurally safe and allowable condition.

ANALYSIS ASSUMPTIONS

- All antenna mount assemblies' members, connections and welds in good and reliable structural condition with no damage.
- All antenna mount assemblies attached to building in accordance with original design documents.
- Structural members and materials used for construction in accordance with original design documents.
- All new antennas and coax to be installed according to recommendations (if any).

MATERIAL PROPERTIES:

ITEM	MATERIAL PROPERTIES	SOURCE
Antenna Mount Assembly Steel Grades	<ul style="list-style-type: none">• Pipe: $F_y = 35$ ksi,• Plate: $F_y = 36$ ksi,• Tube: $F_y = 46$ ksi• Bolts/Anchors: A325.• Welds: E70XX electrodes.	Assumed for the Purpose of this Structural Analysis

DOCUMENTS PROVIDED:

DOCUMENT	REMARKS	SOURCE
Field Notes & Mapping	Site Visit August 1, 2013	TowerCom
Site Modification Request	Steve Cahn March 06, 2013	Verizon Wireless

CONCLUSION & RECOMMENDATIONS

TowerCom Technologies, LLC concludes that the NM4 Silva existing antenna mount assemblies are capable of supporting Verizon Wireless's proposed antenna modifications.

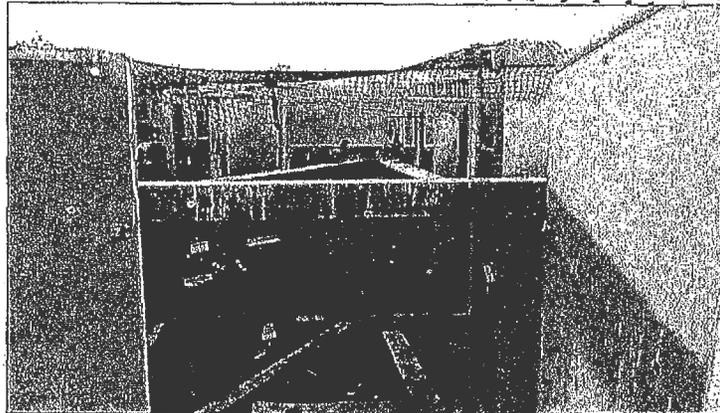


Photo 3 - Existing antenna mount assembly.

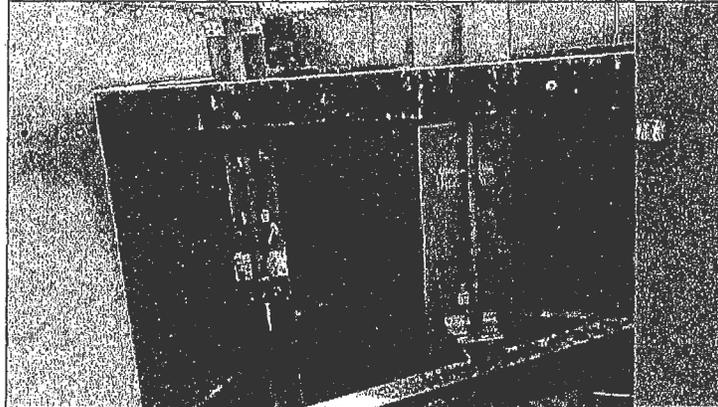


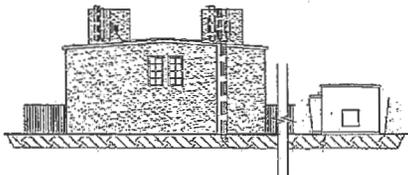
Photo 4 - Existing antenna mount assembly.

verizon wireless

NM4 SILVA

PUBLIC RECORD PARCEL NO. 1-052-098-515-431

1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87505
SANTA FE COUNTY



EXISTING COMMUNICATIONS SITE AWS INSTALLATION PROJECT



RECORDED FOR:

verizon wireless
4821 EUBANK NE
ALBUQUERQUE, NM 87111

THESE DRAWINGS AND SURVEYS ARE COPYRIGHT PROTECTED AND THE SOLE PROPERTY OF TOWERCOM TECHNOLOGIES, LLC AND PRODUCED FOR THE USE OF OUR CLIENT. ANY REPRODUCTION OR USE OF THE INFORMATION CONTAINED HEREIN WITHOUT THE WRITTEN CONSENT OF TOWERCOM TECHNOLOGIES, LLC.

Towercom Technologies
ALBUQUERQUE, NM / SANTA FE, NM / DENVER, CO / COLORADO
BOISE, ID / LAS VEGAS, NV / PHOENIX, AZ / RICHMOND, VA / TAMPA, FL

REV	DESCRIPTION	DATE	BY
1	PRELIMINARY - NOT FOR CONSTRUCTION	09/20/13	PT
0	APPROVED FOR CONSTRUCTION	09/20/13	PT

SHEET INDEX:		
SHEET	TITLE	REV.
T1	TITLE SHEET	0
SP1	SPECIFICATION & PHOTO SHEET	0
C1	SITE PLAN	0
C2	ELEVATIONS	0
C3	DETAILS	0
RF1	ANTENNA INFORMATION	0
RF2	ANTENNA CUT SHEET(S)	0

PROJECT INDEX:

APPLICANT:
VERIZON WIRELESS
4821 EUBANK NE
ALBUQUERQUE, NM 87111

CONTACT: JEFF DEWALT
PHONE: 505-250-0004

ENGINEERS/DESIGNERS:
TOWERCOM TECHNOLOGIES LLC
4530 MONTGOMERY BLVD, NE, SUITE 5
ALBUQUERQUE, NM 87109

CONTACT: JEFF MORTLAND
PHONE: 505-252-4864

ZONING/SITE AC:
WIRELESS RESOURCES, INC.

CONTACT: CARL TASKES
PHONE: 480-440-0603

ABBREVIATED LEGAL DESCRIPTION:
BEING A PORTION OF TRACT "A" AS SHOWN OR THAT CERTAIN PLAT ENTITLED "PLAT OF SURVEY FOR DORIS JEANNE LUNA, 1402 AGUA FRIA STREET, SANTA FE COUNTY, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT FILED IN THE OFFICE OF THE COUNTY CLERK OF SANTA FE COUNTY, NEW MEXICO, ON OCTOBER 2, 1996 AND RECORDED IN PLAT BOOK 386, PAGE 32.

- GENERAL PROJECT NOTES:**
- PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF/HIMSELF WITH THE SCOPE OF WORK AND ALL CONDITIONS AFFECTING THE NEW PROJECT.
 - CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND DIMENSIONS OF THE JOB SITE AND CONFIRM THAT WORK AS INDICATED ON THESE CONSTRUCTION DOCUMENTS CAN BE ACCOMPLISHED AS SHOWN PRIOR TO COMMENCEMENT OF ANY WORK.
 - ALL FIELD MODIFICATIONS BEFORE, DURING, OR AFTER CONSTRUCTION SHALL BE APPROVED IN WRITING BY A VERIZON WIRELESS REPRESENTATIVE.
 - INSTALL ALL EQUIPMENT AND MATERIALS PER THE MANUFACTURER'S RECOMMENDATIONS, U.N.O.
 - NOTIFY VERIZON WIRELESS, IN WRITING, OF ANY MAJOR DISCREPANCIES REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS, AND DESIGN INTENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATIONS FROM A VERIZON WIRELESS REPRESENTATIVE AND ADJUSTING THE BID ACCORDINGLY.
 - CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF THE WORK UNDER THE CONTRACT.
 - CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS AND FINISHES THAT ARE TO REMAIN. CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY OCCUR DURING THE CONSTRUCTION TO THE SATISFACTION OF A VERIZON WIRELESS REPRESENTATIVE.
 - THE CONTRACTOR IS RESPONSIBLE FOR RED-LINING THE CONSTRUCTION PLANS TO ILLUSTRATE THE AS BUILT CONDITION OF THE SITE. FOLLOWING THE FINAL INSPECTION BY VERIZON WIRELESS, THE CONTRACTOR SHALL PROVIDE VERIZON WIRELESS WITH ONE COPY OF ALL RED-LINED DRAWINGS.
 - VERIFY ALL FINAL EQUIPMENT WITH A VERIZON WIRELESS REPRESENTATIVE. ALL EQUIPMENT, LAYOUT, SPECIS, PERFORMANCE INSTALLATION AND THEIR FINAL LOCATION ARE TO BE APPROVED BY VERIZON WIRELESS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS/HER WORK WITH THE WORK AND CLEARANCES REQUIRED BY OTHERS RELATED TO SAID INSTALLATIONS.

PROJECT INFORMATION:

PROPERTY OWNER: JOHN MALONE
1402 AGUA FRIA ROAD
SANTA FE, SANTA FE COUNTY, NEW MEXICO
CONTACT: JOHN MALONE
PHONE: (505) 480-2822

JURISDICTION: CITY OF SANTA FE
PUBLIC RECORD PARCEL NO.: 1-052-098-515-431

DRIVING DIRECTIONS:
LATITUDE: 35°40'48.338"
LONGITUDE: 105°57'58.025"

FROM THE VERIZON WIRELESS OFFICE LOCATED AT 4821 EUBANK BLVD NE, HEAD NORTH FOR 3.0 MILES TO PASSED DEL NORTE NE, TURN LEFT HEADING WEST FOR 3.3 MILES, TAKE RAMP LEFT FOR I-25 NORTH TOWARD SANTA FE FOR 80.0 MI, AT EXIT 282B-A, TAKE RAMP RIGHT FOR US-84 NORTH / US-285 NORTH TOWARD SANTA FE-PLAZA / TRAC / LOS ALAMOS FOR 4.1 MI, TURN LEFT ONTO NM-580/ AGUA FRIA ST FOR 0.7 MI. SITE IS ON THE LEFT NEXT TO BUILDING.

FCC COMPLIANCE:
RADIATION FROM THIS FACILITY WILL NOT INTERFERE WITH OPERATION OF OTHER COMMUNICATION DEVICES.

VICINITY MAP
SCALE: N.T.S.
NORTH

PROJECT DESCRIPTION:
THIS PROJECT CONSISTS OF THE FOLLOWING:
REMOVAL
• THREE (3) EXISTING PANEL ANTENNAS INSTALLATION
• THREE (6) NEW PANEL ANTENNAS
• SIX (6) NEW RR4 UNITS
• TWO (2) NEW MARK DUP UNITS
• ONE (1) NEW SECTOR BOX UNITS
• ONE (1) NEW HYPERFLEX CABLE

PROFESSIONAL ENGINEER
JASON B. DICKMAN
NEW MEXICO
24848
8/20/13

NM4 SILVA
EXISTING COMMUNICATIONS SITE
AWS INSTALLATION PROJECT

PROJECT ADDRESS:
1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87505
SANTA FE COUNTY

SHEET TITLES
TITLE SHEET

SAVE DATE: 8/20/2013 8:05 AM

SHEET NUMBER: T1

GENERAL PROJECT NOTES:

- CONTRACTOR IS RESPONSIBLE FOR ERECTING TEMPORARY BARRICADES AND/OR FENCING TO PROTECT THE PUBLIC DURING CONSTRUCTION. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY BARRIERS AND REPAIR ALL DAMAGE TO PROPERTY ON THE SITE CAUSED BY THIS CONSTRUCTION. THE COST OF REPAIR IS THE CONTRACTOR'S RESPONSIBILITY.
- ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE PRIOR TO ORDERING ANY MATERIALS OR CONDUCTING ANY WORK.
- EXCESS SOIL MATERIAL AND DEBRIS CAUSED BY THIS CONSTRUCTION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL MANNER.
- CONTRACTOR SHALL MAKE ADJUSTMENTS TO GRADING ELEVATIONS AS NECESSARY TO ENSURE A SITE FREE OF DRAINAGE PROBLEMS.
- CONTRACTOR SHALL COORDINATE A CONSTRUCTION LAYDOWN AREA WITH THE PROPERTY OWNER. CONSTRUCTION LAYDOWN AREA SHALL BE FENCED-IN WITH TEMPORARY (45 DAY) CONSTRUCTION FENCE. THE TEMPORARY FENCE SHALL BE CONSTRUCTED OF 6" HIGH CHAIN LINK FABRIC AND IS TO BE REMOVED AT THE END OF CONSTRUCTION. LAYDOWN AREA IS TO BE RESTORED TO ITS ORIGINAL CONDITION AFTER FENCE REMOVAL.
- SURVEY INFORMATION SHOWN WAS CREATED FROM RECORD INFORMATION AND DOES NOT CONSTITUTE A LEGAL BOUNDARY SURVEY.
- THESE PLANS DO NOT ADDRESS THE SAFETY AND STABILITY OF THE STRUCTURE DURING ASSEMBLY AND ERECTION, WHICH ARE THE RESPONSIBILITY OF THE ERECTOR, BASED ON THE MEANS AND METHODS CHOSEN BY THE ERECTOR.

GENERAL CONTRACTOR NOTES:

- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE PROJECT SCOPE OF WORK DEFINED UNDER THE REQUEST FOR PROPOSAL (RFP) FOR THIS PROJECT AND ALL ASSOCIATED ATTACHMENTS AND DOCUMENTS PROVIDED. THE RFP AND ALL ASSOCIATED DOCUMENTS SHALL DEFINE THE COMPLETE PROJECT SCOPE OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL DOCUMENTS AND IS SOLELY RESPONSIBLE FOR ALL WORK. ALL DOCUMENTS INCLUDED WITHIN THE PROJECT REQUEST FOR PROPOSAL ARE REQUIRED FOR THE COMPLETE PROJECT SCOPE OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK (EQUIPMENT, MATERIAL, INSTALLATION, TESTING, ETC.) INDICATED IN ALL DOCUMENTS. THE RFP, VERIZON WIRELESS NETWORK STANDARDS AND PROJECT ATTACHMENTS AND CLASSIFICATIONS ARE COMPLEMENTARY TO EACH OTHER. THE FORMAT OF THE SPECIFICATIONS AND DRAWING NUMBERING PER DISCIPLINE IS NOT INTENDED TO IMPLY SEGREGATION OF SUB CONTRACTOR WORK. CONTRACTOR SHALL ASSIGN ALL SUB CONTRACTOR WORK AND VERIZON WIRELESS WILL NOT ACCEPT ANY CHANGE ORDERS FOR INTERNAL CONTRACTOR WORK ASSIGNMENTS. CONTRACTOR SHALL BE RESPONSIBLE FOR DISTRIBUTING ALL RFP DOCUMENTS TO THEIR SUB CONTRACTORS. ALL RFP DOCUMENTS ARE REQUIRED TO INDICATE THE PROJECT SCOPE OF WORK. PARTIAL SUB CONTRACTOR DOCUMENT PACKAGES ARE HIGHLY DISCOURAGED. IN THE EVENT OF A CONFLICT BETWEEN THE DRAWINGS, SPECIFICATIONS, REFERENCED STANDARDS, VERIZON WIRELESS STANDARDS, OR AGREEMENT TERMS AND CONDITIONS THE ARCHITECT/ENGINEER SHALL BE CONTACTED FOR FORMAL INTERPRETATION OF THE REQUIREMENTS. THE CONTRACTOR SHALL BE DEEMED TO HAVE PROVIDED THE DETAILED AND EXTENSIVE INTERPRETATION. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECT/ENGINEER INTERPRETATIONS SHALL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO VERIZON WIRELESS.
- ALL ANTENNAS MUST BE PM TESTED WITHIN 48 HOURS OF THEM BEING RECEIVED BY THE INSTALLATION CONTRACTOR. THOSE RESULTS MUST BE SENT BACK TO THE VERIZON WIRELESS CONSTRUCTION ENGINEER AND EQUIPMENT ENGINEER WITHIN THE SAME 48 HOURS. IF YOU MISS THE 48HR TIMELINE AND THE ANTENNAS DO NOT PASS UPON INSTALLATION, YOUR COMPANY WILL BE CHARGED FOR THE COST OF THE ANTENNAS FOR REPLACEMENT.
- ALL LOADS MUST BE SECURED PROPERLY TO THE VEHICLE OR TRAILER. VERIZON WIRELESS WILL PASS ALONG THE COST OF ANY REPLACEMENTS DUE TO DAMAGE OR LOSS WHETHER IT IS NEW OR USED.

ANTENNA, MOUNTS, & HARDWARE INSTALLATION NOTES:

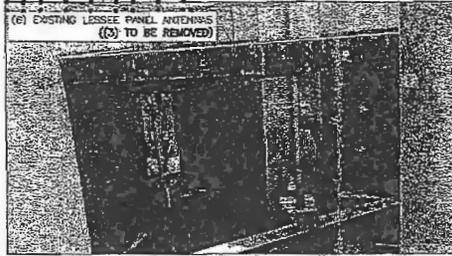
- CONTRACTOR TO INSTALL ANTENNAS, MOUNTS AND TOWER HARDWARE PER MANUFACTURER'S RECOMMENDATIONS OR AS REQUIRED BY THE OWNER/PROVIDER.
- ALL BOLTS SHALL BE TIGHTENED PER ASIC REQUIREMENTS.
- ANY GALVANIZED SURFACES THAT ARE DAMAGED BY ABRASIONS, CUTS, DRILLING OR FIELD WELDING DURING SHIPPING OR ERECTION SHALL BE TOUCHED-UP WITH TWO COATS OF COLD GALVANIZING COMPOUND MEETING THE REQUIREMENTS OF ASTM A780.
- ANTENNA MOUNTS SHALL NOT BE USED AS A CLIMBING DEVICE. WORKERS SHALL ALWAYS TIE OFF TO AN APPROVED CLIMBING POINT.
- SEE ALSO GENERAL ANTENNA NOTES ON SHEET RF1 (IF APPLICABLE).

MAIN OVP, SECTOR BOX, RRH, TMA, & DIPLEXER INSTALLATION NOTES:

- CONTRACTOR TO INSTALL MAIN OVP, SECTOR BOXES, REMOTE RADIO HEADS, TOWER MOUNTED AMPLIFIERS, AND/OR DIPLEXERS PER MANUFACTURER'S RECOMMENDATIONS.
- ALL BOLTS SHALL BE TIGHTENED PER ASIC REQUIREMENTS.
- ANY GALVANIZED SURFACES THAT ARE DAMAGED BY ABRASIONS, CUTS, DRILLING OR FIELD WELDING DURING SHIPPING OR ERECTION SHALL BE TOUCHED-UP WITH TWO COATS OF COLD GALVANIZING COMPOUND MEETING THE REQUIREMENTS OF ASTM A780.

COAX PORT NOTES:

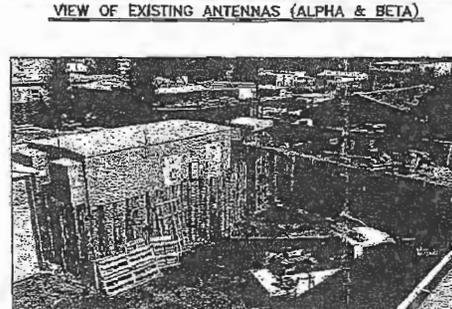
- REQUIRED ADDITIONAL COAX PORTS TO BE ADDED AS NEEDED BY CONTRACTOR.
- ANY ADDITIONAL COAX PORTS TO BE INSTALLED BELOW THE EXISTING, WHERE POSSIBLE.
- CONTRACTOR TO INVESTIGATE INTERIOR OF SHELTER/EQUIPMENT ROOM FOR CLEAREST PREFERENTIAL POINT.
- ADDITIONAL COAX PORTS TO BE INSTALLED PER INDUSTRY STANDARDS.



