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MEMORANDUM **Transportation & Development – PZ Memo No.12-133**

DATE: DECEMBER 20, 2012

TO: PLANNING AND ZONING COMMISSION

THRU: R.J. ZEDER, TRANSPORTATION & DEVELOPMENT DIRECTOR
JEFF KURTZ, PLANNING ADMINISTRATOR
KEVIN MAYO, PLANNING MANAGER KM

FROM: JESSICA SARKISSIAN, AICP, CITY PLANNER

SUBJECT: ZUP12-0031 CROWN CASTLE WIRELESS FACILITY

Request: Use Permit approval to allow a colocation of nine (9) antennas and a 10' height addition to an existing Wireless Communication Facility

Location: 297 E Chandler Heights Rd.

Applicant: Tim Burmer, FM Group, Inc.

Project Info: Planned Area Development (PAD)

RECOMMENDATION

Staff, finding consistency with the General Plan, recommends approval subject to conditions.

BACKGROUND

The application requests Use Permit approval to add an additional 10 feet onto the existing 68' tall wireless facility within a 24' x 30' lease area just east of Arizona Avenue and south of Chandler Heights Road. The Zoning Code requires a Use Permit for wireless communication facilities in non-industrial zoning districts that do not utilize existing poles or towers or that exceed the previously approved maximum antenna height. This request is for an existing wireless facility within an approved residential Planned Area Development. The approximately 25-acre residential complex site is bordered to the north and west by Commercial Planned Area Developments and to the south and east by agricultural land within the County. The residential complex contains nineteen (19) buildings and two large amenities for the residents. The parking lot for the community is a mixture of covered and uncovered spaces spread throughout.

This wireless facility currently exists and is located at the southeast corner of the community within a landscaped area in the complex parking lot. The tower is setback approximately 600' from Chandler Heights Road ROW and approximately 1,130' from Arizona Road ROW.

Within the immediate area there are no suitable alternatives for co-location on existing poles or for new towers. According to the information provided by the applicant and AT&T as required by the Zoning Code, there were five (5) verticalities of a height similar to the proposed facility. To the southwest of the site is a flag pole, an existing Crown Castle monopole and a water tower. Also nearby is a 45' tall building and existing SRP power poles directly to the south. The applicant has analyzed these co-location and other site possibilities and found them implausible because of a variety of reasons. Reasons they could not locate at these locations were: the sites could not support additional facilities, the antennas could not be mounted high enough to provide the needed coverage, one had several zoning violations, one owner was unresponsive, local opposition, and the others were located outside the needed coverage area to fill in their service gaps. An inventory of these verticality's provided by the applicant is among the attachments.

DISCUSSION

Staff finds the proposed location to be appropriate for a wireless facility in the form of a 78'-high wireless facility. The facility is within an approved residential complex and is seeking to collocate on an existing wireless facility. The facility existed prior to the residential community being rezoned.

PUBLIC / NEIGHBORHOOD NOTIFICATION

- This request was noticed according to the provisions of the City of Chandler Zoning Code.
- A neighborhood meeting was held on December 18, 2012. No citizens were in attendance. One citizen contacted Staff about this project and was not opposed.
- At the time of this memo, Staff is not aware of any opposition to this request.

RECOMMENDED ACTION

Staff, upon finding consistency with the General Plan, recommends approval of ZUP12-0031 CROWN CASTLE WIRELESS FACILITY subject to the following conditions:

1. Development shall be in substantial conformance with the approved exhibits except as modified by conditions herein. Expansion or modification of the use beyond the approved exhibits shall require a new Use Permit application and approval.