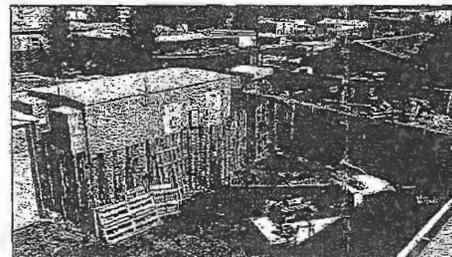
VIEW OF EXISTING ANTENNAS (GAMMA)



VIEW OF EXISTING ANTENNAS SHROUDS



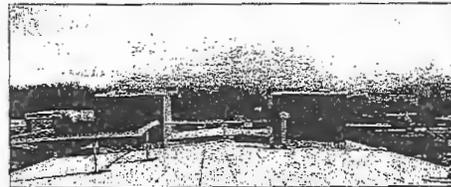
VIEW OF EXISTING ANTENNAS (ALPHA & BETA)



VIEW OF EXISTING COMPOUND

LEGEND OF SYMBOLS:

- REFERENCE LETTER OR NUMBER
- SECTION OR DETAIL SCALE
- SHEET WHERE DRAWN
- SHEET WHERE TAKEN
- SECTION LETTER
- SHEET WHERE DRAWN
- SHEET WHERE TAKEN
- DETAIL NUMBER
- SHEET WHERE DRAWN
- SHEET WHERE TAKEN
- ◊ EQUIPMENT OR FIXTURE NUMBER
- KEYED NOTE
- ± T.C. 1631.35
F.L. 1631.00
- ± SPOT ELEVATION
- ± TOP OF WALL CONTROL OR DATUM POINT
- PROPERTY LINE
- EXISTING CONTOUR
- NEW CONTOUR
- ROUND/DIAMETER
- ~ APPROXIMATELY
- ⊕ CENTERLINE
- ⊙ PENNY



VIEW OF EXISTING ANTENNAS SHROUDS



VIEW OF EXISTING BUILDING (LOOKING NORTH)

APPROVED FOR CONSTRUCTION

DESIGNED FOR:

verizon wireless
4821 ELBANK NE
ALBUQUERQUE, NM 87111

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Towercon TECHNICAL SERVICES
ALBUQUERQUE, NEW MEXICO
DENVER, COLORADO
LAS VEGAS, NEVADA
EL PASO, TEXAS
SAN ANTONIO, TEXAS
PHOENIX, ARIZONA
PORTLAND, OREGON
SAN DIEGO, CALIFORNIA
SAN JOSE, CALIFORNIA
A PARTNERED NETWORK SOLUTION

NEW MEXICO PROFESSIONAL ENGINEER
JASON D. DICKMAN
14948
8/20/13

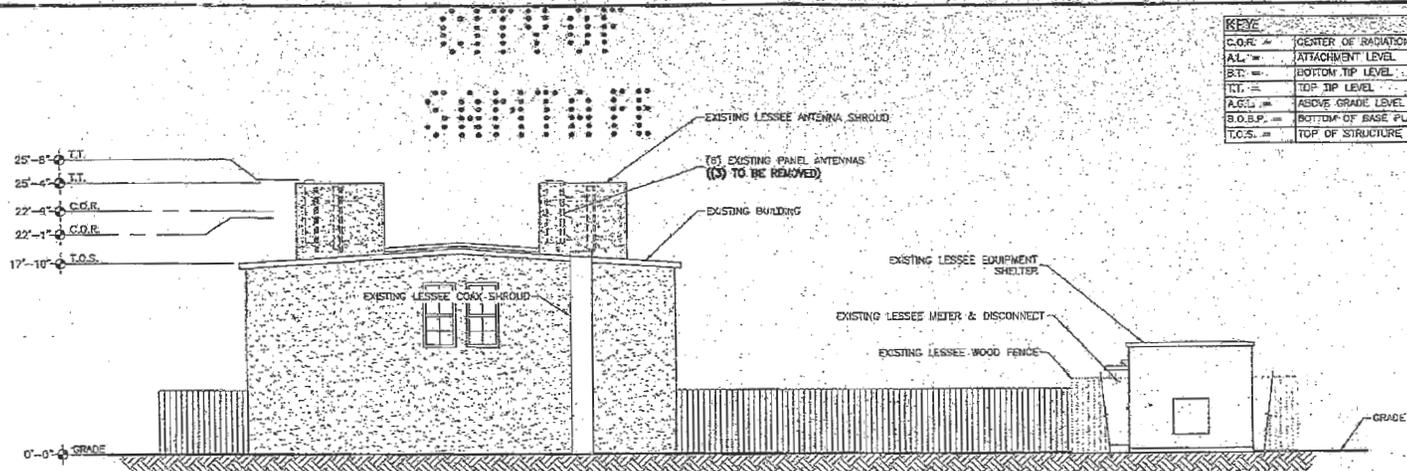
PROJECT NAME: NM4 SILVA
EXISTING COMMUNICATIONS SITE AWS INSTALLATION PROJECT

PROJECT ADDRESS:
1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87505
SANTA FE COUNTY

SHEET TITLE:
SPECIFICATION & PHOTO SHEET

DATE DATE: 8/20/2013 8:05 AM

SHEET NUMBER: SP1



EXISTING NORTHWEST ELEVATION
SCALE: N.T.S.

KEY

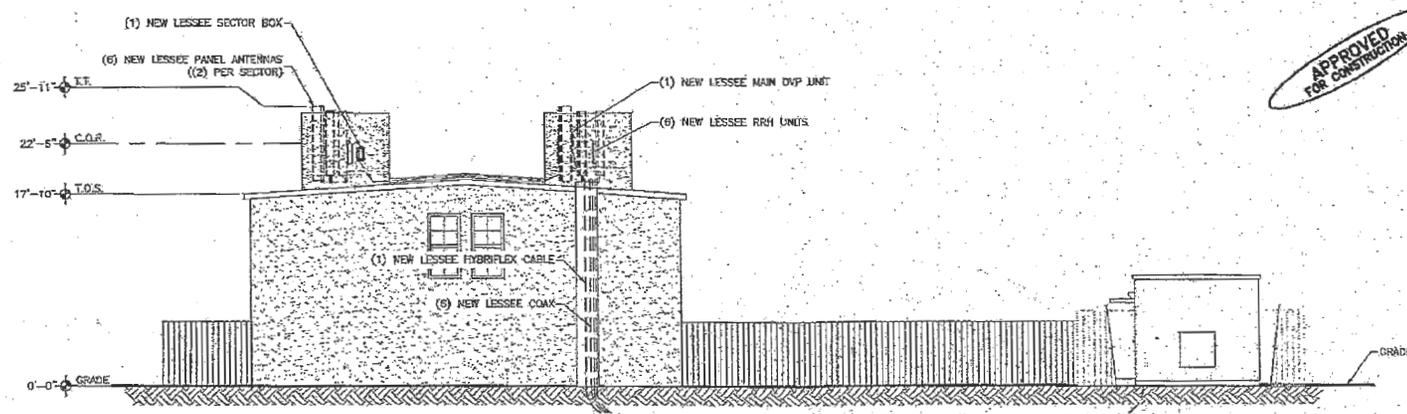
C.O.R.	=	CENTER OF RADIATION
A.L.	=	ATTACHMENT LEVEL
B.T.	=	BOTTOM TIP LEVEL
T.T.	=	TOP TIP LEVEL
A.G.L.	=	ABOVE GRADE LEVEL
B.O.B.P.	=	BOTTOM OF BASE PLATE
T.O.S.	=	TOP OF STRUCTURE

DESIGNED FOR:
verizonwireless
4821 SUBARK NE
ALBUQUERQUE, NM 87111
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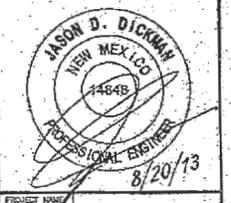


DATE	BY	CHK
08/20/13	RE	RE
08/20/13	RE	RE
08/20/13	RE	RE

GENERAL: ALBUQUERQUE, COLORADO
LAS VEGAS, NEVADA
ROSE, EL PASO, TEXAS
NEW MEXICO, IDAHO, TEXAS
NEW MEXICO
PRELIMINARY - NOT FOR CONSTRUCTION
APPROVED FOR CONSTRUCTION



NEW NORTHWEST ELEVATION
SCALE: N.T.S.



PROJECT NAME:
NM4 SILVA
EXISTING COMMUNICATIONS SITE
AWS INSTALLATION PROJECT

PROJECT ADDRESS:
1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87506
SANTA FE COUNTY

SHEET TITLE:
ELEVATIONS

SCALE DATE:
8/20/2013, 8:09 AM

SHEET NUMBER:
C2

EXISTING LESSEE ANTENNA SCHEDULE:

ATTACH LEVEL (COR)	AZIMUTHS (DEG. TH)	ANTENNA TYPE	ANTENNA QUANTITY	MOUNT TYPE	COAX (QUANTITY) SIZE (NOMINAL)	NOTES
22'-1"	44° 185°	ANTEL 6XA-70060/6CF 6' PANEL ANTENNA	3	PIPE MOUNT	(6) 7/8"	(3) TO BE REMOVED
22'-9"	254°	ANTEL QXA-006080120E-01N 5' PANEL ANTENNA	3	PIPE MOUNT	(6) 1-5/8"	

NOTES:
 1. ALL EXISTING AZIMUTHS REFERENCE TRUE NORTH.
 2. ALL EXISTING AZIMUTHS REFERENCE DATA COLLECTED FROM A RECENT SITE VISIT AND DIFFERS FROM THE INFORMATION PROVIDED IN THE SMR.

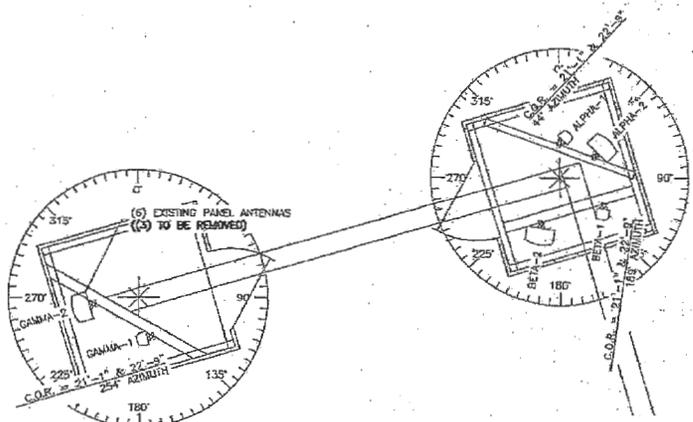
GENERAL ANTENNA NOTES:

- CONTRACTOR TO VERIFY MECHANICAL DOWN TILT WITH FINAL SMR/RF ENGINEER.
- DUAL POLAR ANTENNAS REQUIRE TWO RUNS OF COAX PER ANTENNA.
- CONTRACTOR TO VERIFY ALL ACTUAL LENGTHS IN FIELD PRIOR TO INSTALLATION AND NOTIFY THE FIELD ENGINEER FOR VERIFICATION OF SIZES OF CABLES.
- CONTRACTOR TO PROVIDE AS BUILT FOR THE LENGTH OF CABLES UPON COMPLETION OF INSTALLATION.
- CONTRACTOR TO PROVIDE FINAL CABLE LENGTHS AND RETURN LOSSES FOR ALL CABLES.
- ALL AZIMUTHS REFERENCE TRUE NORTH. CONSULT REQUIRED QUADRANGLE MAP FOR NECESSARY MECHANICAL DECLINATION.

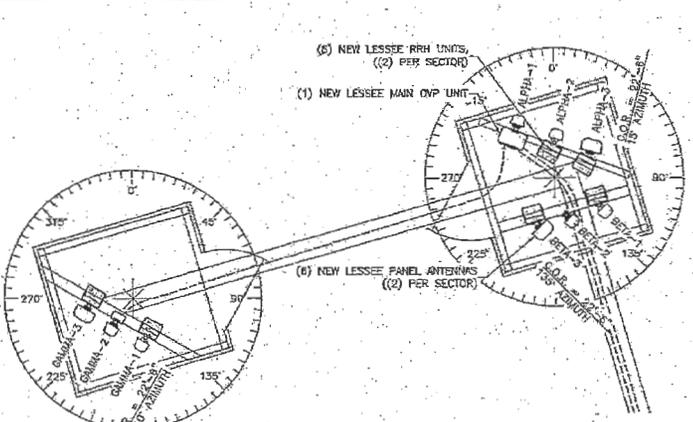
NEW LESSEE ANTENNA SCHEDULE:

ATTACH LEVEL (COR)	AZIMUTHS (DEG. TH)	ANTENNA TYPE	ANTENNA QUANTITY	MOUNT TYPE	COAX (QUANTITY) SIZE (NOMINAL)	ESTIMATED COAX CABLE LENGTH	MECHANICAL DOWN TILT
22'-6"	15° 135° 210°	ANTEL 6XA-70060-6 6' PANEL ANTENNA	3 (EXISTING)	PIPE MOUNT (EXISTING)	(6) 7/8" (EXISTING)	-	REFER TO SMR
		ANTEL 6XA-70060-6 6' PANEL ANTENNA	3 (NEW)	(3) PIPE MOUNT (NEW)	(6) 1-5/8" (EXISTING) + (6) 7/8" (NEW)		
		ANTEL QXA-006080120-EDN 7' PANEL ANTENNA	3 (NEW)	(1) HYBRIFLEX CABLE (NEW)			

NOTES:
 1. FOR EXACT ANTENNA INFORMATION REFER TO THE RF DESIGN.
 2. ALL NEW COAX SHALL BE INSTALLED ON EXISTING FEEDLINE LADDER.
 3. ALL UNUSED COAX SHALL BE REMOVED.
 4. CONTRACTOR TO USE EXISTING COAX FOR NEW ANTENNAS.
 5. CONTRACTOR TO INSTALL DIPLERS IN SHELTER AND ON TOWER AS REQUIRED BY RF DESIGN. (IF APPLICABLE)



EXISTING ANTENNA SECTION @ 22'-1" & 22'-9"
 SCALE: N.T.S.



NEW ANTENNA SECTION @ 22'-6"
 SCALE: N.T.S.

NOTICE:
 1. CONTRACTOR SHALL NOT SUBMIT BIDS OR PERFORM CONSTRUCTION WORK ON THIS PROJECT WITHOUT ACCESS TO THE CURRENT COMPLETE SET OF DRAWINGS LISTED IN THE TITLE-SHEET INDEX.

GROUNDING NOTE:
 1. ALL NEW EQUIPMENT & COAX TO BE GROUNDED PER VERIZON WIRELESS GROUNDING SPECS



4821 BUSH BLVD NE
 ALBUQUERQUE, NM 87111
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TowerCom Technologies
 ALBUQUERQUE / DALLAS / LAS VEGAS / DENVER / PHOENIX / SAN ANTONIO / TAMPA / WASHINGTON, DC / WICHITA, KS
 PROJECT: NM4 SILVA
 DATE: 8/20/13
 BY: [Signature]
 CHECKED BY: [Signature]
 APPROVED FOR CONSTRUCTION: [Signature]

JASON D. DICKMAN
 NEW MEXICO
 14848
 PROFESSIONAL ENGINEER
 8/20/13

PROJECT NAME: NM4 SILVA
 EXISTING COMMUNICATIONS SITE
 AWS INSTALLATION PROJECT

PROJECT ADDRESS: 1402 AGUA FRIA STREET
 SANTA FE, NEW MEXICO 87505
 SANTA FE COUNTY

PROJECT TITLE: ANTENNA INFORMATION
 SHEET DATE: 8/20/2013 8:05 AM
 SHEET NUMBER: RF1

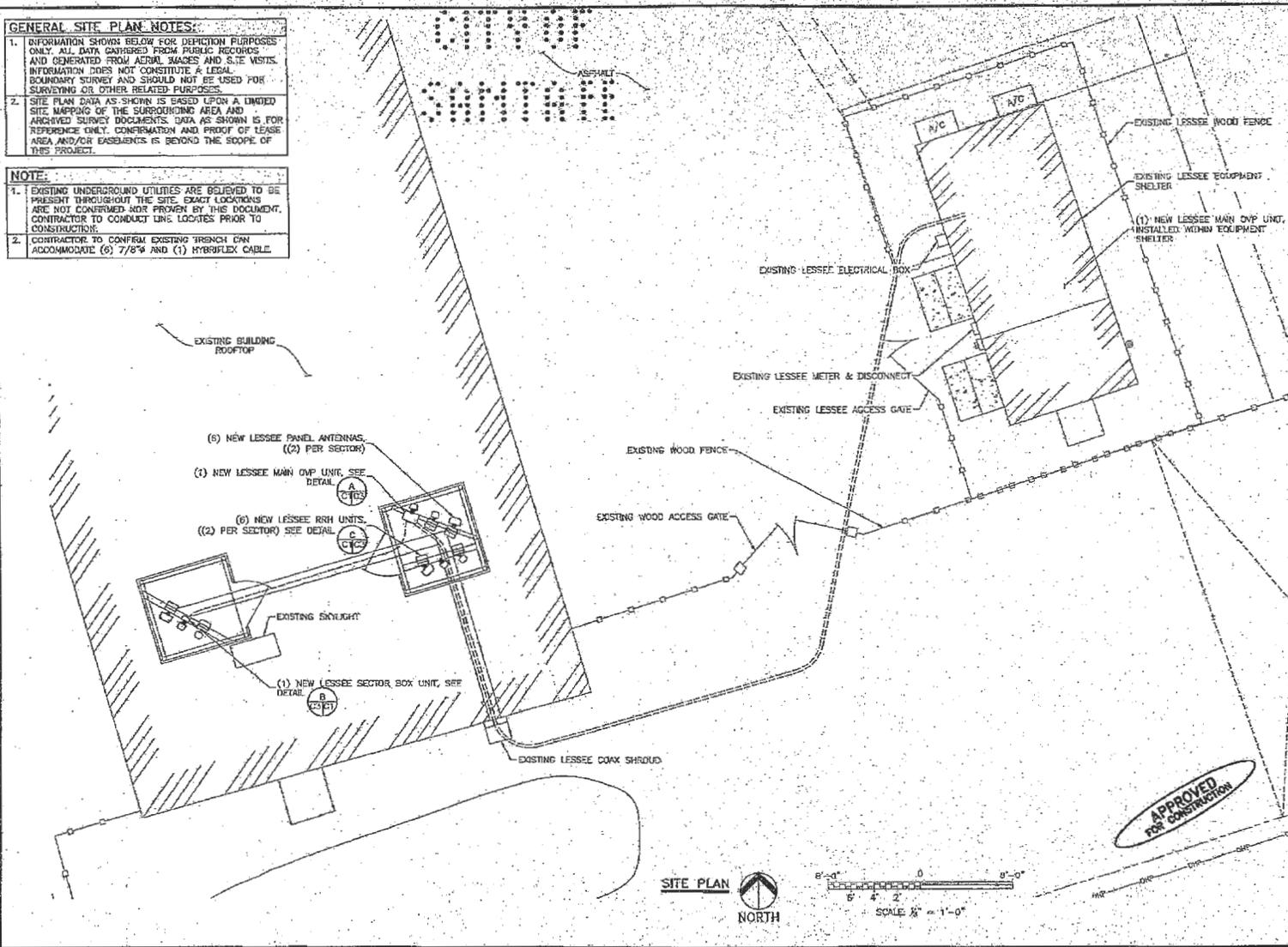


GENERAL SITE PLAN NOTES:

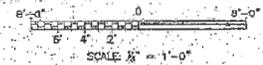
1. INFORMATION SHOWN BELOW FOR DEPICTION PURPOSES ONLY. ALL DATA GATHERED FROM PUBLIC RECORDS AND GENERATED FROM AERIAL IMAGES AND S.T.E VISITS. INFORMATION DOES NOT CONSTITUTE A LEGAL BOUNDARY SURVEY AND SHOULD NOT BE USED FOR SURVEYING OR OTHER RELATED PURPOSES.
2. SITE PLAN DATA AS SHOWN IS BASED UPON A LIMITED SITE MAPPING OF THE SURROUNDING AREA AND ARCHIVED SURVEY DOCUMENTS. DATA AS SHOWN IS FOR REFERENCE ONLY. CONFIRMATION AND PROOF OF LEASE AREA AND/OR EASEMENTS IS BEYOND THE SCOPE OF THIS PROJECT.

NOTE:

1. EXISTING UNDERGROUND UTILITIES ARE BELIEVED TO BE PRESENT THROUGHOUT THE SITE. EXACT LOCATIONS ARE NOT CONFIRMED NOR PROVEN BY THIS DOCUMENT. CONTRACTOR TO CONDUCT UG LOCATES PRIOR TO CONSTRUCTION.
2. CONTRACTOR TO CONFIRM EXISTING TRENCH CAN ACCOMMODATE (6) 7/8" AND (1) HYBRIFLEX CABLE.