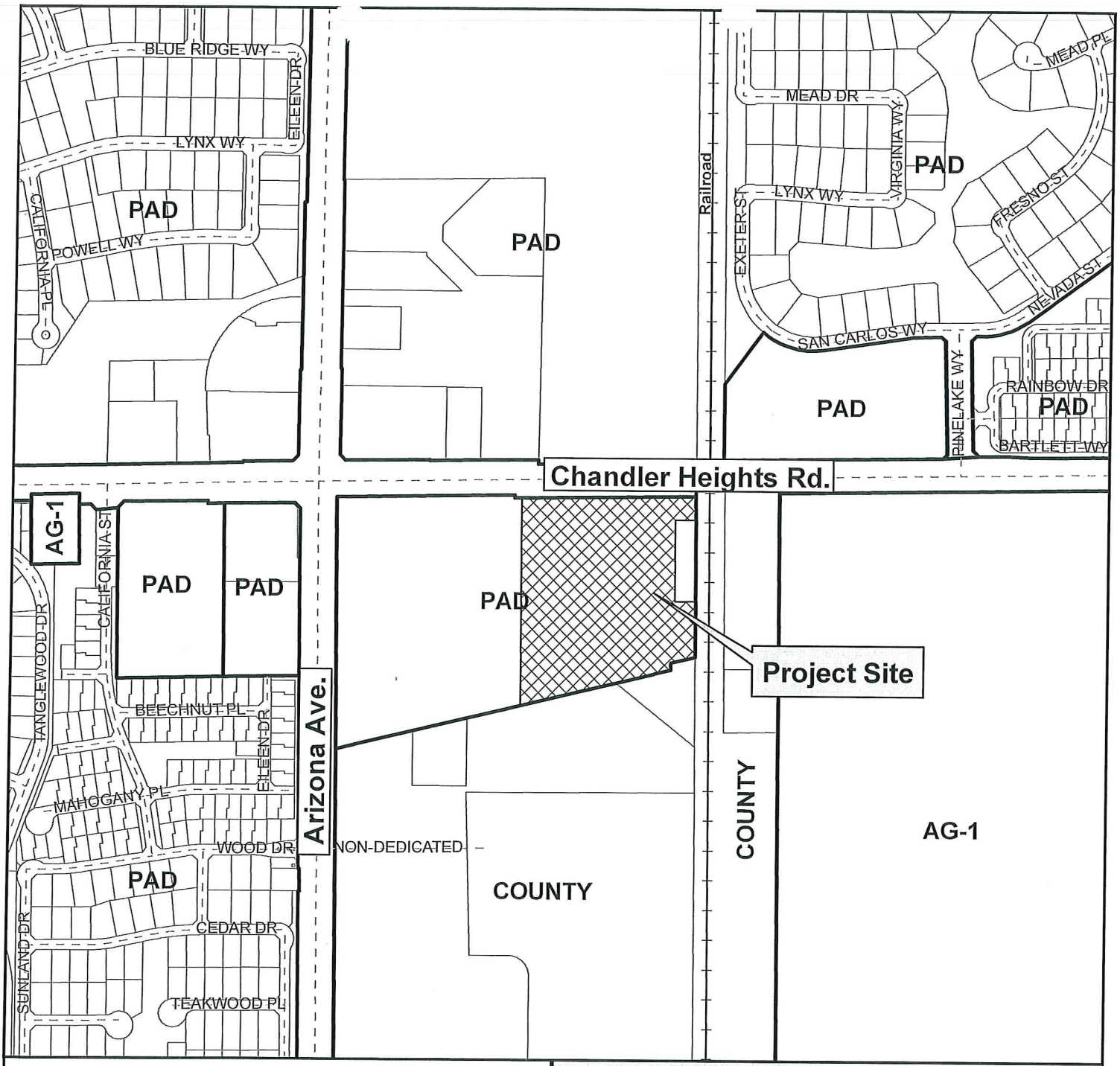
2. Further screening shall be required to visually conceal the equipment inside.

PROPOSED MOTION

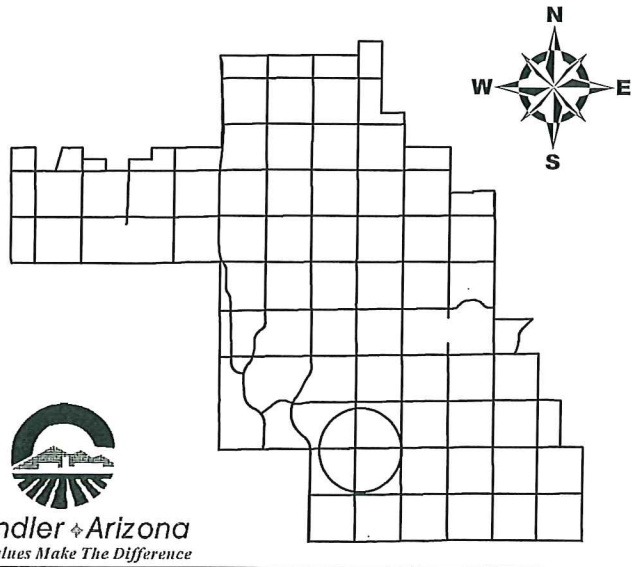
Move to recommend approval of ZUP12-0031 CROWN CASTLE WIRELESS FACILITY subject to the conditions recommended by Staff.