SITE PLAN
NORTH



APPROVED FOR CONSTRUCTION

DESIGNED FOR:

verizon wireless
4823 EDUARDO NE
ALBUQUERQUE, NM 87111

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DATE	BY	CHK	APP
08/20/13	BT		
08/20/13	BT		
08/20/13	BT		

TowerBom TECHNOLOGIES
ALBUQUERQUE, BOISE, EL PASO, DENVER, LAS VEGAS, MEMPHIS, NEW MEXICO, NEW ORLEANS, PASADENA, TEXAS, WASHINGTON, DC
DESIGNED BY: BT
NEW MEXICO - NOT FOR CONSTRUCTION
0 - APPROVED FOR CONSTRUCTION

DESIGNED BY:

JASON D. BICKMAN
NEW MEXICO
14848
PROFESSIONAL ENGINEER
8/20/13

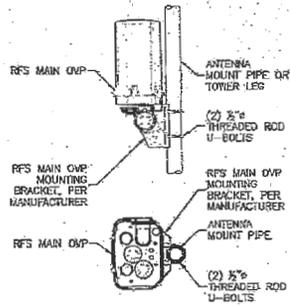
PROJECT NAME:
NM4 SILVA
EXISTING COMMUNICATIONS SITE
AWS INSTALLATION PROJECT

PROJECT ADDRESS:
1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87505
SANTA FE COUNTY

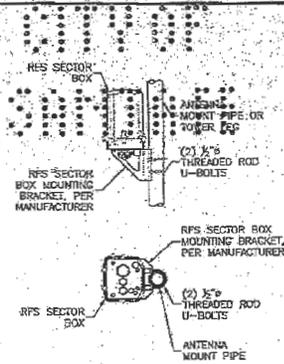
SHEET TITLE:
SITE PLAN

SHEET DATE:
8/20/2013, 8:05 AM

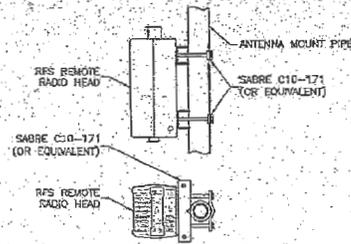
SHEET NUMBER:
C1



A
MAIN OVP BOX
CONNECTION DETAIL



B
SECTOR BOX
CONNECTION DETAIL



C
REMOTE RADIO HEAD
CONNECTION DETAIL

DESIGNED FOR:

verizonwireless

10211 ELEMANS NE
ALBUQUERQUE, NM 87111

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REV	DATE	BY	CHK
A	08/20/13	BT	
B	08/20/13	BT	
C	08/20/13	BT	

REGISTERED IN:

JASON D. DICKMAN
NEW MEXICO
14848
PROFESSIONAL ENGINEER
8/20/13

PROJECT NUMBER:

NM4 SILVA
EXISTING COMMUNICATIONS SITE
AWS INSTALLATION PROJECT

PROJECT ADDRESS:

1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87505
SANTA FE COUNTY

SHEET TITLE:

DETAILS

DATE:

8/20/2013 8:05 AM

DRAWING NUMBER:

C3

**APPROVED
FOR CONSTRUCTION**

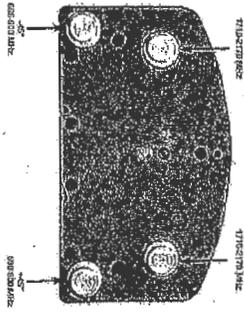
696-900 / 1710-2170 MHz

XX-2 | Dual Band FET Panel | 80° / 80° | 13.5' / 13.5' dia



Request your quote at www.amphebit.com

General Characteristics	Frequency	Bandwidth	Power	Gain	Efficiency	Impedance
Frequency range	696-900 MHz	1710-2170 MHz	100W	15dB	40%	50 Ohm
Bandwidth	30MHz	30MHz	100W	15dB	40%	50 Ohm
Power	100W	100W	100W	15dB	40%	50 Ohm
Gain	15dB	15dB	15dB	15dB	40%	50 Ohm
Efficiency	40%	40%	40%	40%	40%	50 Ohm
Impedance	50 Ohm	50 Ohm	50 Ohm	50 Ohm	50 Ohm	50 Ohm
Dimensions	13.5' dia	13.5' dia	13.5' dia	13.5' dia	13.5' dia	13.5' dia
Weight	150 lbs	150 lbs	150 lbs	150 lbs	150 lbs	150 lbs
Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Finish	Black	Black	Black	Black	Black	Black
Lead time	4 weeks	4 weeks	4 weeks	4 weeks	4 weeks	4 weeks



Antenna shown in view
 1 of 3
www.amphebit.com

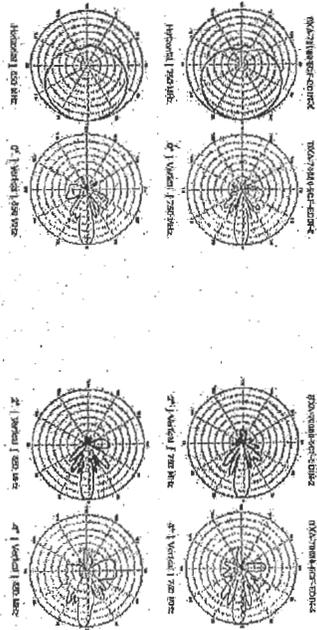
696-500 MHz

EXX-1000R 60C-EDIN-X



Request your quote at www.amphebit.com

General Characteristics	Frequency	Bandwidth	Power	Gain	Efficiency	Impedance
Frequency range	696-500 MHz	1710-2170 MHz	100W	15dB	40%	50 Ohm
Bandwidth	30MHz	30MHz	100W	15dB	40%	50 Ohm
Power	100W	100W	100W	15dB	40%	50 Ohm
Gain	15dB	15dB	15dB	15dB	40%	50 Ohm
Efficiency	40%	40%	40%	40%	40%	50 Ohm
Impedance	50 Ohm	50 Ohm	50 Ohm	50 Ohm	50 Ohm	50 Ohm
Dimensions	13.5' dia	13.5' dia	13.5' dia	13.5' dia	13.5' dia	13.5' dia
Weight	150 lbs	150 lbs	150 lbs	150 lbs	150 lbs	150 lbs
Material	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum	Aluminum
Finish	Black	Black	Black	Black	Black	Black
Lead time	4 weeks	4 weeks	4 weeks	4 weeks	4 weeks	4 weeks



Antenna shown in view
 1 of 2
www.amphebit.com

vertical
 4421 BLANK NE
 ALBUQUERQUE, NEW MEXICO



ALBUQUERQUE / BOISE / EL PASO / LAS VEGAS / DENVER /
 DENVER, COLORADO
 TEXAS / NEVADA

REV	DESCRIPTION	DATE	BY	CHK
1	PRELIMINARY - NOT FOR CONSTRUCTION	08/02/13	RT	RT
2	APPROVED FOR CONSTRUCTION	08/20/13	RT	FD



PROJECT NAME: NMA SILVA
 EXISTING COMMUNICATIONS SITE
 AWS INSTALLATION PROJECT
 PROJECT ADDRESS: 1402 AGUA FRIA STREET
 SANTA FE, NEW MEXICO 87506
 SANTA FE COUNTY
 SHEET TITLE: ANTENNA CUT SHEET(S)

DATE: 8/20/2013 8:05 AM
 SHEET NUMBER: RF-2

2014 documents

CITY OF SANTA FE, NEW MEXICO
P.O. BOX 909
SANTA FE, NEW MEXICO 87504-0909

***** BUILDING PERMIT *****

Application Number 14-00000813 Date 7/15/14
Property Address 1402 AGUA FRIA ST
Application type description TELECOMMUNICATION TOWER
Subdivision Name DORIS LUNA LOT LINE
Property Zoning GENERAL COMMERCIAL
Application valuation 30000

Owner

Contractor

MALONE, JOHN
1402 AGUA FRIA
SF NM
SANTA FE NM 87505
(505) 480-2822

BROKEN ARROW COMMUNICATIONS TM
8316 CORENA LOOP
ALBUQUERQUE NM 87113
(505) 877-2100

Structure Information 000 000

Construction Type UPDATE
Occupancy Type (OLD CODE) UPDATE
Flood Zone UPDATE

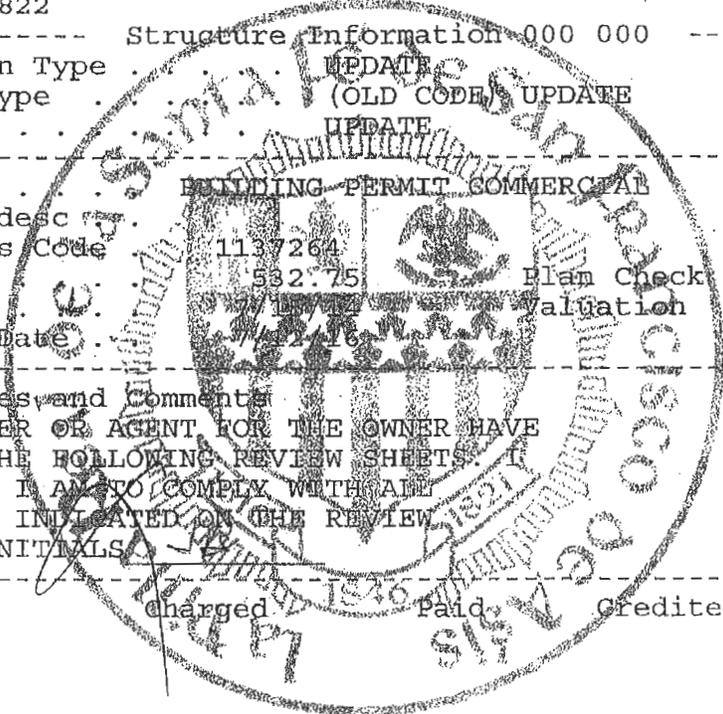
Permit BUILDING PERMIT COMMERCIAL

Additional desc
Phone Access Code 1137264
Permit Fee 532.75 Plan Check Fee 331.69
Issue Date 7/15/14 Valuation 30000
Expiration Date 7/22/16

Special Notes and Comments

I, THE OWNER OR AGENT FOR THE OWNER HAVE RECEIVED THE FOLLOWING REVIEW SHEETS. I UNDERSTAND I AM TO COMPLY WITH ALL CONDITIONS INDICATED ON THE REVIEW SHEETS. INITIALS

Fee summary Charged Paid Credited Due



For permits issued AFTER 08/01/2009, you MUST use VIPS for scheduling inspections! Call in by 3:00 PM for a next-day inspection (based on availability). 955-6110

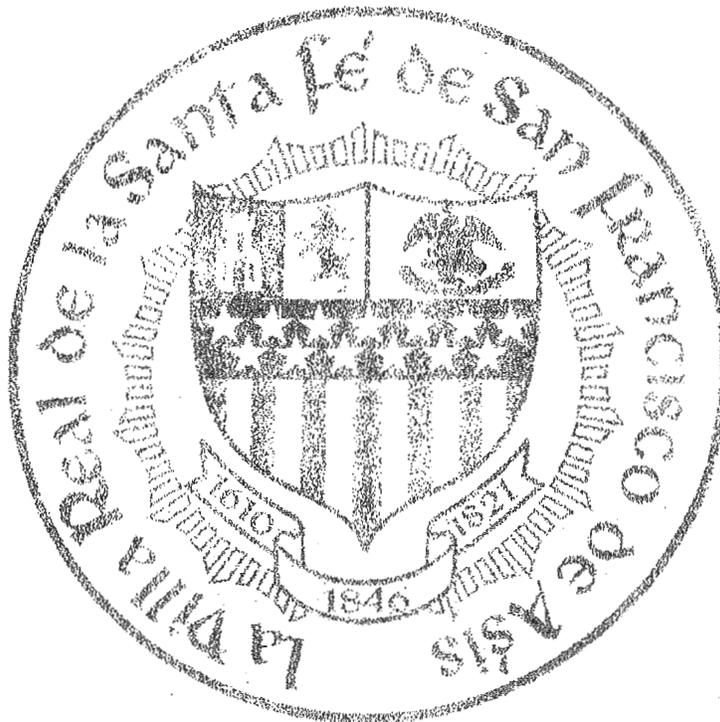
APPROVED BY [Signature] DATE 7/15/14
APPLICANT [Signature] DATE 7-15-14

By my signature above I hereby agree to abide with all the laws of the City of Santa Fe as well as with all the conditions stated above. I further state that I understand that this is not a permit to construct anything in violation of the codes adopted by the State of New Mexico. Further, I understand that this permit may be appealed within fifteen (15) days of its issuance (the "appeal period") pursuant to 14-3-17 SFCC (1987) and in the event an appeal is upheld this permit may be revoked. I hereby agree that any grading, building, alteration, repairing or any other construction done pursuant to this permit during this appeal period is done at my own risk and without reliance on the issuance of this permit. I also agree that in the event an appeal is upheld and this permit is revoked I may be required to remove any building, grading, altering, repairing or any other construction done during the appeal period. I hereby certify that I have read the foregoing and understand the same and by my signature assent to the terms stated herein.

CITY OF SANTA FE, NEW MEXICO
P.O. BOX 909
SANTA FE, NEW MEXICO 87504-0909

***** BUILDING PERMIT *****

				Page	2
Application Number 14-00000813				Date	7/15/14
Permit Fee Total	532.75	532.75	.00	.00	
Plan Check Total	331.69	331.69	.00	.00	
Grand Total	864.44	864.44	.00	.00	



For permits issued AFTER 08/01/2009, you MUST use VIPS for scheduling inspections! Call in by 3:00 PM for a next-day inspection (based on availability). 955-6110

APPROVED BY [Signature]
APPLICANT [Signature]

DATE [Signature]
DATE 7-15-14

By my signature above I hereby agree to abide with all the laws of the City of Santa Fe as well as with all the conditions stated above. I further state that I understand that this is not a permit to construct anything in violation of the codes adopted by the State of New Mexico. Further, I understand that this permit may be appealed within fifteen (15) days of its issuance (the "appeal period") pursuant to 14-3.17 SFCC (1987) and in the event an appeal is upheld this permit may be revoked. I hereby agree that any grading, building, alteration, repairing or any other construction done pursuant to this permit during this appeal period is done at my own risk and without reliance on the issuance of this permit. I also agree that in the event an appeal is upheld and this permit is revoked I may be required to remove any building, grading, altering, repairing or any other construction done during the appeal period. I hereby certify that I have read the foregoing and understand the same and by my signature assent to the terms stated herein.

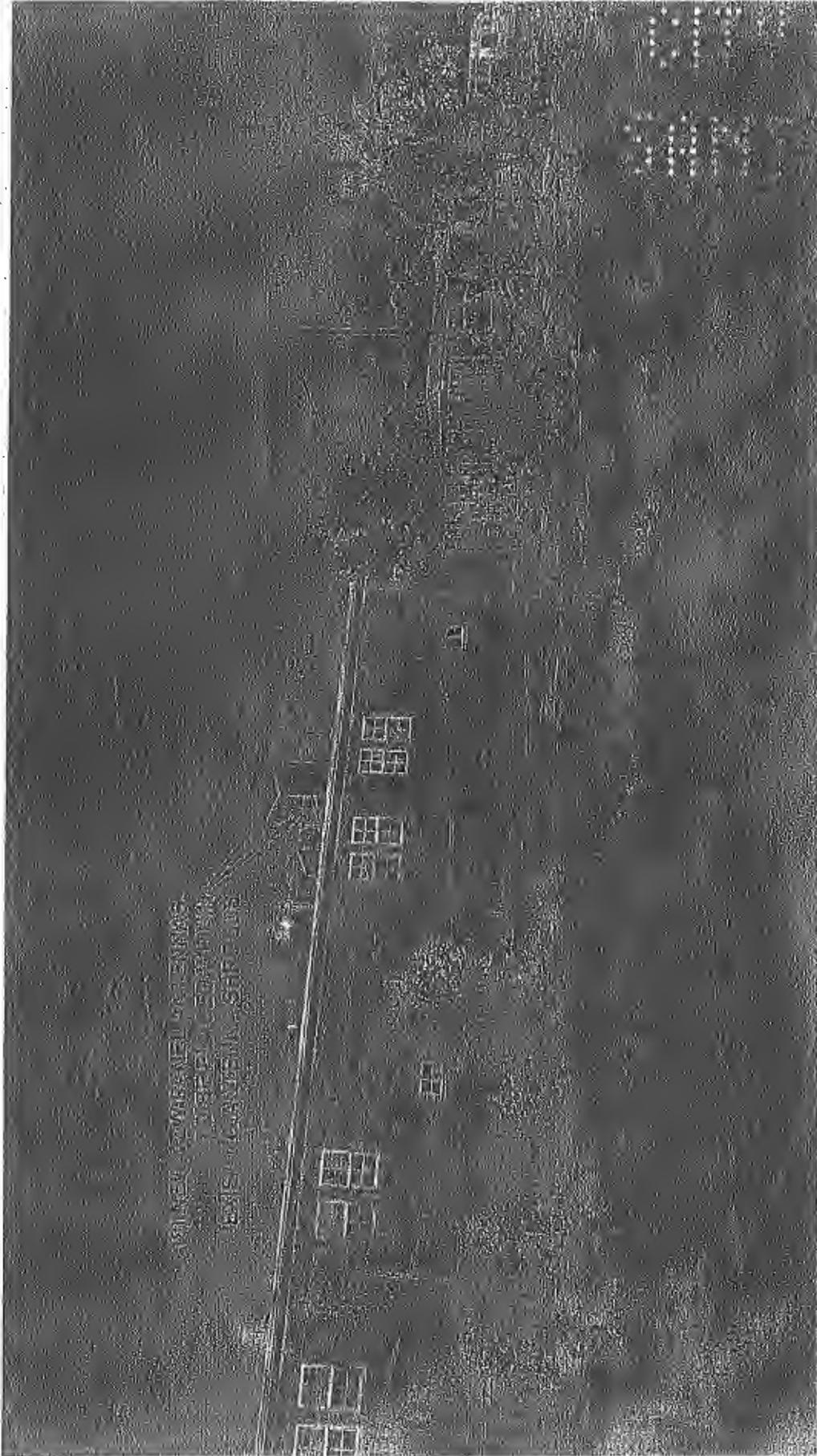
Application number : 14 00000813
Address : 1402 AGUA FRIA ST
UPC Code : 1-052-098-515-431- -
Application type : TELECOMMUNICATION TOWER
County Assessor Acct Num :
Tenant name, number :

Type options, press Enter.-
2=Change 4=Delete 5=View 6=Fast log 8=Action log maintenance
9=In/out maint

Opt	Agency description	Rev	Path Step Req	---- Key Dates ----			- Review Summary -	
				In	Est Cmpl	Resulted	Stat	By
	ARCHITECTURAL	A 01	Y	04/25/14	04/30/14	06/05/14	AP	DAE
	ZONING	A 01	Y	04/25/14	04/30/14	06/05/14	AP	DAE
	BUILDING	C-01	Y	04/29/14	05/02/14	04/30/14	AP	CFP
	ELECTRICAL	C 01	Y	04/29/14	05/02/14	04/30/14	AP	CFP

Bottom
F3=Exit F5=Land inquiry F6=Add F7=Revisions F8=Misc info inquiry
F9=Corrections report F10=View 2 F11=Sort by agency F24=More keys

6/9/14
[Handwritten signature]



SMITHSONIAN INSTITUTION
RESEARCH CENTER
EXISTING FOUNDATION



NM4 SILVA
SITE PHOTO
WEST ELEVATION SIMULATION
APRIL 25, 2014

696-900 / 1710-2170 MHz



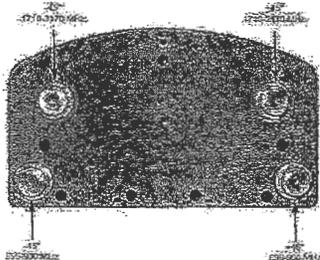
696-900/1710-2170 EDIN

696-900 / Dual-Sector Panel | BT 730° | 155° x 120°

Electrical Characteristics	696-900 MHz	1710-2170 MHz
Gain	14.5 dBi	14.5 dBi
Efficiency	80%	80%
SWR	1.2	1.2
Impedance	50 Ohms	50 Ohms
Power Handling	300 W	300 W
Dimensions	155 x 120 x 100 mm	155 x 120 x 100 mm
Weight	1.2 kg	1.2 kg
Material	Aluminum	Aluminum
Finish	Black	Black
Mounting	Panel Mount	Panel Mount
Accessories	Mounting Brackets	Mounting Brackets



Accessories



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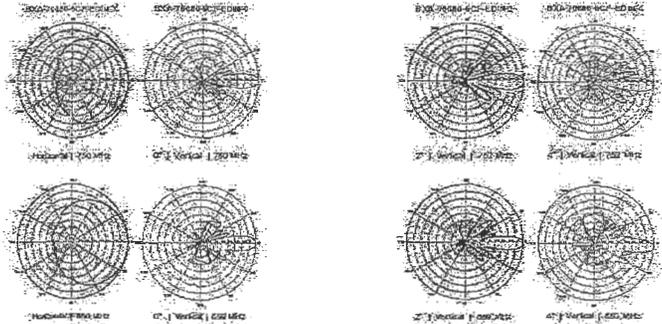
696-900 MHz



696-900/1710-2170 EDIN

696-900 / Dual-Sector Panel | BT 730° | 155° x 120°

Electrical Characteristics	696-900 MHz	1710-2170 MHz
Gain	14.5 dBi	14.5 dBi
Efficiency	80%	80%
SWR	1.2	1.2
Impedance	50 Ohms	50 Ohms
Power Handling	300 W	300 W
Dimensions	155 x 120 x 100 mm	155 x 120 x 100 mm
Weight	1.2 kg	1.2 kg
Material	Aluminum	Aluminum
Finish	Black	Black
Mounting	Panel Mount	Panel Mount
Accessories	Mounting Brackets	Mounting Brackets