Attachments

1. Vicinity Map
2. Site Plans and Elevations
3. Narrative
4. Map of Verticalities within 1 Mile



Vicinity Map

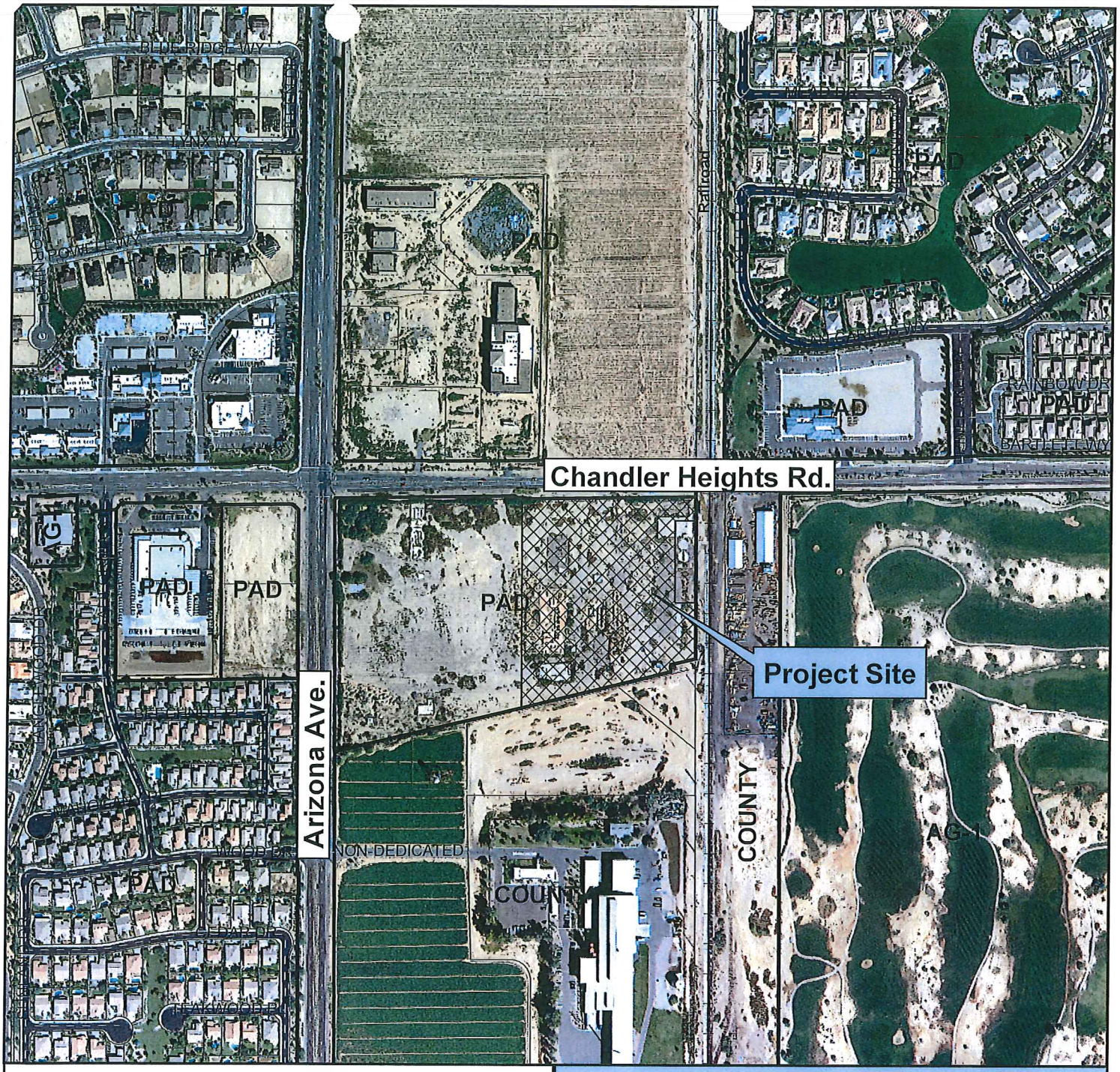


ZUP12-0031

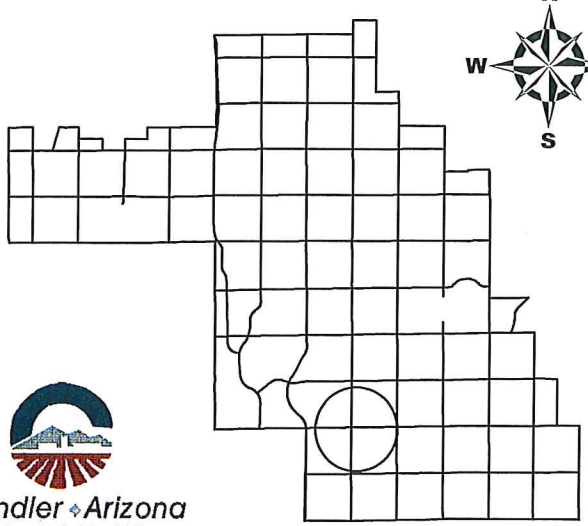
Crown Castle Collocation (AT&T)