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DESIGNED FOR
verizonwireless

1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87505
SANTA FE COUNTY

REV	DATE	BY	APP
0	04/25/14	EP	JDD

DESCRIPTION: APPROVED FOR CONSTRUCTION

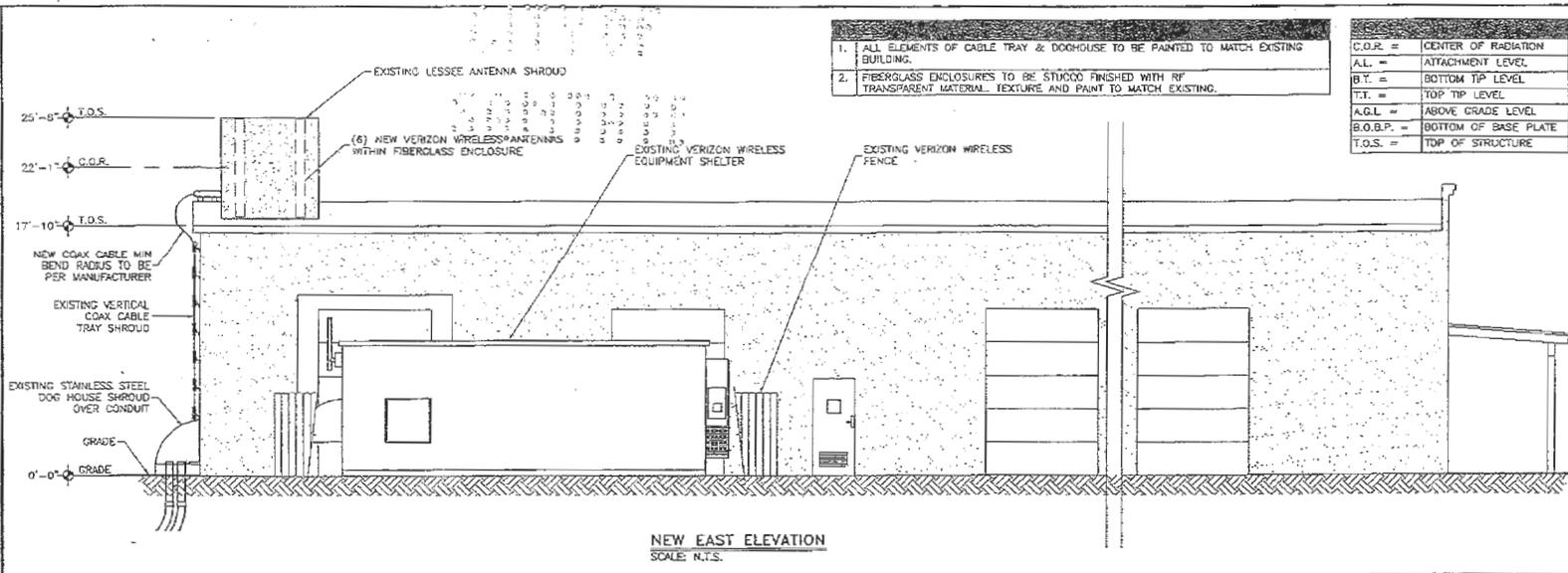
APPROVED FOR CONSTRUCTION

PROJECT NAME:
**NM4 SILVA
EXISTING COMMUNICATIONS SITE
ANTENNA INSTALLATION PROJECT**

PROJECT ADDRESS:
**1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87505
SANTA FE COUNTY**

SHEET TITLE:
ANTENNA CUT SHEET(S)

DATE DATE: 4/25/2014 6:55 AM
SHEET NUMBER: RF2



1. ALL ELEMENTS OF CABLE TRAY & DOGHOUSE TO BE PAINTED TO MATCH EXISTING BUILDING.
2. FIBERGLASS ENCLOSURES TO BE STUCCO FINISHED WITH R/F TRANSPARENT MATERIAL. TEXTURE AND PAINT TO MATCH EXISTING.

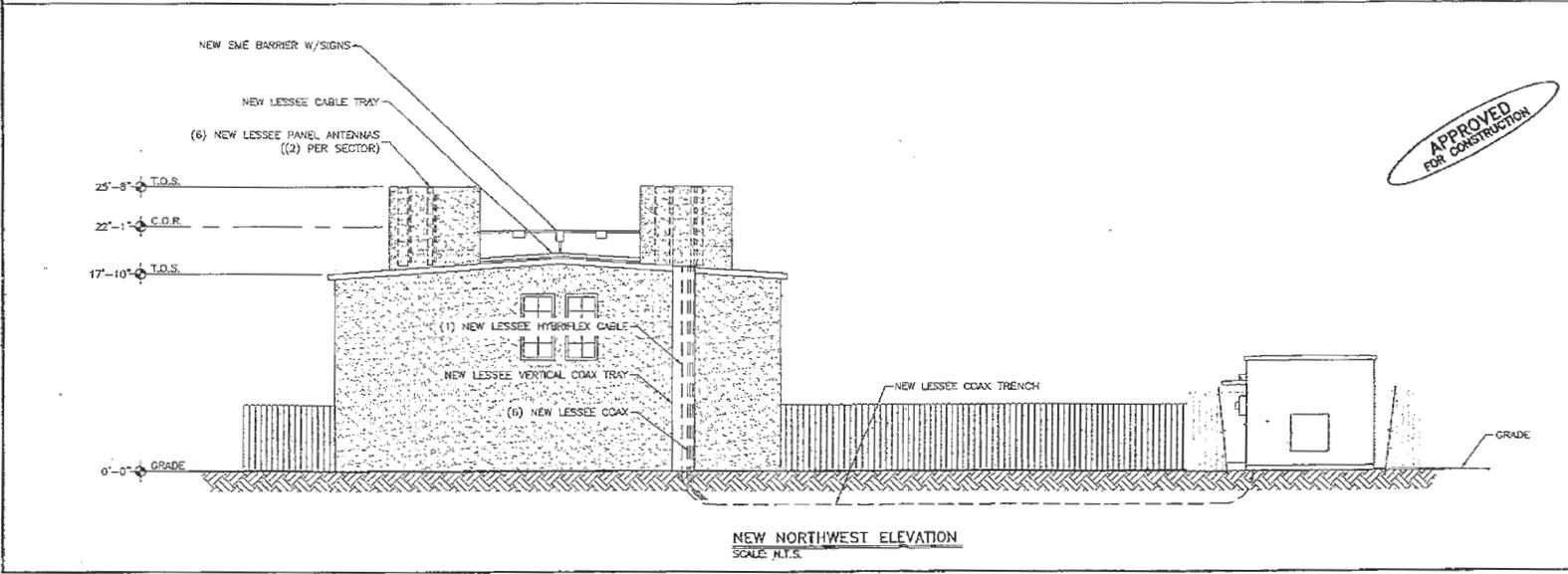
C.O.R.	=	CENTER OF RADIATION
A.L.	=	ATTACHMENT LEVEL
B.T.	=	BOTTOM TIP LEVEL
T.T.	=	TOP TIP LEVEL
A.G.L.	=	ABOVE GRADE LEVEL
B.O.B.P.	=	BOTTOM OF BASE PLATE
T.O.S.	=	TOP OF STRUCTURE

DESIGNED FOR:
verizonwireless
 4821 EUBANK NE
 ALBUQUERQUE, NM 87111

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REV	DESCRIPTION	DATE	BY	CHK
0	APPROVED FOR CONSTRUCTION	04/23/14	EP	JDS



APPROVED FOR CONSTRUCTION



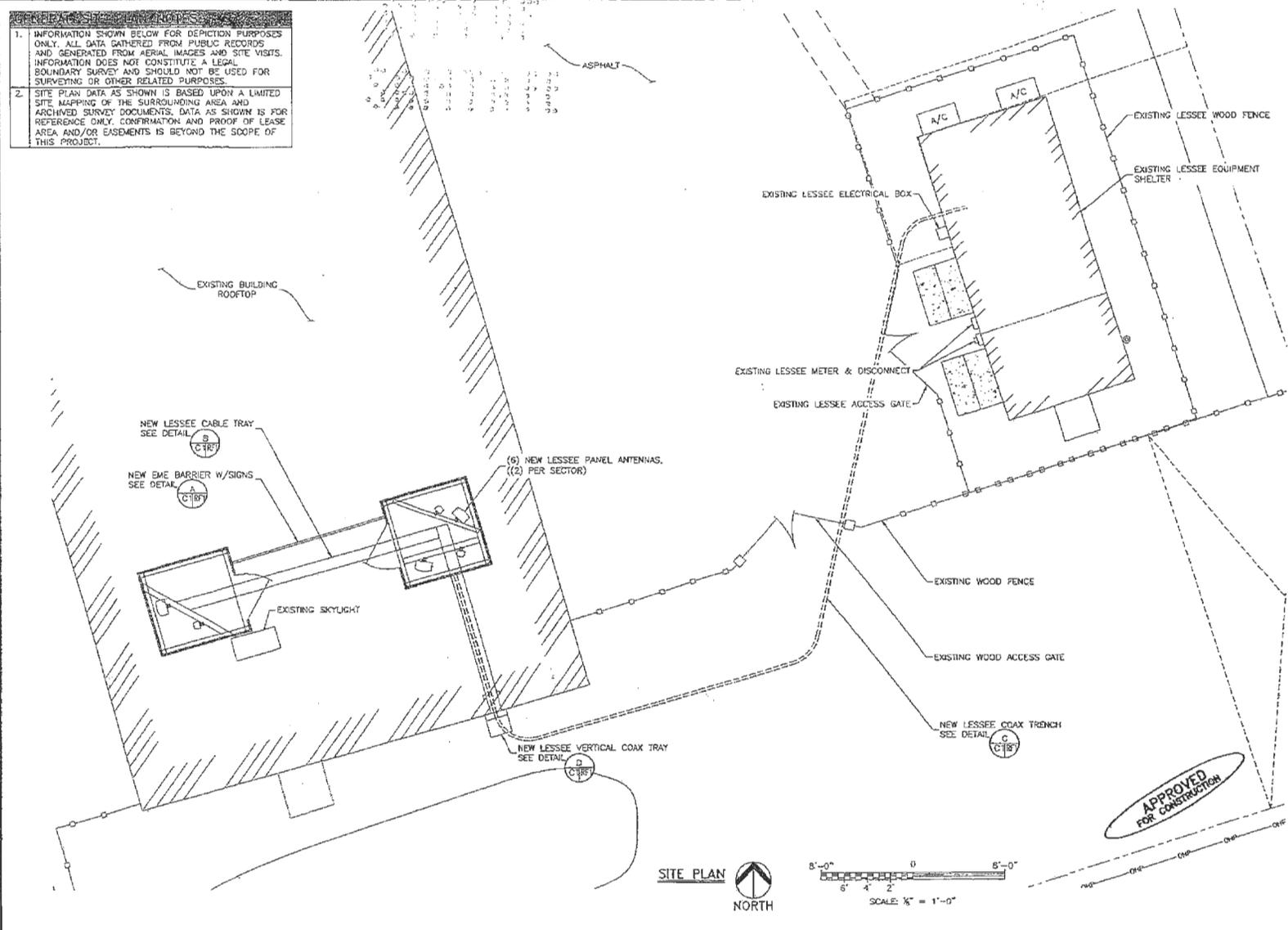
PROJECT NAME:
 NM4 SILVA
 EXISTING COMMUNICATIONS SITE
 ANTENNA INSTALLATION PROJECT

PROJECT ADDRESS:
 1402 AGUA FRIA STREET
 SANTA FE, NEW MEXICO 87505
 SANTA FE COUNTY

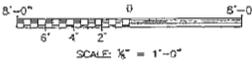
SHEET TITLE:
 ELEVATIONS

DATE DATE:
 4/25/2014 8:55 AM
 SHEET NUMBER:
 C2

- GENERAL NOTES**
1. INFORMATION SHOWN BELOW FOR DEPICTION PURPOSES ONLY. ALL DATA GATHERED FROM PUBLIC RECORDS AND GENERATED FROM AERIAL IMAGES AND SITE VISITS. INFORMATION DOES NOT CONSTITUTE A LEGAL BOUNDARY SURVEY AND SHOULD NOT BE USED FOR SURVEYING OR OTHER RELATED PURPOSES.
 2. SITE PLAN DATA AS SHOWN IS BASED UPON A LIMITED SITE MAPPING OF THE SURROUNDING AREA AND ARCHIVED SURVEY DOCUMENTS. DATA AS SHOWN IS FOR REFERENCE ONLY. CONFIRMATION AND PROOF OF LEASE AREA AND/OR EASEMENTS IS BEYOND THE SCOPE OF THIS PROJECT.



SITE PLAN 
NORTH



DESIGNED FOR:

verizonwireless

4821 ELSBANK NE
ALBUQUERQUE, NM 87111

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TOWERCOM TECHNOLOGIES

ALBUQUERQUE, BOISE, EL PASO, LAS VEGAS, DENVER, COLORADO
NEW MEXICO, IDAHO, TEXAS, NEVADA

REV	BY	CHK	DATE	DESCRIPTION
0			04/25/14	APPROVED FOR CONSTRUCTION

DESIGNED BY: JASON D. DICKMAN
NEW MEXICO
14848
PROFESSIONAL ENGINEER
4/25/14

PROJECT NAME: NM4 SILVA
EXISTING COMMUNICATIONS SITE ANTENNA INSTALLATION PROJECT

PROJECT ADDRESS: 1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87505
SANTA FE COUNTY

SHEET TITLE: SITE PLAN

SAVE DATE: 4/25/2014 8:55 AM

SHEET NUMBER: C1

- CONTRACTOR IS RESPONSIBLE FOR ERECTING TEMPORARY BARRICADES AND/OR FENCES TO PROTECT THE SAFETY OF THE PUBLIC DURING CONSTRUCTION. THE CONTRACTOR SHALL REMOVE ALL TEMPORARY BARRIERS AND REPAIR ALL DAMAGE TO THE PROPERTY ON THE SITE CAUSED BY THIS CONSTRUCTION. THE COST OF REPAIR IS THE CONTRACTOR'S RESPONSIBILITY.
- ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE, AND FEDERAL REQUIREMENTS.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE PRIOR TO ORDERING ANY MATERIALS OR CONDUCTING ANY WORK.
- EXCESS SOIL MATERIAL AND DEBRIS CAUSED BY THIS CONSTRUCTION SHALL BE REMOVED FROM THE SITE AND DISPOSED OF IN A LEGAL MANNER.
- CONTRACTOR SHALL MAKE ADJUSTMENTS TO GRADING ELEVATIONS AS NECESSARY TO ENSURE A SITE FREE OF DRAINAGE PROBLEMS.
- CONTRACTOR SHALL COORDINATE A CONSTRUCTION LAYDOWN AREA WITH THE PROPERTY OWNER. CONSTRUCTION LAYDOWN AREA SHALL BE FENCED-IN WITH TEMPORARY (45 DAY) CONSTRUCTION FENCE. THE TEMPORARY FENCE SHALL BE COMPOSED OF 4' HIGH CHAIN LINK FABRIC AND IS TO BE REMOVED AT THE END OF CONSTRUCTION. LAYDOWN AREA IS TO BE RESTORED TO ITS ORIGINAL CONDITION AFTER FENCE REMOVAL.
- SURVEY INFORMATION SHOWN WAS CREATED FROM RECORD INFORMATION AND DOES NOT CONSTITUTE A LEGAL BOUNDARY SURVEY.
- THESE PLANS DO NOT ADDRESS THE SAFETY AND STABILITY OF THE STRUCTURE DURING ASSEMBLY AND ERECTION, WHICH ARE THE RESPONSIBILITY OF THE ERECTOR, BASED ON THE MEANS AND METHODS CHOSEN BY THE ERECTOR.

- CONTRACTOR RESPONSIBILITIES**
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE COMPLETE PROJECT SCOPE OF WORK DEFINED UNDER THE REQUEST FOR PROPOSAL (RFP) FOR THIS PROJECT AND ALL ASSOCIATED ATTACHMENTS AND DOCUMENTS PROVIDED TO THE CONTRACTOR. THE RFP AND ALL ASSOCIATED DOCUMENTS SHALL DEFINE THE COMPLETE PROJECT SCOPE OF WORK. CONTRACTOR SHALL BE RESPONSIBLE FOR COMPLIANCE WITH ALL DOCUMENTS AND IS SOLELY RESPONSIBLE FOR ALL WORK.
- ALL DOCUMENTS INCLUDED WITHIN THE PROJECT REQUEST FOR PROPOSAL ARE REQUIRED FOR THE COMPLETE PROJECT SCOPE OF WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL WORK (EQUIPMENT, MATERIAL, INSTALLATION, TESTING, ETC.) INDICATED IN ALL DOCUMENTS. THE RFP, VERIZON WIRELESS NETWORK STANDARDS AND PROJECT ADDENDUMS AND CLARIFICATIONS ARE COMPLEMENTARY TO EACH OTHER. THE FORMAT OF THE SPECIFICATIONS AND DRAWING NUMBERING PER DISCIPLINE IS NOT INTENDED TO IMPLY SEGREGATION OF SUB CONTRACTOR WORK. CONTRACTOR SHALL ASSIGN ALL SUB CONTRACTOR WORK AND VERIZON WIRELESS WILL NOT ACCEPT ANY CHANGE ORDERS FOR INTERNAL CONTRACTOR WORK ASSIGNMENTS.
- CONTRACTOR SHALL BE RESPONSIBLE FOR DISTRIBUTING ALL RFP DOCUMENTS TO THEIR SUB CONTRACTORS. ALL RFP DOCUMENTS ARE REQUIRED TO INDICATE THE PROJECT SCOPE OF WORK. PARTIAL SUB CONTRACTOR DOCUMENT PACKAGES ARE HIGHLY DISCOURAGED.
- IN THE EVENT OF A CONFLICT BETWEEN THE DRAWINGS, SPECIFICATIONS, REFERENCED STANDARDS, VERIZON WIRELESS STANDARDS, OR AGREEMENT TERMS AND CONDITIONS THE ARCHITECT/ENGINEER SHALL BE CONTACTED FOR FORMAL INTERPRETATION OF THE REQUIREMENTS. THE CONTRACTOR SHALL BE DEEMED TO HAVE PROVIDED THE DETAILED AND EXTENSIVE INTERPRETATION. ANY WORK INSTALLED IN CONFLICT WITH THE ARCHITECT/ENGINEER INTERPRETATIONS SHALL BE CORRECTED BY THE CONTRACTOR AT NO EXPENSE TO VERIZON WIRELESS.
- ALL ANTENNAS MUST BE PRA TESTED WITHIN 48 HOURS OF THEM BEING RECEIVED BY THE INSTALLATION CONTRACTOR. THOSE RESULTS MUST BE SENT BACK TO THE VERIZON WIRELESS CONSTRUCTION ENGINEER AND EQUIPMENT ENGINEER WITHIN THE SAME 48 HOURS. IF YOU MISS THE 48HR TIMELINE AND THE ANTENNAS DO NOT PASS UPON INSTALLATION, YOUR COMPANY WILL BE CHARGED FOR THE COST OF THE ANTENNAS FOR REPLACEMENT.
 - ALL LOADS MUST BE SECURED PROPERLY TO THE VEHICLE OR TRAILER. VERIZON WIRELESS WILL PASS ALONG THE COST OF ANY REPLACEMENTS DUE TO DAMAGE OR LOSS WHETHER IT IS NEW OR USED.

- CONTRACTOR TO INSTALL ANTENNAS, MOUNTS AND TOWER HARDWARE PER MANUFACTURER'S RECOMMENDATIONS (OR AS REQUIRED BY THE OWNER/PROVIDER).
- ALL BOLTS SHALL BE TIGHTENED PER AISC REQUIREMENTS.
- ANY GALVANIZED SURFACES THAT ARE DAMAGED BY ABRASIONS, CUTS, DRILLING OR FIELD WELDING DURING SHIPPING OR ERECTION SHALL BE TOUCHED-UP WITH TWO COATS OF COLD GALVANIZING COMPOUND MEETING THE REQUIREMENTS OF ASTM A780.
- ANTENNA MOUNTS SHALL NOT BE USED AS A CLIMBING DEVICE. WORKERS SHALL ALWAYS TIE OFF TO AN APPROVED CLIMBING POINT.
- SEE ALSO GENERAL ANTENNA NOTES ON SHEET RF1 (IF APPLICABLE).

- REQUIRED ADDITIONAL SOAK PORTS TO BE ADDED AS NEEDED BY CONTRACTOR.
- ANY ADDITIONAL SOAK PORTS TO BE INSTALLED BELOW THE EXISTING, WHERE POSSIBLE.
- CONTRACTOR TO INVESTIGATE INTERIOR OF SHELTER/EQUIPMENT ROOM FOR CLEAREST PENETRATION POINT.
- ADDITIONAL SOAK PORTS TO BE INSTALLED PER INDUSTRY STANDARDS.

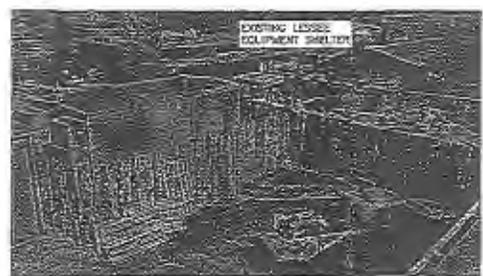
ALL LOADS DERIVED FROM REQUIREMENTS OF INTERNATIONAL BUILDING CODE 2009, ASCE 7-05, "MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER STRUCTURES" & ANSI 11A-222-G "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS".

BUILDING STRUCTURES:

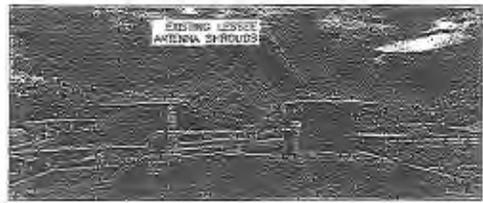
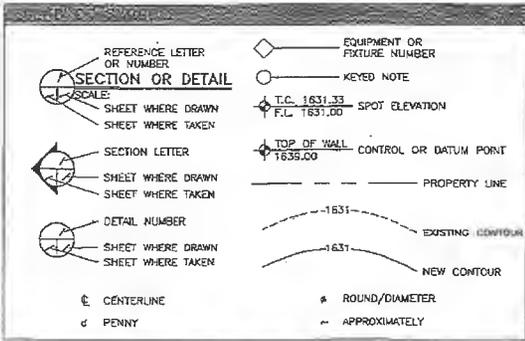
- WIND LOADS: IBC 2009 §1609 & ASCE 7-05 §5.4 (SIMPLIFIED METHOD)
 $V_{50} = 90 \text{ MPH}$
OCCUPANCY CAT. = II; EXPOSURE CAT. = C; IMPORTANCE FACTOR = 1.0
- SEISMIC LOADS: IBC 2009 §1613 & ASCE 7-05 §12.14 (SIMPLIFIED METHOD)
OCCUPANCY CAT. = II; SITE CLASS = D
 $V = \frac{E(S_{DS})_S}{R}$
 $F = 1.0$ (SINGLE-STORY), 1.1 (TWO STORY), 1.2 (THREE STORY)
 $S_{DS} = (2/3) S_{MS}$
 $R = 1.5$ (ORDINARY PLAIN CONCRETE SHEARWALLS),
5.5 (LIGHT-FRAMED WALLS W/ WOOD STRUCTURAL PANELS),
4.0 (ORDINARY REINFORCED CONCRETE SHEARWALLS)

COMMUNICATIONS STRUCTURES:

- WIND LOADS: IBC 2009 §1609, ASCE 7-05 §5.5.15 & ANSI 11A-222-G
 $V = 90 \text{ MPH}$ (3-SEC. GUST)
 $V = 90 \text{ MPH}$ (1/2" RADIAL ICE)
STRUCTURE CLASS. = II; EXPOSURE CAT. = C; IMPORTANCE FACTOR = 1.0
- SEISMIC LOADS: IBC 2009 §1613, ASCE 7-05 §15.6.6 & ANSI 11A-222-G
MAY BE IGNORED FOR STRUCTURE CLASS I AND/OR EARTHQUAKE SPECTRAL RESPONSE FOR SHORT PERIOD ($S_s \leq 1.0$)
STRUCT. CLASS. = II; OCC. CAT. = II; SITE CLASS = D; IMPORTANCE FACTOR = 1.0
 $V = \frac{S_{DS}(W_s)}{R}$ (EQUIVALENT LATERAL FORCE PROCEDURE (METHOD 1))
 $V = \frac{2 S_{DS}(W_s)}{R}$ (EQUIVALENT MODAL ANALYSIS PROCEDURE (METHOD 2))



VIEW OF EXISTING COMPOUND



VIEW OF EXISTING ANTENNAS SHROUDS



VIEW OF EXISTING BUILDING (LOOKING NORTH)

APPROVED FOR CONSTRUCTION

DESIGNED FOR
verizonwireless
4821 ELISABETH
ALBUQUERQUE, NM 87111

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DATE	REV	BY	DATE
	01/25/14	EP	1/25/14
DATE	APPROVED FOR CONSTRUCTION	DATE	
04/25/14			

DESIGNED BY
JASON D. DICKMAN
NEW MEXICO
14848
PROFESSIONAL ENGINEER
4/25/14

PROJECT NAME
NM4 SILVA
EXISTING COMMUNICATIONS SITE
ANTENNA INSTALLATION PROJECT

PROJECT ADDRESS
1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87505
SANTA FE COUNTY

SHEET TITLE
SPECIFICATION & PHOTO SHEET

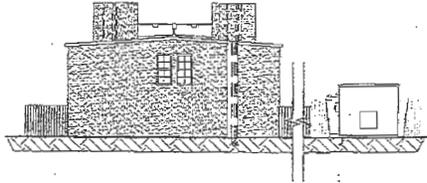
SAVE DATE
4/25/2014 8:55 AM
SHEET NUMBER
SP1

verizonwireless

NM4 SILVA

PUBLIC RECORD PARCEL NO. 1-052-098-515-431

1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87505
SANTA FE COUNTY



EXISTING COMMUNICATIONS SITE ANTENNA INSTALLATION PROJECT



DESIGNED FOR:

verizonwireless
4821 EUBANK NE
ALBUQUERQUE, NM 87111

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TowerCom TECHNOLOGIES
ALBUQUERQUE, NEW MEXICO / LAS VEGAS, NEVADA / DENVER, COLORADO / IRVINE, TEXAS / DALLAS, TEXAS

DATE: 04/25/14
BY: JDD
JOB: 1402 AGUA FRIA STREET

DESIGNATION: APPROVED FOR CONSTRUCTION

REVISIONS:

SHEET	TITLE	REV.
T1	TITLE SHEET	0
SP1	SPECIFICATION & PHOTO SHEET	0
C1	SITE PLAN	0
C2	ELEVATIONS	0
RF1	ANTENNA INFORMATION AND DETAILS	0
RF2	ANTENNA CUT SHEET(S)	0

APPLICANT:
VERIZON WIRELESS
4821 EUBANK NE
ALBUQUERQUE, NM 87111

CONTACT: JEFF DEWALT
PHONE: 505-250-0004

ENGINEERS/DESIGNERS:
TOWERCOM TECHNOLOGIES LLC
4520 MONTGOMERY BLVD. NE, SUITE 5
ALBUQUERQUE, NM 87109

CONTACT: JEFF MONTANO
PHONE: 505-232-4894

ZONING/SITE AC:
WIRELESS RESOURCES, INC.

CONTACT: CARL TASKES
PHONE: 480-449-0603

NOTICE:
BEING A PORTION OF TRACT "A" AS SHOWN ON THAT CERTAIN PLAT ENTITLED "PLAT OF SURVEY FOR BOBIS JEANNE LUNA, 1406 AGUA FRIA STREET, SANTA FE COUNTY, NEW MEXICO, AS THE SAME IS SHOWN AND DESIGNATED ON THE PLAT FILED IN THE OFFICE OF THE COUNTY CLERK OF SANTA FE COUNTY, NEW MEXICO, ON OCTOBER 2, 1996 AND RECORDED IN PLAT BOOK 396, PAGE 32.

- PRIOR TO SUBMITTING A BID, THE CONTRACTOR SHALL FAMILIARIZE HIMSELF/HERSELF WITH THE SCOPE OF WORK AND ALL CONDITIONS AFFECTING THE NEW PROJECT.
- CONTRACTOR SHALL VERIFY ALL FIELD CONDITIONS AND DIMENSIONS OF THE JOB SITE AND CONFIRM THAT WORK AS INDICATED ON THESE CONSTRUCTION DOCUMENTS CAN BE ACCOMPLISHED AS SHOWN PRIOR TO COMMENCEMENT OF ANY WORK.
- ALL FIELD MODIFICATIONS BEFORE, DURING, OR AFTER CONSTRUCTION SHALL BE APPROVED IN WRITING BY A VERIZON WIRELESS REPRESENTATIVE.
- INSTALL ALL EQUIPMENT AND MATERIALS PER THE MANUFACTURER'S RECOMMENDATIONS, UNL.O.
- NOTIFY VERIZON WIRELESS, IN WRITING, OF ANY MAJOR DISCREPANCIES REGARDING THE CONTRACT DOCUMENTS, EXISTING CONDITIONS, AND DESIGN INTENT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING CLARIFICATIONS FROM A VERIZON WIRELESS REPRESENTATIVE AND ADJUSTING THE BID ACCORDINGLY.
- CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES OF THE WORK UNDER THE CONTRACT.
- CONTRACTOR SHALL PROTECT ALL EXISTING IMPROVEMENTS AND FINISHES THAT ARE TO REMAIN. CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY OCCUR DURING THE CONSTRUCTION TO THE SATISFACTION OF A VERIZON WIRELESS REPRESENTATIVE.
- THE CONTRACTOR IS RESPONSIBLE FOR RED-LINING THE CONSTRUCTION PLANS TO ILLUSTRATE THE AS BUILT CONDITION OF THE SITE. FOLLOWING THE FINAL INSPECTION BY VERIZON WIRELESS, THE CONTRACTOR SHALL PROVIDE VERIZON WIRELESS WITH ONE COPY OF ALL RED-LINED DRAWINGS.
- VERIFY ALL FINAL EQUIPMENT WITH A VERIZON WIRELESS REPRESENTATIVE. ALL EQUIPMENT LAYOUT, SPECS, PERFORMANCE INSTALLATION AND THEIR FINAL LOCATION ARE TO BE APPROVED BY VERIZON WIRELESS. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING HIS/HER WORK WITH THE WORK AND CLEARANCES REQUIRED BY OTHERS RELATED TO SAID INSTALLATIONS.

PROPERTY OWNER: JOHN MALONE
1402 AGUA FRIA ROAD
SANTA FE, SANTA FE COUNTY, NEW MEXICO
CONTACT: JOHN MALONE
PHONE: (505)-480-2822

JURISDICTION: CITY OF SANTA FE

PUBLIC RECORD PARCEL NO.: 1-052-098-515-431

COORDINATES:
LATITUDE: 35°40'46.336"
LONGITUDE: 105°57'38.085"

FROM THE VERIZON WIRELESS OFFICE, 4821 EUBANK BLVD NE ALBUQUERQUE, NM 87111, HEAD SOUTH ON EUBANK BLVD NE TOWARD GUTIERREZ RD NE 0.3 MI, TURN RIGHT ON TO MONTGOMERY BLVD NE 1.0 MI, TURN RIGHT ONTO WYOMING BLVD NE 2.2 MI, TURN LEFT ONTO SAN ANTONIO DR NE 1.5 MI, TURN RIGHT ONTO PAN AMERICAN FRONTAGE RD N 228 FT, MERGE ONTO I-25 N VIA THE RAMP ON THE LEFT TO SANTA FE 0.2 MI, MERGE ONTO I-25 N 50.8 MI, TAKE EXIT 282A-282B FOR US-84 N/ST FRANCIS DR TOWARD US-285 N/SANTA FE PLAZA 0.9 MI, MERGE ONTO US-285 N/US-84 W/S ST FRANCIS DR 3.2 MI, TURN LEFT ONTO AGUA FRIA ST SITE WILL BE LOCATED ON THE LEFT 0.7 MI.

THIS PROJECT CONSISTS OF THE FOLLOWING:
INSTALLATION
- SIX (6) NEW PANEL ANTENNAS

RADIATION FROM THIS FACILITY WILL NOT INTERFERE WITH OPERATION OF OTHER COMMUNICATION DEVICES.

VICINITY MAP
SCALE: N.T.S.
NORTH

JASON D. DICKMAN
NEW MEXICO
14848
PROFESSIONAL ENGINEER
4/25/14

PROJECT NAME: NM4 SILVA
EXISTING COMMUNICATIONS SITE
ANTENNA INSTALLATION PROJECT

PROJECT ADDRESS:
1402 AGUA FRIA STREET
SANTA FE, NEW MEXICO 87505
SANTA FE COUNTY

SHEET TITLE: TITLE SHEET

DATE: 4/25/2014 8:55 AM

SHEET NUMBER: T1

Mr. Firstenberg's May
11, 2015 letter

Arthur Firstenberg

May 11, 2015

Board of Adjustment
and
Zachary Shandler, Assistant City Attorney (by hand)
City of Santa Fe
P.O. Box 909
Santa Fe, NM 87504-0909

*Regarding: Land Use Cases No. 2013-116 and 2014-82
Appeals of Cellular Phone Task Force et al. regarding 1402 Agua Fria*

Dear Mr. Shandler and Members of the Board of Adjustment:

This is to put the City on notice that at the May 5, 2015 meeting of the Board of Adjustment, the appellants in the above-referenced cases were denied due process because legal procedure was not followed. Appellants expect required procedures to be followed at the continuation of this hearing on July 7, 2015.

Attached to this letter is a copy of the Appeal Hearing Procedures, adopted by the Governing Body on April 13, 2011 as part of Resolution No. 2011-24. I call your attention to Section VIII(H), "Order of hearing." The Board did not comply with the following procedures that were required to occur before the public testimony:

"5. The Presiding Officer shall cross examine the Applicant and the Applicant's witnesses on behalf of the parties, or permit direct cross examination."

Cross examination of the Applicant was not permitted.

"6. The Appellant shall address questions to staff."

The Appellant was not permitted to question staff.

The Board did not comply with the following procedures that were required to occur after the public testimony:

"11. The Appellant shall make his or her closing argument including any objections to the testimony, witnesses, or procedural matters.

"12. The Applicant shall make his or her closing argument including any objections to the testimony, witnesses, or procedural matters.

"13. The public hearing shall be closed."

The public hearing is closed after the Appellant and the Applicant make their closing arguments. Since no closing arguments were made on May 5, 2015, the public hearing is not closed.

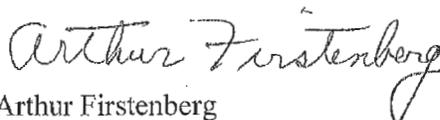
At the July 7, 2015 continuation of this hearing, Verizon has been requested to present a new radio frequency radiation compliance document. As the representative of the appellants, I will have the right to call witnesses and present evidence related to this document. I will have the right to cross examine the representative of Verizon and his or her witnesses, either directly or through the Presiding Officer, on any matter. I will have the right to question staff on any matter. The public will then have the right to give sworn testimony related to the new evidence. There will then be closing arguments.

The record on appeal provided to the Board of Adjustment is grossly deficient. I call your attention to Section VIII(C) of the Appeal Hearing Procedures. The record on appeal is required to contain:

“6. Any and all materials provided to the LUD Director and/or the Land Use Board, as the case may be, for their consideration in deciding upon the matter.

Since the decisions appealed from are decisions of the LUD Director to issue building permits, all materials provided to the LUD Director in making those decisions are part of the record. This includes Verizon’s 2005 application for a single “wireless equipment shelter” at 1402 Agua Fria and all accompanying materials; Verizon’s 2013 application for the addition of three antennas to an “existing telecommunications facility” at 1402 Agua Fria and all accompanying materials; and Verizon’s 2014 application for a telecommunications facility at 1402 Agua Fria and all accompanying materials. None of these materials were included in the record provided to the Board at the May 5, 2015 hearing, prejudicing the appellants and forcing me to submit a few of these documents into evidence on their behalf on the day of the hearing, which gave the Board no time to read or evaluate them. The entirety of the record should be provided to the Board by the City in advance of the July 7, 2015 hearing.

Sincerely,



Arthur Firstenberg
P.O. Box 6216
Santa Fe, NM 87502
(505) 471-0129

cc: Appellants
Rick Sandoval, Esq.

Resolution No. 2011-24
Exhibit A

- B. An appeal may be withdrawn at any time by an Appellant. If multiple appeals of the same Final Action have been filed, the withdrawal by one Appellant shall not affect the appeals of other Appellants.
- C. In the event an appeal is withdrawn by agreement of the parties, such agreement shall not be contingent upon any modification to the Final Action unless and until such modification is accepted and agreed to by the Land Use Board which took the Final Action, the LUD Director or the City Attorney, as required.

VII. Prohibited Communications; Disclosure

- A. No person except the City Attorney may communicate with individual members of the Land Use Board hearing an appeal or of the Governing Body concerning the merits or substance of an appeal after the appeal has been filed.
- B. Individual members of a Land Use Board hearing an appeal or of the Governing Body may not inspect the property or structure that is the subject of the appeal or conduct an independent investigation or inquiry by other means, including, without limitation, an internet search, with respect to the subject matter of the appeal or to any parties to the appeal or related to such parties or otherwise connected with the subject of the appeal.
- C. Individual members of a Land Use Board hearing an appeal or of the Governing Body who have received a prohibited communication, independently inspected the property or structure that is the subject of the appeal or otherwise independently investigated or inquired into the subject matter of the appeal or of parties to the appeal or other persons connected to the subject of the appeal, shall disclose the same and the substance of the communication at the Appeal Hearing and shall recuse themselves from hearing the matter if they cannot be fair and impartial in deciding upon the appeal.
- D. Reserved.

VIII. Appeal Hearing Procedures

- A. Submittals by parties.
 - 1. The parties shall submit the following information and documents to the LUD Director *no later than 12 o'clock noon on the tenth (10th) day preceding the Appeal Hearing:*
 - a. A list of witnesses expected to testify on the party's behalf, including (i) a short description of the basis of their testimony (project engineer; adjacent property owner; etc.) and (ii) a short summary of the subject matter on which they are expected to testify.
 - b. The affidavit of any person who is unable to attend the Appeal Hearing, including a statement of the reason the person cannot attend to testify in person and a clear statement of the facts they would testify to if present. (*Note: Affidavits should be introduced infrequently and only as a last resort, as the affiant is not subject to cross examination. As a result, affidavits may be given only such weight as is deemed reasonable under the circumstances, e.g., an affidavit supported by the live testimony of another person may be given more weight than an affidavit that has no such independent support, or may be disregarded.*)

Resolution No. 2011-24
Exhibit A

2. All submittals shall include a table of contents with page numbers and shall clearly identify on the first page the Appellant's name and the subject of the appeal, including, where applicable, the case name and number used by the City to identify the case, or the type of enforcement action appealed from, or the building permit number appealed and the address of the property that is the subject of the appeal. All submittals shall be legibly written or reproduced, with pages numbered consecutively.
3. All submittals shall be served by the submitting party upon the other party at the same time they are submitted to the LUD Director.

B. Submittals by other persons.

People who are not parties to the appeal may submit letters of support on behalf of one of the parties, or such other documents as they deem relevant to the subject matter of the appeal. Such submittals shall be made to the LUD Director *no later than 12 o'clock noon on the tenth (10th) day preceding the Appeal Hearing*. Such submittals shall be available for inspection by the parties in the office of the LUD Director and shall be included in the record on appeal.

C. The record on appeal.

The following shall constitute the record on appeal (the Record) and shall be provided to the Land Use Board hearing the appeal, or the Governing Body, as the case may be, sufficiently in advance of the Appeal Hearing to permit them time to review the same:

1. A copy of the Verified Appeal Petition, together with any attachments.
2. A copy of any other matter consolidated for appeal.
3. If applicable, a copy of the Findings of Fact and Conclusions of Law adopted by the Land Use Board hearing the matter appealed from.
4. The minutes or transcripts of any prior hearings on the matter.
5. A staff report setting out:
 - a. The case name and number or the building permit number.
 - b. The names of the Appellant and the Applicant.
 - c. The issues raised in the appeal.
 - d. The relief being sought.
 - e. A short analysis of the parties' claims.
 - f. A recommendation, based upon the facts available at the time, applicable Code, prior practice, and the interests of the City in consistent policy, procedures and practices.
6. Any and all materials provided to the LUD Director and/or the Land Use Board, as the case may be, for their consideration in deciding upon the matter.