Chandler Arizona
Where Values Make The Difference

CITY OF CHANDLER 10/1/2012



Vicinity Map

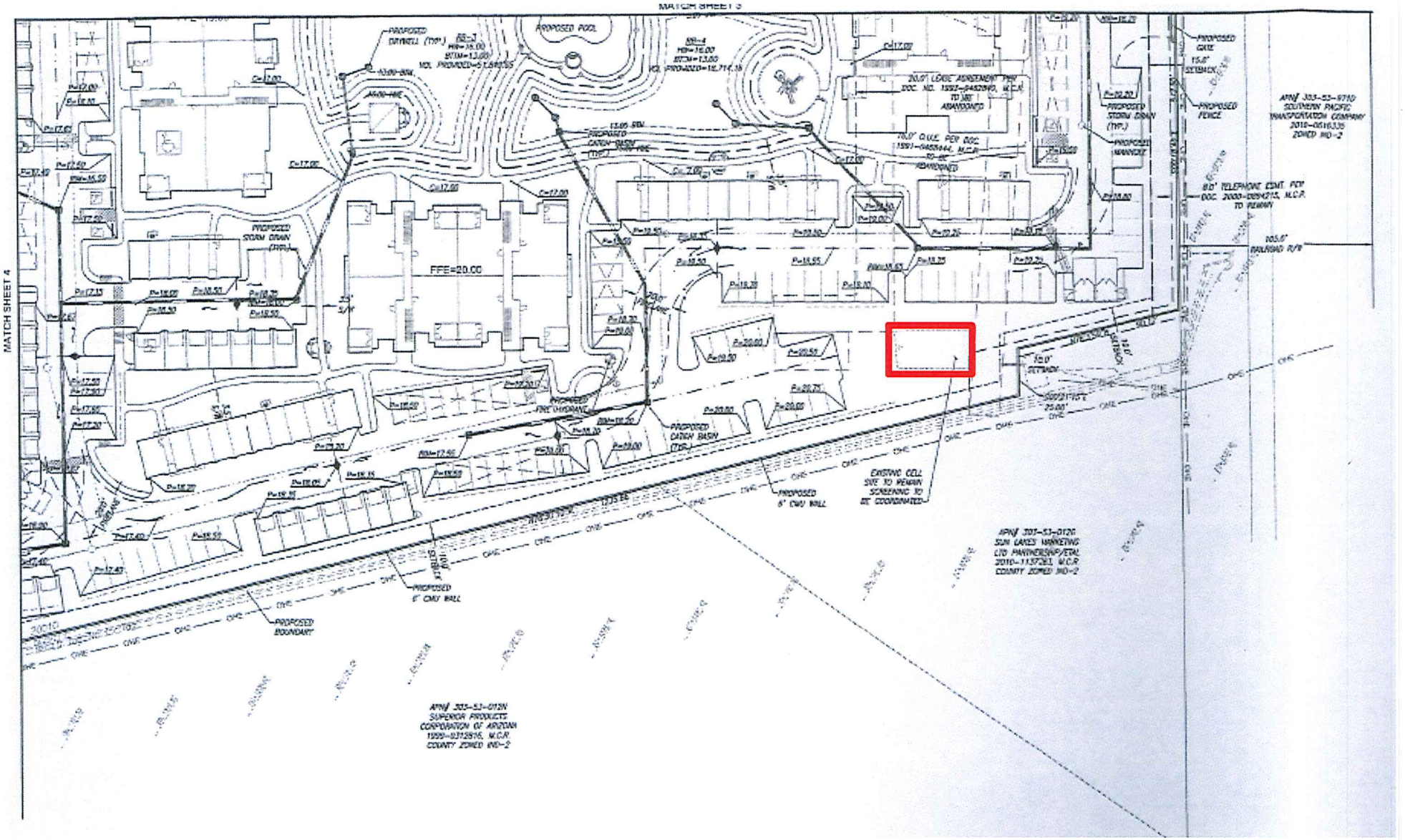


Chandler ◆ Arizona
Where Values Make The Difference

ZUP12-0031

Crown Castle Collocation (AT&T)

CITY OF CHANDLER 10/1/2012


MATCH SHEET 3
MATCH SHEET 4
PROPOSED POOL
FFE=20.00
PROPOSED STORM DRAIN (TYP.)
PROPOSED CATCH BASIN (TYP.)
PROPOSED FIRE HYDRANT
PROPOSED 6' CMU WALL
PROPOSED BOUNDARY
EXISTING CELL SITE TO REMAIN SCREENING TO BE COORDINATED
PROPOSED GATE
PROPOSED FENCE
PROPOSED MANHOLE
APN# 303-53-9710 SOUTHERN PACIFIC TRANSPORTATION COMPANY 2010-0616335 ZONED IND-2
APN# 303-53-012G SUN LAKES MARKETING LTD PARTNERSHIP/ETAL 2010-1137283, M.C.R. COUNTY ZONED IND-2
APN# 303-53-012N SUPERIOR PRODUCTS CORPORATION OF ARIZONA 1999-0312816, M.C.R. COUNTY ZONED IND-2

CHANDLER HEIGHTS ROAD
ARIZONA AVENUE
SOUTHERN PACIFIC RAILROAD
A.P.N. 303-53-9710