Resolution No. 2011-24
Exhibit A

7. The complete submittals of the Appellant, the Applicant, and any other persons.

A copy of the Record shall be made available to the Appellant and the Applicant at the same time it is provided to the Land Use Board or the Governing Body, as the case may be. Copies of the Record on an appeal to a Land Use Board or the Governing Body shall be available for inspection in the office of the LUD Director, in the case of an appeal to a Land Use Board or the City Clerk's office in the case of an appeal to the Governing Body.

D. Testimony at the Appeal Hearing.

1. All witnesses shall be sworn upon oath or affirmation. Attorneys representing the parties shall not be sworn to the extent they are representing their clients and not testifying as to facts. Attorneys testifying as to facts shall be sworn. City staff shall be sworn when testifying as a witness as to facts. The experience, technical competence and specialized knowledge of city staff may be utilized by the hearing body in evaluating the appeal.
2. Any party (or attorney representing a party) may cross-examine any witness as to his or her testimony, including testimony related to any submittals or to documents submitted at the Appeal Hearing. Unless otherwise permitted by the Presiding Officer, such cross-examination shall be through oral questions addressed to the Presiding Officer at the conclusion of all testimony.
3. The Presiding Officer may impose reasonable limitations on the number of witnesses called by a party, the nature and length of the witnesses' testimony, and the nature and length of any cross-examination.

E. Other evidence.

The parties, their attorneys, or their witnesses may introduce documentary evidence at the Appeal Hearing that is not included in the Record, provided that they provide legible copies of each such document to each member of the Land Use Board hearing the appeal or the Governing Body as the case may be, the Recorder at the Appeal Hearing, and at least one (1) copy for City staff.

F. Opening and closing statements.

Each party shall be permitted to make an opening statement and a closing argument at the Appeal Hearing within such time as shall be determined by the Presiding Officer.

G. Public participation.

The Appeal Hearing shall be open to public comment following the closing arguments of the parties. All members of the public commenting on the matter shall first be sworn. The Presiding Officer may impose reasonable limitations on the nature and length of public comment.

H. Order of hearing.

Subject to the reasonable requirements of the Presiding Officer, the Appeal Hearing shall proceed as follows:

Resolution No. 2011-24
Exhibit A

1. If requested by the Presiding Officer, City staff shall provide a summary of the staff report included in the Record.
 2. The Appellant shall make his or her opening statement, and then introduce his or her evidence through sworn testimony.
 3. The Applicant shall make his or her opening statement, and then introduce his or her evidence through sworn testimony.
 4. The Presiding Officer shall cross examine the Appellant and the Appellant's witnesses on behalf of the parties, or permit direct cross examination.
 5. The Presiding Officer shall cross examine the Applicant and the Applicant's witnesses on behalf of the parties, or permit direct cross examination.
 6. The Appellant shall address questions to staff.
 7. The Applicant shall address questions to staff.
 8. All members of the public wishing to speak shall be sworn and public comment shall be admitted.
 9. The members of the Land Use Board hearing the appeal or the Governing Body, as the case may be, may ask such questions of the Appellant and the Appellant's witnesses, of the Applicant and the Applicant's witnesses, or staff or of members of the public who testified at the public hearing, as they choose.
 10. If requested by the Presiding Officer, City staff shall respond to the Appellant's and Applicant's evidence and testimony.
 11. The Appellant shall make his or her closing argument including any objections to the testimony, witnesses, or procedural matters.
 12. The Applicant shall make his or her closing argument including any objections to the testimony, witnesses, or procedural matters.
 13. The public hearing shall be closed.
 14. The Land Use Board hearing the appeal or the Governing Body, as the case may be, may deliberate upon the matter in executive session in accordance with Section 10-15-1.H(3) NMSA 1978, provided that the decision shall be made in open session immediately following the conclusion of such deliberations.
 15. The Land Use Board hearing the appeal or the Governing Body, as the case may be, shall decide upon the matter by roll-call vote.
- I. Either party may submit to the City Attorney proposed Findings of Fact and Conclusions of Law, within ten (10) days of the public hearing at which the Land Use Board decides the appeal, for consideration by the City Attorney.

Resolution No. 2011-24
Exhibit A

The members of the Land Use Board hearing the appeal or the Governing Body, as the case may be, shall as soon as reasonably practicable after the Appeal Hearing is closed adopt written Findings of Fact and Conclusions of Law setting forth the legal and factual basis for the decision.

J. Decorum

The parties, their representatives and witnesses, members of the public, and all other persons in attendance at the Appeal Hearing shall at all times observe due decorum and shall not act in a disruptive or disorderly manner, nor make any personal, impertinent or slanderous statements. Failure to observe due decorum may result in expulsion from the meeting or such other lesser reasonable penalties as may be imposed by the Presiding Officer.

K. Miscellaneous.

1. All Appeal Hearings shall be recorded and the recordings preserved.
2. The rules of evidence shall not be strictly followed, in order to permit the introduction of as much relevant evidence as possible.
3. The Presiding Officer shall rule on all evidentiary and procedural matters. Irrelevant and immaterial evidence shall be excluded from consideration in deliberations and undue repetitious evidence shall be precluded to the extent practicable. Objections by a party to any evidence offered shall be noted on the record.
4. The Appeal Hearing may be postponed in order to obtain additional testimony or other evidence, to review any such evidence, or to permit time for a party to respond to any new evidence introduced for the first time at the Appeal Hearing.
5. In the event that the Appellant or the Applicant does not appear and a postponement has not been requested, the Land Use Board hearing the appeal, or the Governing Body, as the case may be, may postpone the matter to a date certain or may decide the matter upon the evidence contained in the Record, the staff report, and testimony or other evidence introduced at the Appeal Hearing. In the event that the Appellant does not appear at the Appeal Hearing, the Land Use Board hearing the Appeal or the Governing Body, as the case may be, may dismiss the appeal with prejudice.
6. In the case of conflict or discrepancy between these Administrative Appeal Procedures and the provisions of the SFCC, the provisions of the SFCC shall govern.

Arthur Firstenberg

May 11, 2015

Lisa Martinez, Land Use Director
Kelley Brennan, City Attorney
Zachary Shandler, Assistant City Attorney
City of Santa Fe
P.O. Box 909
Santa Fe, NM 87504-0909

*Regarding: Land Use Cases No. 2013-116 and 2014-82
Appeals of Cellular Phone Task Force et al. regarding 1402 Agua Fria*

Dear Ms. Martinez, Ms. Brennan, and Mr. Shandler:

Attached in the above-reference matters is the Affidavit of Samuel Milham, M.D., M.P.H. In accordance with the Procedures for Appeals, Resolution No. 2011-24, Section VIII(A), this document is hereby submitted to the Land Use Director and served upon the other party, Verizon Wireless, before noon on this, the tenth (10th) day preceding the appeal hearing, which will be held July 7, 2015.

Please distribute the affidavit to the members of the Board of Adjustment.

Thank you.

Sincerely,



Arthur Firstenberg, President
Cellular Phone Task Force
P.O. Box 6216
Santa Fe, NM 87502
(505) 471-0129

cc: Verizon Wireless
John Malone
Stephen Durkovich, Esq.

and electromagnetic radiation. In 1997, I was awarded the Ramazzini prize for my pioneering work in describing the occupational cancer risks of electromagnetic fields. I am the author of the book, *Dirty Electricity: Electrification and the Diseases of Civilization*, published in 2010. My curriculum vitae is attached hereto as Exhibit 1.

2. I have reviewed the report, “Radio Frequency Emissions Analysis Report Evaluation of Human Exposure Potential to Non-Ionizing Radiation, MPE Analysis, 1402 Agua Fria St., Santa Fe, NM,” dated May 4, 2015, an analysis of radiation levels from a telecommunications facility at that location, submitted by Advanced Testing Services, Inc. (“ATSI”), an independent testing laboratory located in Albuquerque, New Mexico. I was asked by neighbors of 1402 Agua Fria Street for my expert opinion. I make this affidavit based on the ATSI report, on information given to me by these neighbors, and on my own knowledge and experience.

3. Verizon Wireless operates a telecommunications base station (“cell site” or “cell tower”), containing nine antennas mounted on top of a carpeting warehouse at 1402 Agua Fria Street in Santa Fe, New Mexico. Although the small property where it is located is zoned commercial, it is surrounded by houses in a dense residential neighborhood, with the closest residential lot being only 20 feet away.

4. It is not unusual for cell towers to be located in residential neighborhoods. But what is unusual about the situation at 1402 Agua Fria Street is that a major cell site, emitting 360 watts of radio frequency (“RF”) power per sector, is located so close to street level *and* so close to so many residences. These antennas sit directly on a one-story rooftop only 19 feet above the ground, and their center of radiation is only 22’6” above ground level.

5. From a public health standpoint, this is a tragic situation. The health effects of cell towers are caused both by high frequency transients, also called dirty electricity, that travel through the ground in the immediate neighborhood of the cell site, and by direct radiation from the antennas. When antennas are mounted on a tall tower, the immediate neighbors are beneath the main beam, and do not get the full brunt of the direct radiation. But the antennas at 1402 Agua Fria Street, being almost at street level, are aimed directly at all the neighbors.

6. The ATSI calculations are alarming because they indicate that peak RF radiation levels are over the limits set by the Federal Communications Commission (“FCC”) on the entire rooftop of the carpeting warehouse, which is accessible to and used by maintenance workers, fire personnel, and others, and is also over the FCC’s limits on three properties adjacent to the warehouse at 1402 Agua Fria Street. This is particularly alarming because various health effects, including cancer, are known to develop at exposure levels well below the limits set by the FCC. It is not surprising that so many of the neighbors to 1402 Agua Fria Street have developed cancer since the Verizon cell site was installed in 2005.

7. For example, reviews of cancer incidence and mortality in firefighters consistently show that they are at an increased risk of a number of different types of cancer. These include leukemia, multiple myeloma, non-Hodgkin’s lymphoma, breast cancer, malignant melanoma, and cancers of the brain, stomach, colon, rectum, prostate, urinary tract, testes, and thyroid. These are the same type of cancers that occur with high rates in other workers exposed to electromagnetic fields and RF radiation. Attached hereto as Exhibit 2 is my study, “Most cancer in firefighters is due to radio-frequency radiation exposure not inhaled carcinogens,” *Medical Hypotheses* 73 (2009): 788-789. I concluded that firefighters’ increased cancer risk is

due primarily to their high exposure to mobile two-way-radio communication devices, and from radio transmitters mounted on the roofs of firehouses and fire vehicles.

8. Örjan Hallberg and Olle Johansson found similar types of cancers in their study of the risks of exposure to AM radio towers. Their study, "Cancer Trends During the 20th Century," *Journal of the Australasian College of Nutrition and Environmental Medicine*, 21(1):3-8 (2002), is attached hereto as Exhibit 3. They found a direct correlation, throughout the twentieth century in 26 Swedish counties and in 40 countries, between the rates of certain cancers and exposure of the population to AM radio towers. These were malignant melanoma and cancers of the bladder, prostate, colon, breast, and lung. They also found a direct correlation with rates of asthma.

9. I understand that the closest neighbors to 1402 Agua Fria, an elderly couple who live in 1404 Agua Fria, suffer from severe asthma. I understand that within several houses of 1402 Agua Fria are cases of breast cancer, colon cancer, lung cancer, and cancer of the urinary tract.

10. Fire stations have also been a favorite location for the placement of cell towers. A study of California firefighters who had worked for up to five years in fire stations with cell towers showed that they suffered from insomnia, lack of focus, depression, severe headaches, tremors, and slowed reaction time. Because of these studies, and because so many firefighters who worked in stations with cell towers reported symptoms, including headaches, dizziness, extreme fatigue, disorientation, memory loss, attention deficit and slowed reaction time, that began in the first weeks after the cell towers were activated, the International Association of Fire Fighters ("IAFF") passed a resolution in 2004 opposing the placement of cell towers at fire stations. I understand that almost everyone who lives within one block of 1402

Agua Fria Street suffers from insomnia and headaches. IAFF Resolution No. 15, August 2004 is attached hereto as Exhibit 4.

11. I have no doubt that the cancers and other health problems suffered by the immediate neighbors to 1402 Agua Fria Street are directly caused by the cell tower next door to them.

I declare under penalty of perjury under the laws of the State of New Mexico that the foregoing is true and correct.

Samuel Milham MD
Samuel Milham, M.D., M.P.H.

June 24, 2015
date

Sam Milham Curriculum Vitae

Birth Date: May 12, 1932

Education Union College, Schenectady, New York, September

Experience 1950-June 1954, B.S. Sigma Xi, Fuller Chemistry Prize

New York State Medical Scholarship.

Albany Medical College, September 1954-June 1958, M.D. Alpha Omega Alpha.

Intern, U.S. Public Health Hospital, Boston, Massachusetts, July 1958-July 1959.

U.S. Public Health Service Residency in Public Health. Assigned to Monroe County Health Department, Rochester, New York, July 1959-August 1960.

Johns Hopkins School of Hygiene and Public Health, September 1960-June 1961, M.P.H.

Senior Resident in Epidemiology. Epidemiology Residency Program, New York State Department of Health, June 1961-1962.

Development Consultant. New York State Department of Health, 1963-1967.

Assistant Professor, Department of Pediatrics, Albany Medical College, July 1964-1967.

Diplomate, American Board of Preventive Medicine, June 1966.

Associate Professor, University of Hawaii School of Public Health and Medical School, 1967-1968.

Travel Fellowship, IARC 1971.

Section Head, Epidemiology Section, Washington

State Department of Health, 1968-1986.

Travel Fellowship, International Cancer Research Technology Transfer, 1981.
Washington State Public Health Association Annual Award, 1986.

Chronic Disease Epidemiologist, Washington State Department of Health, 1968-1988.

Clinical Associate Professor, University of Washington School of Public Health, 1968--.

Section Head, Chronic Disease Epidemiology Section, Washington State Department of Health, 1988-May 1992.

Adjunct Professor, Mount Sinai School of Medicine, 1989--.

Robert Carl Strom Foundation Humanitarian Award, 1990.

Member of Bioelectromagnetics Society, 1984--.

Self-employed, June 1992.

Elected to Fellowship, Collegium Ramazzini, October 1994.

Ramazzini Award. 1997

Special Congenital defects, occupational and

Interests: environmental illness, methods in occupational studies, EMF epidemiology.

Publications

P = peer reviewed article

L = letter

M = monograph

P Rathbun, Margaret L.; Broad, Robert H.; Font, Wallace; Milham, Samuel; Ames, Wendell R. Mass Immunization with Sabin and Cox Oral Poliomyelitis Vaccines. N.Y.S.J. of Med., Vol. 62, No. 11, pp. 1767-1775, June 1962.

P Gittlesohn, A. and Milham, S. The Declining Incidence of Central Nervous System Anomalies in New York State. British J. of Prev. and Soc. Med., Vol. 16, No. 3, pp. 153-158, July 1962.

P Milham, Samuel. Increased Incidence of Anencephalus and Spina Bifida in Sib-
lings of Affected Cases. *Science*, Vol. 138, No. 3540, pp. 593-594, November 1962.

P Milham, Samuel. Congenital Malformation Surveillance System Based on Vital
Records. *Public Health Reports*, Vol. 78, No. 5, pp. 448-452, May 1963.

P Milham, Samuel. Underreporting of Incidence of Cleft Lip and Palate. *American J.
Dis. of Child.*, Vol. 106, pp. 185-188, August 1963.

P Milham, Samuel. Malformation Surveillance in New York State. *N.Y.S.J. of Med.*,
Vol. 63, No. 19, pp. 2823-2824, October 1963.

P Milham, Samuel. Random Distribution of Affected Birth Ranks in Anecephalic and
Spina Bifida Sibships with Two Affected Cases. *Nature*, Vol. 200, No. 4905, pp. 480-
481, November 1963.

L Milham, Samuel. Leukemia Clusters. *Lancet*, Vol. 2, p. 1122, 1963.

P Gittlesohn, A.M. and Milham, S. Statistical Study of Twins. *American J. of Public
Health*, Vol. 54, No. 2, pp. 286-294, February 1964.

L Milham, Samuel. Pituitary Gonadotrophin and Dizygotic Twinning. *Lancet*, Vol. 2,
p. 566, September 1964.

L Milham, Samuel. Smoking and Pregnancy. *Lancet*, Vol. 1, p. 879, 1964.

P Gittlesohn, A.M. and Milham, S. Observations of Twinning in New York State. *Brit-
ish J. of Prev. and Soc. Med.*, Vol. 19, No. 1, pp. 8-17, January 1965.

P Milham, S. and Gittlesohn, A.M. Parental Age and Malformations. *Human Biology*,
Vol. 37, No. 1, pp. 13-22, February 1965.

P Milham, Samuel. Leukemia in Husbands and Wives. *Science*, Vol. 148, No. 3666,
pp. 98-100, April 1965.

P Gittlesohn, A.m. and Milham, S. Vital Record Incidence of Congenital Malforma-
tions in New York State. *Public Health Services Publication No. 1163*, pp. 305-314,
1965.

P Milham, Samuel. Symmetrical Conjoined Twins: An Analysis of the Birth Records
of Twenty-two Sets. *J. of Pediatrics*, Vol. 69, pp. 643-647, October 1966.

- L Milham, Samuel. Nasal Adenocarcinoma in Woodworkers. *Lancet*. P. 623, March 1967.
- P Milham, Samuel and Hesser, Jana E. Hodgkin's Disease in Woodworkers. *Lancet*, pp. 136-1173, July 1967.
- P Magenis, R.E., Hecht, F. and Milham S. Trisomy 13 (DI) Syndrome: Studies of Parental Age, Sex Ratio and Survival. *J. of Pediatrics*, Vol. 73, pp. 222-228, August 1968.
- L Milham, Samuel. Alcoholic Cancers and Wood. *Lancet*, P. 1059, May 1970.
- P Milham, Samuel. Leukemia and Multiple Myeloma in Farmers. *American Journal of Epidemiology*, Vol. 94, pp. 307-310, 1971.
- P Milham, Samuel. Experience with Malformation Surveillance. *Monitoring, Birth Defects and Environment - The Problem of Surveillance*, p. 137, October 1971
- L Milham, Samuel and Elledge, William. Maternal Methimazole and Congenital Defects in Children. *Teratology*, Vol 5, p. 125, February 1972.
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Most cancer in firefighters is due to radio-frequency radiation exposure not inhaled carcinogens

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SUMMARY

Recent reviews and reports of cancer incidence and mortality in firefighters conclude that they are at an increased risk of a number of cancers. These include leukemia, multiple myeloma, non-Hodgkin's lymphoma, male breast cancer, malignant melanoma, and cancers of the brain, stomach, colon, rectum, prostate, urinary bladder, testes, and thyroid. Firefighters are exposed to a long list of recognized or probable carcinogens in combustion products and the presumed route of exposure to these carcinogens is by inhalation. Curiously, respiratory system cancers and diseases are usually not increased in firefighters as they are in workers exposed to known inhaled carcinogens. The list of cancers with increased risk in firefighters strongly overlaps the list of cancers at increased risk in workers exposed to electromagnetic fields (EMF) and radiofrequency radiation (RFR). Firefighters have increased exposure to RFR in the course of their work, from the mobile two-way radio communications devices which they routinely use while fighting fires, and at times from firehouse and fire vehicle radio transmitters. I suggest that some of the increased cancer risk in firefighters is caused by RFR exposure, and is therefore preventable. The precautionary principle should be applied to reduce the risk of cancer in firefighters, and workman's compensation rules will necessarily need to be modified.

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Background

In the 1970s I set up a system for coding and analyzing the occupational information on the Washington State death record. Three volumes of these analyses have been published by National Institute of Occupational Safety and Health (NIOSH) beginning in 1976. The final NIOSH volume was published in 1997, and now Washington State occupational mortality data since 1950 is available on-line [1] and is updated automatically. The first monograph, Occupational Mortality in Washington State published by NIOSH in 1976 covering deaths in the years 1950–1971 showed that Washington State firefighters had increased mortality due to brain cancer, malignant melanoma, and non-Hodgkin's lymphoma. None of these cancers had an intuitive connection to inhaled carcinogens.

In 2004, I examined a cluster of three male breast cancers in office workers exposed to high levels of EMF [2]. This added to an already impressive body of reports linking male breast cancer to EMF and RFR [3]. This cancer is so rare that its repeated appearance in EMF/RFR exposure situations functions like a sentinel cancer for these exposures. When a Florida firefighters' cohort was reported as having an increased incidence of male breast cancer [4], the hypothesis that RFR causes some firefighters' cancer was born.

Cancers increased in firefighters

Firefighters have been shown to be at increased risk of developing a number of cancers. A recent review of 32 studies and a meta-analysis of cancer risk among firefighters [5] concluded that multiple myeloma, non-Hodgkin's lymphoma, prostate cancer and testicular cancer were probably associated with firefighting, and that leukemia, skin cancer, malignant melanoma, brain cancer, cancer of the rectum, colon, stomach, buccal cavity and pharynx were possibly associated with firefighting. Another review [6] adds urinary bladder cancer to the probable list. A 2005 study links male breast cancer and thyroid cancer with firefighting [4].

Carcinogenic exposures in firefighters

Firefighters are exposed to a long list of carcinogens in combustion products including asbestos [7], polycyclic aromatic hydrocarbons [8], benzene [9], lead [10] and aromatic amines [11]. The major route of exposure to these carcinogens is by inhalation. Inhalation of carcinogens ordinarily leads to development of respiratory cancers. For example, coke oven workers [12] who inhale coal tar pitch volatiles, and copper smelter workers [13] who inhale arsenic trioxide are at increased risk of developing lung cancer. Respiratory cancers, including lung and laryngeal cancers and respiratory diseases like bronchitis and emphysema, are usually not at increased risk in firefighters. The 32 paper review and

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meta-analysis [5] concludes that lung cancer is unlikely to be associated with firefighting.

EMF/RFR exposure and cancer

In 1982, I was the first to show that workers in jobs with an intuitive exposure to electricity had increased mortality due to leukemia [14]. Since then, non-Hodgkin's lymphoma [15], brain cancer [16], malignant melanoma [17], and male breast cancer [2,3] have been shown to have increased mortality or incidence in electrical workers. The upward turn of malignant melanoma incidence has been ecologically linked to the roll out of television and frequency modulation radio transmission in the 1950s with increased RFR exposure of populations [18]. Malignant melanoma has increased incidence in electronic workers [17] and in office workers exposed to strong EMF fields [19]. High frequency voltage transient exposure (a type of RFR) of teachers in a southern California school has been linked to an increased incidence of malignant melanoma, thyroid and uterine cancer [20]. Amateur radio operators [21] exposed to RFR in their hobby, have increased mortality due to leukemia, multiple myeloma and other lymphatic cancers. Childhood leukemia has increased incidence in populations living near powerful terrestrial antennas which emit RFR [22–24]. A cluster of cancer of the testes has been reported in traffic policemen who held the live radar unit in their laps while on duty [25].

EMF and RFR exposure of firefighters

Firefighters are exposed to RF from transmitters which are at times located in the firehouse. Fire vehicles and trucks area also equipped with two-way radio systems which can expose vehicle occupants to RFR, and personal transceivers expose the firefighters to RFR while communicating at the fire scene. US firefighters' radio systems are described in great detail in a National Institute of Occupational Safety and Health (NIOSH) document [26].

Hypothesis

Many of the cancer types with an increased incidence in firefighters are caused by firefighters' occupational exposure to radio-frequency radiation. Current thinking attributes the cancer increase to inhalation of carcinogenic combustion products. The nature of the inhaled carcinogens has certainly changed over time, since building materials and furnishings have changed increasingly to man-made materials. Yet, the Washington State occupational mortality data set showed that brain cancer and malignant melanoma were already in excess in firefighters' deaths occurring in the period 1950–1971 and continue to be in excess since then. The same data set showed that men with intuitive exposure to EMF's and RFR had increased mortality due to leukemia, brain cancer and non-Hodgkin's lymphoma [1]. An office workers cohort with high EMF exposure showed a cancer increase, with a high risk of malignant melanoma [19]. School teachers exposed to a type of RFR had increased incidence of malignant melanoma and thyroid cancer [20].

Evaluation of this hypothesis

The most difficult part of an evaluation of this hypothesis, as in all occupational cancer studies, is characterizing the past EMF/RFR exposures which caused these cancers, so that cancer latencies can be factored in. If historical RFR exposure can be added to the exposure information available on firefighters, cohort and case-control incidence or mortality studies should be able to test this hypothesis.

Consequences of this hypothesis

One of the most important facets of this hypothesis is that many firefighters' cancers may be preventable. Workman's compensation rules for work-initiated cancers will need revision. Like many other potential occupational carcinogens, it would be wise to exercise the precautionary principle to minimize RFR exposure in firefighters before definitive proof of carcinogenicity is available.

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Cancer Trends During the 20th Century

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Abstract

Purpose: To review development trends and possible relations between different cancers in Sweden and in other countries to better understand causing mechanisms.

Materials and methods: We used publicly available databases on cancer incidence and mortality to highlight trends and trend breaks. The data were used for correlation studies between different forms of cancers as reported from different counties within Sweden, and from other countries.

Results: Some cancer forms correlate to malignant melanoma while others, like leukaemia, do not relate to melanoma at all. Asthma is a disease that has a sharp trend break just as these cancers show around 1955.

Conclusions: There is a common environmental stress that accelerates several cancer forms such, as colon cancer, lung cancer, breast cancer, bladder cancer and malignant melanoma. Every effort should be taken to identify and eliminate this stress.

Introduction

There are a number of cancers that still are lacking good explanations as to their cause. The cancer report from *Socialstyrelsen 1997*¹ states that the causing mechanisms behind bladder-, breast-, colon- and prostate cancers still are unknown. Considerable doubt rests also with the popular explanation that sunburn is causing the drastic increased incidence in skin melanoma and death rates since 1955. Another problem that has not been solved is why we see such an explosive increase of asthma and allergies from about the same time.

In this paper, we will take a closer look at the statistics of all these diseases in an attempt to narrow down the range of possible causing mechanisms.

Methods

We used databases on cancer incidence and mortality for Sweden as well as for other countries to derive cancer trends over time.¹⁻³ We also combined results from a death-cause register and a cancer incidence register in Sweden to investigate if people who died from lung cancer or breast cancer had earlier in life suffered from skin melanoma.⁴ Correlation characteristics were calculated between different cancer types, both within Sweden and between different countries.



Figure 1. Mortality due to bladder cancer in Sweden since 1956.

Results

Bladder, prostate, melanoma, colon and breast cancers

Figure 1 shows the development of bladder cancer since 1955. In 1979 this disease had a reduction in the numbers dying annually, but since 1982 the rate is increasing again. Due to lack of data we can only see the development from 1955.

Figure 2 gives the drastic increase in Sweden in prostate cancer since 1951. Increasing trends can be noticed in 1955, 1970 and 1982, while a period of decreasing numbers started in 1979, just as for bladder cancer.

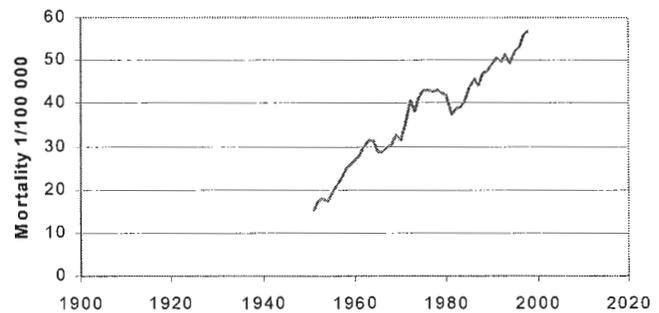


Figure 2. Development of prostate cancer death rates in Sweden since 1951.

Figure 3 shows the mortality for skin melanoma in Sweden. Data before 1955 is not published by the authorities, but was retrieved from a library.⁵ The raw data shows that the 'natural' death rate increased from about 30 per year in 1912 to 50 in 1954. This gives an increase of 0.5 more victims per year. From 1955 it increased to 325 in 1996, which gives an increase by almost 7 victims per year, i.e. 14 times more than before 1955.

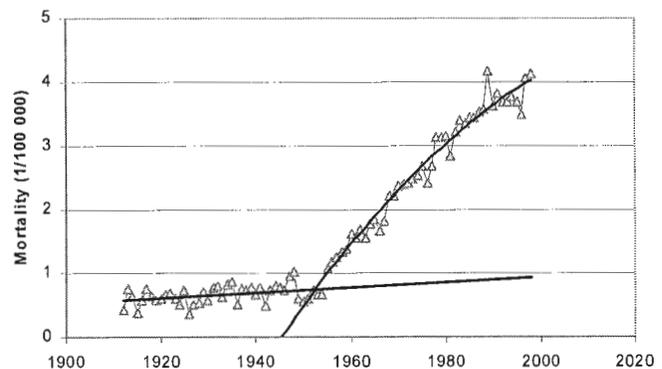


Figure 3. Skin melanoma mortality in Sweden since 1912.

Figure 4 gives the development of lung cancer death rate in Sweden.

Figure 5 gives the development of female breast cancer deaths in Sweden. Breast cancer screening started after 1975 to be gradually introduced in the country, which might explain part of the stabilisation. Better treatment in general is also altering these types of graphs. It should be noticed that breast cancer incidence has not levelled off, but continues to increase. This means that the causing mechanism behind breast cancer has not been properly addressed, but only methods of treatment and early diagnostics.

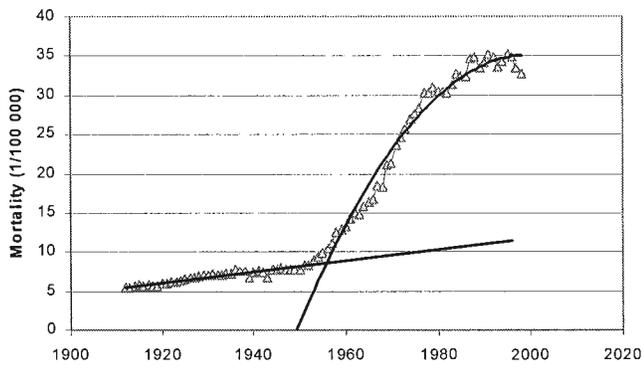


Figure 4. Lung cancer death rates in Sweden.

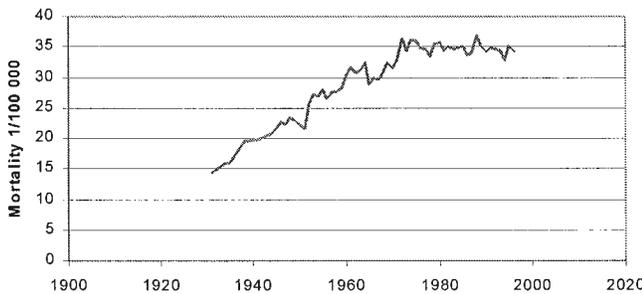


Figure 5. Development of female breast cancer mortality.

Figure 6 gives the development of colon cancer mortality since 1931. The mortality is increasing between 1920-1940 and starts to increase again around 1955 and 1969. A reduction is noticed from 1979.

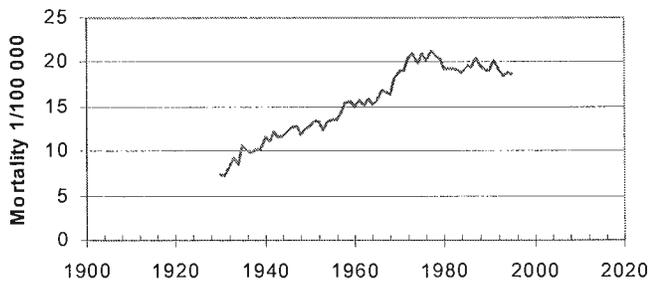


Figure 6. Mortality due to colon cancer in Sweden.

Asthma

Figure 7 shows the prevalence of asthma among 18-year-old males in Sweden.⁶ The same graph also gives the percentage of 18-year-old males in Finland who were rejected at the military conscription test due to asthma.⁷ These data are only available up to 1989. Before 1960

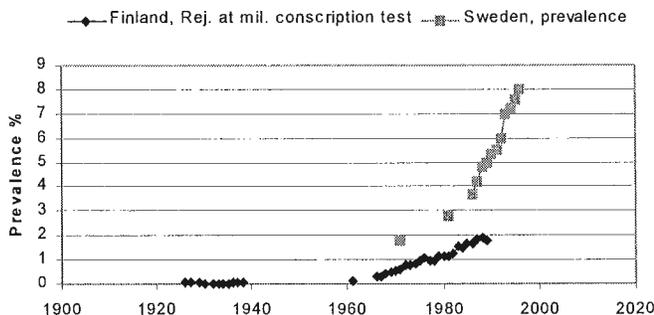


Figure 7. Asthma prevalence among Swedish 18-year-old males and the rejection rate at military conscription test due to asthma in Finland.^{6,7}

this level was essentially zero or at a very low level. Again, the graph indicates that a drastic change was made to the environmental conditions around 1960 or before 1960.

Figure 8 gives the general asthma prevalence in the Swedish population according to a number of studies, summarised in ref. 8.

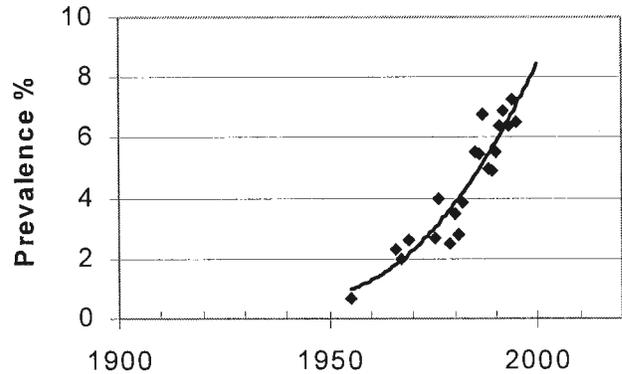


Figure 8. General asthma prevalence in the Swedish population.⁸

International cancer correlations

According to a recent study,⁹ breast and prostate cancers are correlated. References 2 and 9 give the incidences from different regions in the world. People who move from low- to high-incidence countries also increase their incidence.⁹ Figure 9 is a plot of prostate cancer mortality versus breast cancer mortality in a number of countries (Age standardised rates adjusted).

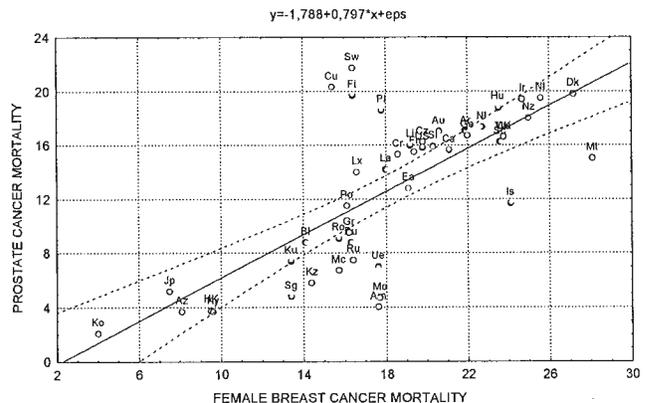


Figure 9. Breast and prostate cancer mortalities correlate. $b=0.74$; $p<0.00001$

Since we see a correlation between breast cancer and prostate cancer, it might be of interest to see if other cancers correlate. Figure 10 is a plot of melanoma and breast cancer incidences from 40 countries.² Here an association is also evident. Each dot is a specific country. See also Table 1.

Swedish cancer death rates

Figure 11 shows the development of different cancer death rates in Sweden, expressed as a percentage of reported rates in 1996. The graph also includes breast cancer incidence expressed in the same way. It is obvious that the graphs are quite similar, with a major trend break around 1955 and a short period of improvement around 1980. Colon cancer starts to increase already after 1920 and has a very clear reduction around 1980.

From Figure 11 it is clear that these cancer forms have a very similar development, although colon mortality seems to have been triggered already in 1920. The average development for the rest of the cancers

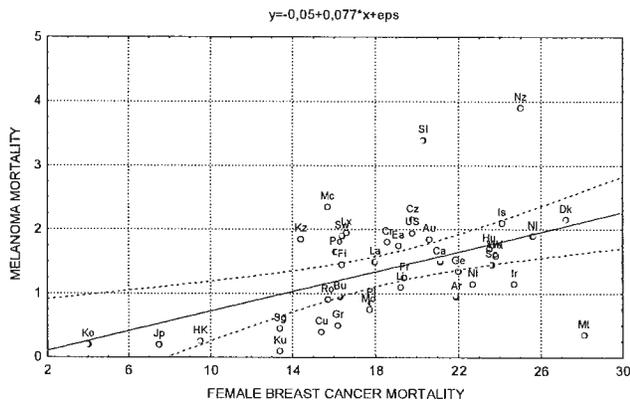


Figure 10 An association is noticed between breast cancer and skin melanoma mortality. $b=0.49$; $p=0.00151$

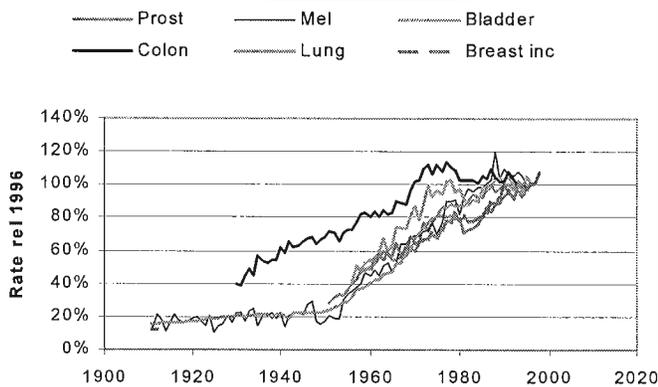


Figure 11. Cancer death rates and breast cancer incidence in Sweden expressed as a percentage of their values in 1996.

11 is given in Figure 12. In the same graph the number of persons per year who have been registered as sick for more than one year is also plotted. Again, 1979 seems to be a magic year of health improvement, while 1997 looks to be another year of disaster. It may predict that the cancer mortality for 1999 and onwards will also increase.

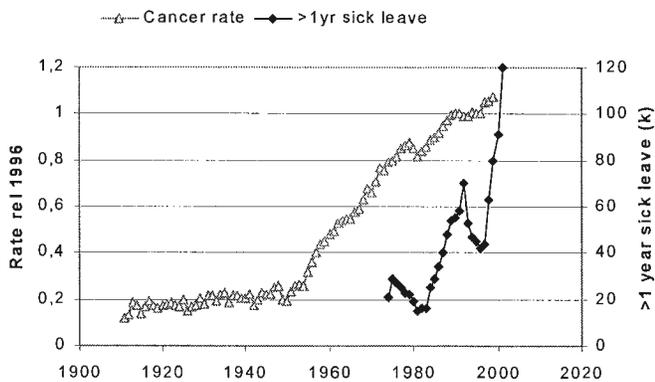


Figure 12. The average cancer rate relative to 1996 for bladder, melanoma, prostate, lung and breast cancers and the number of persons on sick leave for more than one year.

Figure 13 gives a similar graph where the 'illness factor' in Sweden has been plotted since 1955. There is obviously a clear relationship between this factor and cancer mortality.

Discussion

The authorities never publish the drastically increasing cancer mortality as shown in figures 11-13. First of all, data before 1955 has always been locked out from publicly available databases. Secondly,

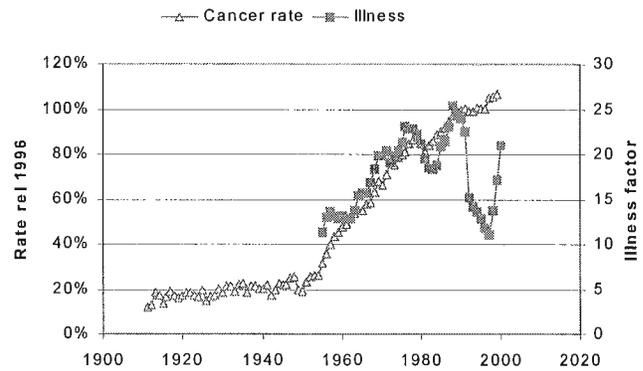


Figure 13. The similarity between the 'illness factor' and cancer mortality for the cancers analysed. Since 1997 the illness factor has increased drastically and continues to do so in 2001.

and even worse, trends for obviously exposure-time-dependent cancers are effectively neutralised by use of age-standardised ratios (ASR). This procedure assumes that the increasing cancer incidence is a natural effect of growing old and thus the age standardised mortality will stay the same although the population gets older. By doing this, the responsible institutions can show to the authorities that the mortality is in control and in effect not increasing at all despite the fact that it is. Furthermore, several cancer mortalities are not published before 1969, which makes it difficult to notice the sharp trend breaks that are present at that year. The responsible authorities do not agree that there is any trend break of interest at all.¹³ Nothing speaks for either a trend break in cancer incidence or that a large number of cancers would depend on electromagnetic fields.

Figure 5 shows that breast cancer deaths started to increase long ago, maybe in 1920. This curve has an almost linear increase that flattens out around 1975. But since death rates are influenced by improvements in the medical treatment, it may be better to look at incidence data (rate of people getting ill per year) rather than on death rates.

Figure 14 shows that the incidence rate continues to grow even though the mortality levelled off after 1975. This implies that we have improved the treatment but not at all addressed the cause of this disease. It is interesting to note that breast cancer incidence also shows an improvement in 1979 and a few years onwards, just as the prostate, bladder and colon cancer death-rate graphs do.