SOUTHERN PACIFIC TRANSPORTATION COMPANY
LANDSCAPE & RETENTION BASIN SEE CIVIL
NEW PUBLIC IMPROVEMENTS PER CIVIL
NEW DRIVE APPROACH SEE SHT ASDI
GATE CONTROL & SITE DIRECTORY SEE SHT ASDI
6' HIGH PERIMETER WALL COMBINATION 36" MASONRY & 36" WROUGHT IRON FENCE ABOVE
PUBLIC RIGHT OF WAY
BLDG SETBACK
TYPICAL PARKING STALL 9'x16.5' W/ 2.5' OVERHANG
POOL
CABANA
RAMADA W/ BBQ
TOT LOT
1288.84' (R)
1288.76' (M)
637.72' (R)
637.50' (M)
S 00°01'00" E (R)
S 00°02'07" E (M)
NORTH

15974 N. 77th Street – Scottsdale, Arizona 85260 – 602-277-7877

City of Chandler
Use Permit Zoning Application Case

Request: .....Use Permit for Collocation on Existing WCF Monopole
Subject Property: .....297 East Chandler Heights Road, Chandler, AZ 85249
APN:.....303-53-013C
Project Name: .....X508-BB Crown Castle Collocation
Submittal Date: .....September, 2012; Revised December 9, 2012

AERIAL MAP OF SUBJECT

Contact Information:

FM GROUP INC
15974 N. 77th Street, Suite 100
Scottsdale, AZ 85260
James Walz
PH: 602.277.7877 ext. 206
E: jwalz@fmgroup.net

PURPOSE OF THE REQUEST

AT&T, a wireless communications provider has had tremendous growth resulting in increased consumer demands and the need for E-911 emergency service enhancements. The subject area has presented challenges for the AT&T network causing both capacity deficiencies and a significant gap in coverage. The subject collocation at 23601 S. Arizona Avenue is the best possible location and least obtrusive option for both the radio frequency objective and meeting the intent of the Wireless Communication Facilities section of the City of Chandler Unified Development Manual, and the 1996 Federal Telecommunications Act. The following is an outline of how AT&T will comply with all Federal, State, County and Local regulations with respect to wireless communications facilities and the City of Chandler guidelines:

DESCRIPTION FOR THE PROPOSAL

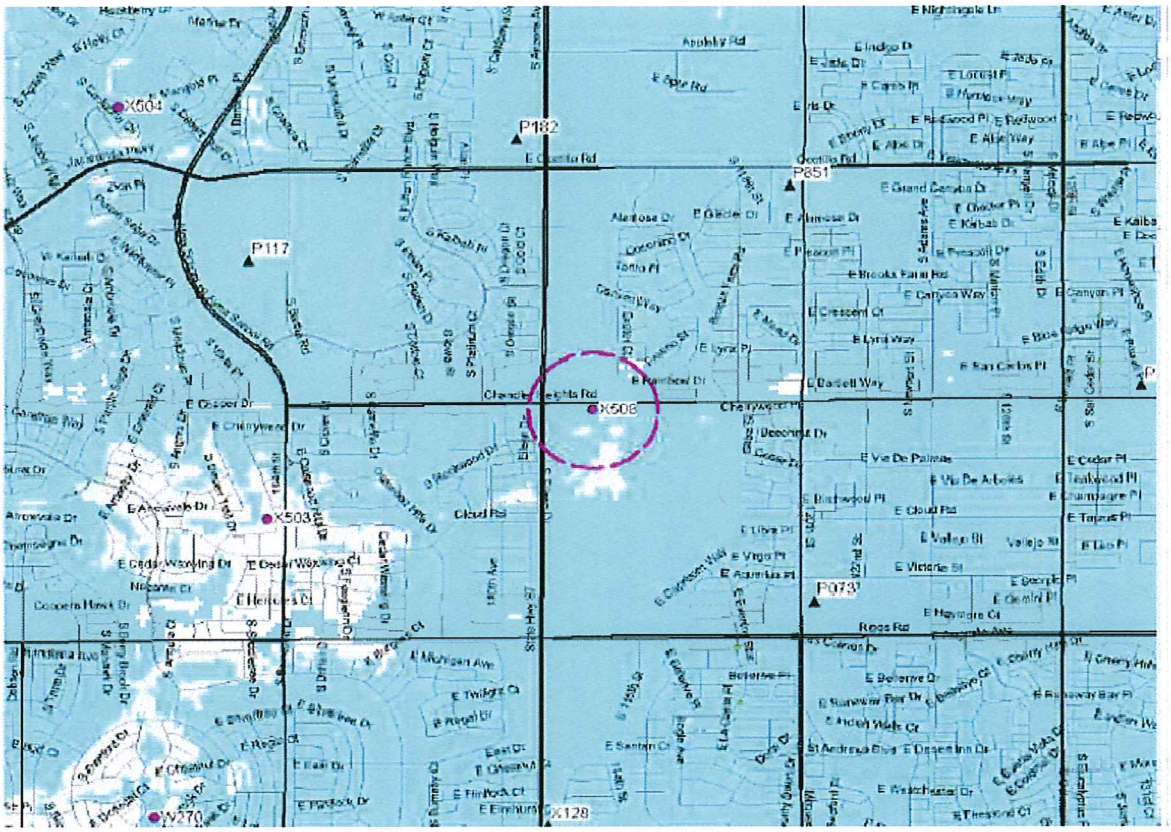
AT&T's proposed addition to the existing Crown Castle Wireless Communications Facility (WCF), as a monopole, consists of a 10'-0" increase in structure height and adding a total of nine (9) additional antennas and associated ground mounted equipment. The existing structure height of the Crown Castle monopole is currently 65'-0". AT&T proposes a 10'-0" increase in structure height making the new top of pole at 75'-0" and the tip of their additional antennas, or structure height, at 78'-0". The nine (9) proposed antennas will have a radiation center of 74'-0" and are 8'-0" h antennas. Collocating on the existing monopole has been chosen to avoid the installation of an additional vertical structure in the area. The ground mounted equipment will be contained within an existing 11'-0" CMU wall which surrounds the pole and the existing shelter.