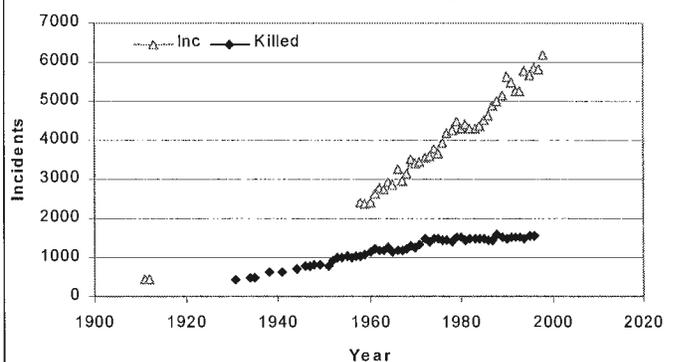


Figure 14. Development of female breast cancer cases in Sweden.

Skin melanoma is a cancer that started to explode in 1955 (see Figure 3). It is interesting to note that a similar steep increase in melanoma mortality was also reported from Queensland, Australia, when comparing 1951-1959 with 1964-1967.¹⁰ This increase was related to the introduction of high power TV broadcasting transmitters. Skin melanoma has also been associated with the expansion of broadcasting networks in Sweden, Norway, Denmark and USA.¹¹ Lung cancer has an almost identical development, as melanoma has had in Sweden with a scale factor of 10 (see Figures 3 and 4).

Augustsson and Stierner^{14, 15} presented statistics on the location of

moles, melanocytes and melanoma on the human body. Figure 15 is a summary picture of all these moles. Figure 16 gives the dot density for different parts of the body. It is interesting to note the similarity to induced vertical currents in the body due to radio frequent electromagnetic fields (RF) as has been presented in ref. 16 (see Figure 17).

Augustsson and Stierner^{14, 15} noticed that the largest mole density

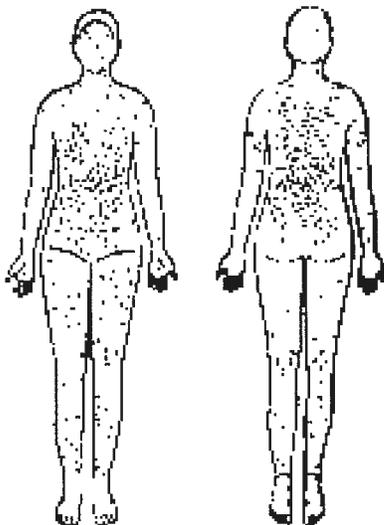


Figure 15. The combined distribution of dysplastic naevi and melanoma ('dots') over the human body.¹⁴⁻¹⁵

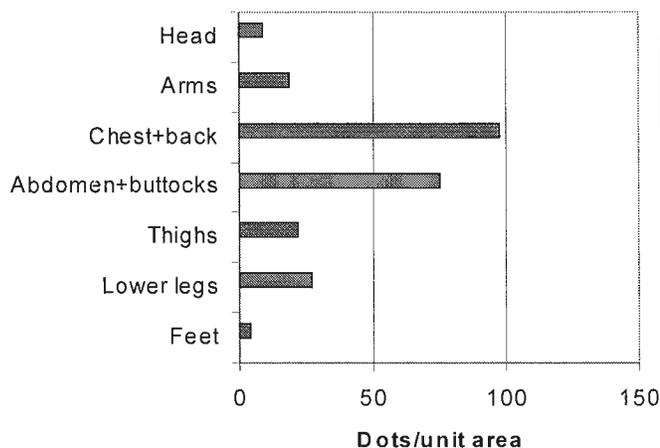


Figure 16. The number of 'dots' per unit skin area according to Figure 15.

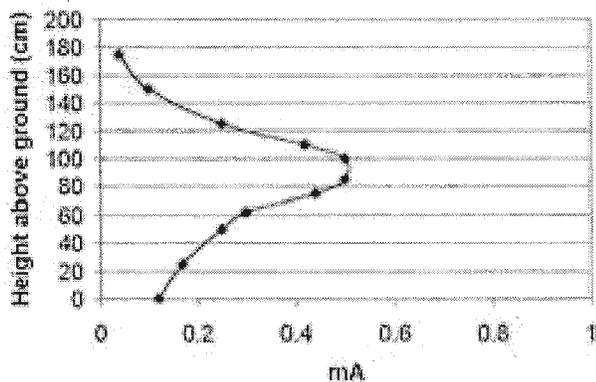


Figure 17. Induced vertical current distribution for isolated, shoe-wearing, grounded or ground-topped human model at 27.12 MHz under near-field exposure conditions.¹⁶

was found in areas that were not normally exposed to sunshine. Thus, they concluded that intermittent or minimal exposure to UV radiation was more dangerous than continuous exposure. We think that the explanation is quite different from that. The induced currents from RF exposure are largest at these parts of the body so the mole density should be expected to follow the same pattern.

Cancers in the Swedish counties

Figure 18 shows the correlation between a number of cancers and melanoma in the 26 different Swedish counties. Table 2 gives the respective beta-values. It is worth noticing that leukaemia does not correlate to these cancer types at all.

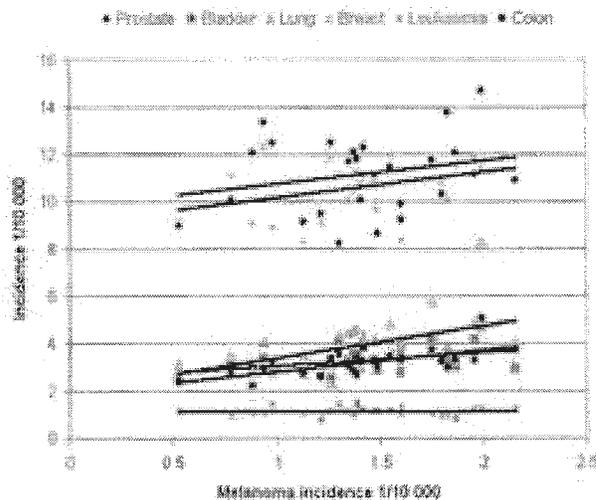


Figure 18. Several cancers correlate with skin melanoma in the 26 different Swedish counties, but leukaemia does not.

A closer look at the lung cancer mortality shows a development very similar to skin melanoma (see Figures 3-4). The average consumption of cigarettes in Sweden has decreased from 1,946 cigarettes per year per capita in 1980 to 1,200 in 1995, although the mortality has continued to increase; however, the increase has been lower than that for skin melanoma.

In Figure 19 we plotted the annual melanoma deaths vs. lung deaths in Sweden for each year from 1912 to 1996 (beta = 0,982).

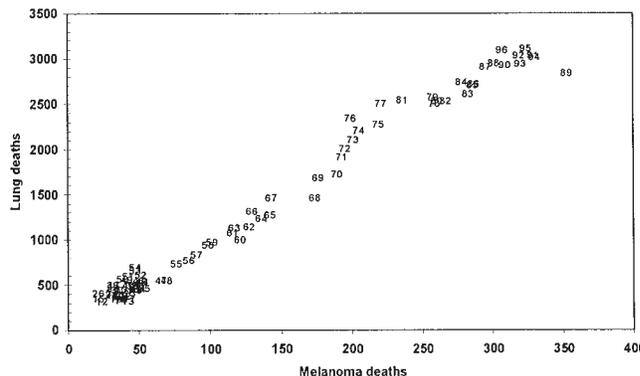


Figure 19. Melanoma and lung cancer deaths for different years.

In order to test by other means if lung cancer and breast cancer are related to skin melanoma, we combined two databases: the Swedish Cancer Register and the Death Cause Register of Sweden.⁴ The records of those who died from breast cancer or lung cancer were searched for any treatment for skin melanoma earlier in their lives. As a reference, all other death causes except breast, lung or melanoma cancers were also searched for the same. A specific, non-cancer death

cause was ischemic heart disease, which also was searched for any melanoma treatment.

The data was collected over the time period 1970-1998. The results show the fraction (%) of the deceased who earlier in life had been treated against skin melanoma:

- All death causes: ... 0.21% (>2.5 millions deaths)
- Breast cancer: 0.37% (42,610 deaths)
- Lung cancer: 0.33% (71,956 deaths)
- Heart Disease: 0.24% (821,367 deaths)

We conclude that breast cancer and lung cancer are linked to skin melanoma, since people who died due to breast or lung cancer had an increased melanoma incidence by a factor of 1.67 (0.35/0.21). This was further underscored by the strong geographical relationship between melanoma incidence and lung, breast or colon cancer incidence. The large numbers involved in this analysis exclude the possibility that the results are just a matter of coincidence.

Figures 20 and 21 show that colon cancer relates to skin melanoma and that lung cancer and bladder cancer are strongly correlated. Figures 22 and 23 show that cigarette consumption is not a strong common factor for these cancers. See Table 2, data is from 1989-1993.

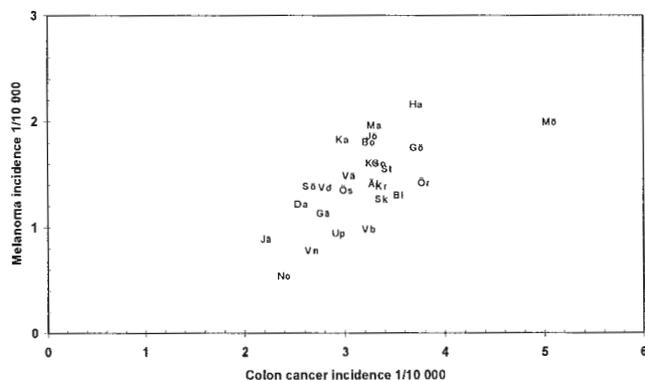


Figure 20. Melanoma incidence versus colon incidence in the 26 counties of Sweden. $b=0.655$; $p=0.000207$. $R^2=0.43$

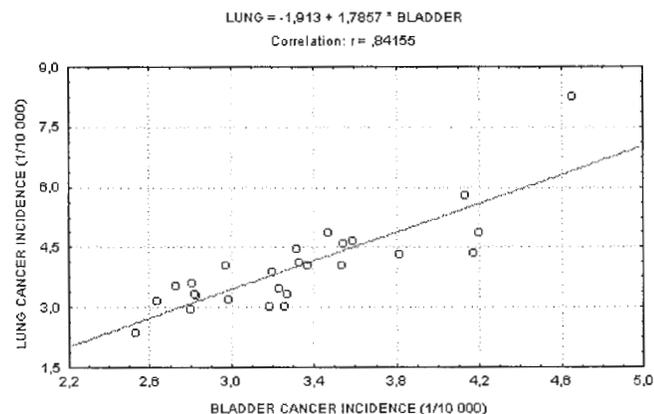


Figure 21. Lung cancer and bladder cancer incidence in the Swedish counties are strongly correlated. $b=0.842$; $p<0.00001$. $R^2=0.71$

A multi-regression analysis of lung cancer mortality in 22 different countries showed a relation to both cigarette consumption and melanoma mortality. Cig-beta=0.679 and Mel-beta=0.528 with $p=0.00212$.

Finally, we looked at all cancer deaths reported since 1912 and plotted the result in Figure 24. Trend-breaks are quite visible in 1920, 1955, 1970 and in 1979.

In 1920 we got MW radio, in 1955 we got FM radio and TV1, in 1969-70 we got TV2 and colour TV and in 1978 several of the old AM broadcasting transmitters were disrupted, all according to ref. 12.

Improvements in prostate cancer deaths have been reported in

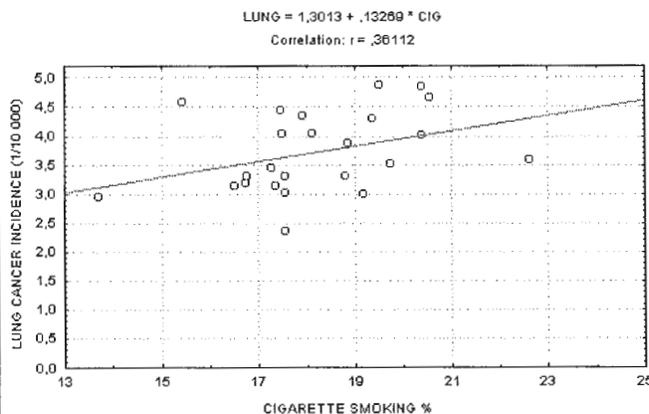


Figure 22. The correlation between lung cancer incidence and cigarette consumption (% of the population that is smoking cigarettes) is weak in the Swedish counties. $R^2=0.13$.

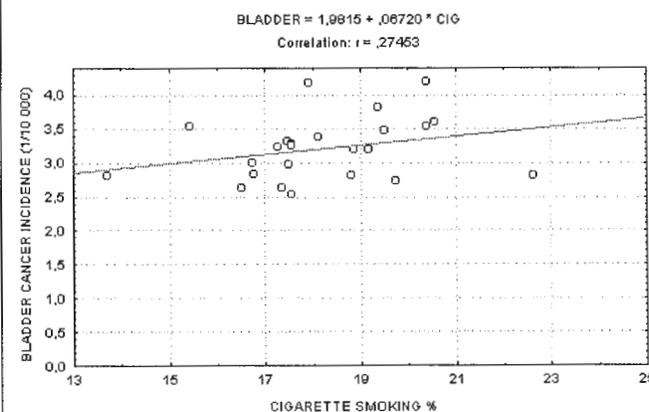


Figure 23. Bladder cancer incidence does not correlate well to cigarette consumption in Sweden. $R^2=0.07$

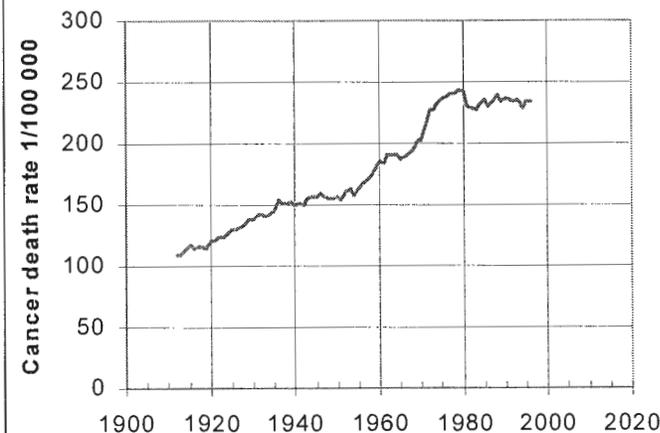


Figure 24. The mortality shows clear trend-breaks in 1920, 1955, 1970 and in 1979.

USA. Figure 25 gives the number of prostate cancer deaths and the number of AM stations still active. Since 1990 the number of active AM stations has been steadily decreasing.

Figure 26 gives the development of cancer mortalities in different countries.

Conclusions

1. Breast, bladder, prostate, lung, colon and cutaneous melanoma cancers are all associated with each other. Figures 15-17 and ref. 11 relate melanoma to radio-frequency EMF.

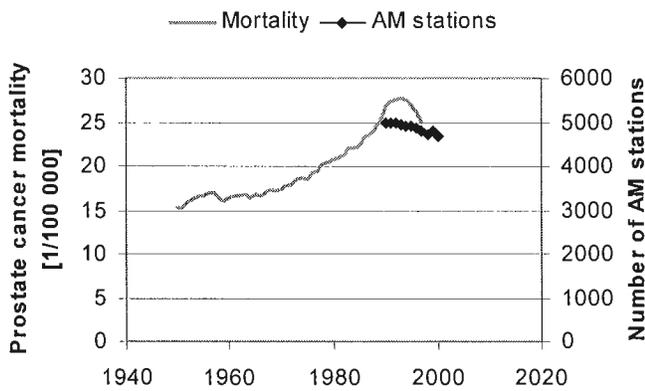


Figure 25. A sharp decline in number of men killed by prostate cancer has been noticed in USA since 1990. At the same time the number of AM stations have started to decline.

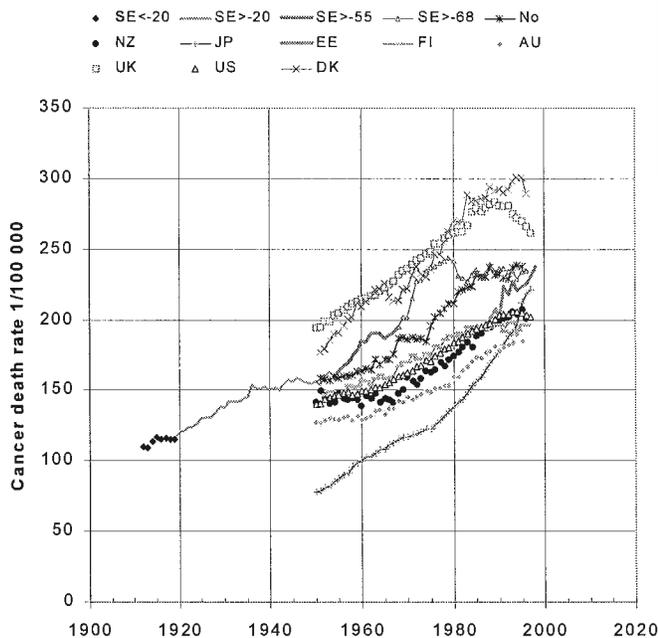


Figure 26. Cancer mortality development in several countries since 1950.

- Figure 18 indicates that leukaemia has nothing to do with melanoma. Somewhat more unexpected is the strong relation between melanoma and colon cancer and between lung cancer and bladder cancer.
- Since the cancer mortality trend-breaks coincide with expansion or disruption of public broadcasting in Sweden, studies regarding the influence from electromagnetic fields on cancer and asthma development cannot be further delayed.
- Lung cancer mortality has a multiple correlation to both cigarette consumption and skin melanoma mortality.
- Since closing down of public radio transmitters seems to have a strong effect in reducing cancer mortality, public air radio transmission should be avoided.
- Age-standardised ratios should be used with care when presenting cancer rates that are dependent on exposure times.

Similar trend-breaks as found in Sweden can be noticed for other countries. Figure 26 shows, for example, that Estonia (EE) had a steep increase in the cancer mortality in 1991, the year that the 'western' FM radio-frequencies were allowed and introduced all over the country.

Acknowledgements

This study was financially supported by the Swedish Cancer and Allergy Foundation (Cancer och Allergifonden). We are grateful to Charlotte Björkenstam at the Epidemiological Centre of Sweden, EpC, for support in extracting death and incidence data from the public databases.

We thank Ms Margareta Krook-Brandt at the Karolinska Institute for expert support with the statistical evaluations.

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Larger scale reproductions of the figures in this article may be obtained from ACNEM, in grey-scale or colour.

Cancers	Beta	p-level
Breast – Prostate	0.74	<0.00001
Breast – Melanoma	0.49	0.00151
Breast - Colon	0.671	<0.00001
Prostate - Colon	0.66	0.00001
Prostate - Melanoma	0.43	0.0053
Bladder - Melanoma	0.31	0.049
Colon - Melanoma	0.400	0.0105

Table 1. Correlation parameters between different cancer mortalities in the examined countries.

Cancers	Beta	p-value
Melanoma - Colon	0.655	0.000207
Bladder – Lung	0.842	<0.00001
Lung - Colon	0.664	0.000115
Bladder - Breast	0.519	0.00558
Melanoma - Leukaemia	0.016	0.94

Table 2. Correlation coefficients between incidence rates of different cancers in the Swedish communities.



INTERNATIONAL ASSOCIATION OF FIRE FIGHTERS
DIVISION OF OCCUPATIONAL HEALTH, SAFETY AND MEDICINE

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.

Arthur Firstenberg

May 11, 2015

Lisa Martinez, Land Use Director
Kelley Brennan, City Attorney
Zachary Shandler, Assistant City Attorney
City of Santa Fe
P.O. Box 909
Santa Fe, NM 87504-0909

*Regarding: Land Use Cases No. 2013-116 and 2014-82
Appeals of Cellular Phone Task Force et al. regarding 1402 Agua Fria*

Dear Ms. Martinez, Ms. Brennan, and Mr. Shandler:

Attached, as an additional submission in the above cases, are photographs of the two boxes on top of the roof at 1402 Agua Fria Street, showing the tops of the three 7-foot antennas clearly visible above the tops of the 6-foot boxes. These photos were taken May 23, 2015.

Please distribute these photos to the members of the Board of Adjustment as well.

Thank you.

Sincerely,



Arthur Firstenberg, President
Cellular Phone Task Force
P.O. Box 6216
Santa Fe, NM 87502
(505) 471-0129

cc: Verizon Wireless
John Malone
Stephen Durkovich, Esq.