The proposed WCF is required to correct an existing significant gap in coverage within the existing AT&T Mobility network. Included with the zoning submittal documents is an exhibit titled "Existing and Proposed AT&T Mobility Antenna Sites" depicting the proposed WCF and the existing AT&T WCF's servicing this area. The coverage gap is depicted by the yellow and blue areas surrounding the proposed WCF.

CONSIDERED CANDIDATES

The search ring for this site is shown on the following page. The search ring radius is 0.3 miles and encompasses primarily undeveloped land. The location of the search ring was dictated by the significant gap in coverage which exists in this area as well as the location of other adjacent AT&T WCF's which are shown on the search ring (P117, P182, P851, P073, X128, X503). Each is +/- one mile from the proposed site which is the general rule for spacing between sites in order to provide good coverage without interference from adjacent sites.

FM GROUP INC (FM) evaluated a number of candidates within this search ring. The candidates considered and the reasons they were not selected follows below and in the Co-Location Possibilities Section.



- The undeveloped land on the Northeast and Southeast corners of Arizona Avenue and Chandler Heights Boulevard: These properties were not pursued because the owners were insolvent and the property was in the process of reverting to the bank or the owners were unresponsive.
- The Ocotillo Lumber site immediately South of Chandler Heights Boulevard and East of the railroad tracks was initially selected by AT&T in December of 2009 as the prime candidate for this search ring. It was discovered once the zoning process was underway the property had many Maricopa County zoning and building violations all of which would need to be resolved prior to allowing AT&T to build a site. FM worked with the County for nearly six months trying to negotiate a Development Agreement allowing AT&T to construct the site in parallel with resolving the violations. Unfortunately these efforts were met with little in the way of results and in May of 2010 AT&T decided to pursue other candidates. Subsequently, the property owner hired a zoning attorney, Paul Gilbert, to negotiate the Development Agreement. Mr. Gilbert was successful and the Development Agreement was executed on September 28, 2010. Although there is now a Development Agreement in place, this alone does not mean the landlord will be able to meet his obligations and AT&T will succeed obtaining the required entitlements to move this location forward. AT&T has not filed a zoning application with Maricopa County for this candidate.
- The Chandler United Methodist Church was pursued as a viable candidate and routed through the City of Chandler zoning process for consideration. Unfortunately, although the church was

agreeable to the location on their property, the surrounding property owners expressed opposition at the City of Chandler Zoning Hearings. The City of Chandler suggested finding an alternate location for AT&T's site in the area. If all entitlements are successfully obtained for the Crown Castle Collocation candidate the Zoning case for Chandler United Methodist Church will be withdrawn.

- The Bear Creek Golf Course was pursued as a viable candidate and routed through the City of Chandler zoning and lease negotiation processes for consideration. The Use Permit for the monopine candidate at Bear Creek Golf Course was approved under case ZUP11-0005 on August 18, 2011. After which it was determined that the City of Chandler did not have authorization as the land owner to lease directly to AT&T without the consent of their tenant, the Bear Creek Golf Course. The Golf Course requested the site be moved South on the property. The new location did not fit within AT&T's requested search parameters and so said candidate has been terminated.
- Previously, collocating on the existing Crown Castle tower located just west of the Bear Creek Golf Course candidate was not a viable option due to the lack of ground space for AT&T's equipment. However, since the initial Use Permit applications were filed for the church and golf course candidates, the property ownership has transferred hands which allowed Crown Castle to lease additional ground space to further allow for collocation at the Subject Site. Crown Castle is installing an 11'-0" high CMU wall around their existing equipment shelter and the additional ground space obtained (for AT&T's future installation) to screen the equipment per the City of Chandler requirements.

CO-LOCATION POSSIBILITIES

FM researched existing Wireless Telephone Facilities (WCF) within one half (1/2) mile radius utilizing CCIsites web based application which provides an inventory of all FCC licensed installations. Following are the results of this research:

- A Global Tower Partners flag pole exists to the South West approximately ½ mile from our proposed monopine, but the required technology for this site does not lend itself to the canister style required for the flag pole application. Refer to the section titled "Limitations of Canister Antennas" on page 6 of this narrative.
- There is an existing Crown Castle monopole that is also to the South West by approximately 1/3 mile, but this site has no available ground space. In addition, at the time candidates were being selected the property owner where the Crown Castle site is located was insolvent and ownership had reverted to the bank. Because of this, no additional lease area could be obtained.
- There is an existing water tower located in the Southwest area of the search ring. The property is owned by Superior Products Corporation who is also the owner of the industrial facility where the GTP flagpole WCF discussed above is located. Due to uncertainty regarding the future of the water tower and the surrounding land Superior was not willing to commit to this option.
- The tallest building in the area is approximately 45' which would not allow the antennas to be installed high enough above grade to address the coverage deficiency for this search ring.
- The existing SRP power poles running North South along the west side of the rail road tracks

- were considered. SRP would require the antennas to be mounted below the conductors which would not allow the necessary mounting height to address the coverage deficiency. In addition, since these power poles are in the rail road ROW, an access easement and lease space would need to be obtained from the rail road which would be unlikely.

RELATIONSHIP TO SURROUNDING PROPERTIES

The subject property is zoned PAD. North of the site is Chandler Heights Road. To the East is zoned IND-3. To the West is zoned as PAD. South of the site are properties zoned as IND-2. This site was selected after two other candidates had been pursued and failed to be properly zoned and/or leased without opposition.

The unmanned wireless communications facility will generate no refuse, and will use no water or sewer services. There should be no demand for police surveillance. The facility is isolated from other buildings minimizing any fire dangers. Emergency vehicle access is available directly to the site over paved roadways and parking lots.

LOCATION & ACCESSIBILITY

- Access to the wireless facility can occur from an existing easement running North/South off of Chandler Heights Road.
- Parking for technician access is available onsite.

DEVELOPMENT SCHEDULE

Construction will commence upon completion of entitlement and issuance of a building permit.

RADIO FREQUENCY EMMISSIONS

The WCF will fall within the portion of the electromagnetic spectrum, which transmits non-ionizing radio waves. "Non-ionizing" electromagnetic emissions, at the low levels associated with this type of wireless technology, are not harmful to living cells. Among the items which result in non-ionizing electromagnetic emissions are police/fire/EMS radios, television broadcasts, CB radios, microwave ovens, baby monitors, home wireless phones, garage door openers, and many other items in day to day life. Not to be confused with "ionizing" electromagnetic emissions which include ultra-violet light, medical x-rays and gamma rays.

RADIO FREQUENCY FCC COMPLIANCE

The FCC allows AT&T to operate in the 1850-1865 and 1895-1905 MHz "receive" frequencies and 1930-1945 and 1975-1985 MHz "transmit" frequencies. The power required to operate the facility typically does not exceed 200 watts per channel, and thus, the AT&T facility is by design a low-power system. Depending upon characteristics of the site, the actual power requirements may be reduced. When operational, the transmitted signals from the site will consist of non-ionizing waves typically generated

significantly lower that the FCCC standard for continuous public exposure of 900 microwatts per square centimeter.

LIMITATIONS OF CANISTER ANTENNAS

Canister style stealth antennas are used by most wireless carriers including AT&T but only if no other solution can be found for the network deficiency being addressed. AT&T is much less likely than many other carriers to select the canister option due to the following reasons:

- The antenna orientations are fixed in a canister due to space limitations. The view from the top of the canister antenna has to look like a "Y" shape with each of the three sectors orientated 120 degrees apart from each other. Since a majority of new WCF's are to solve very specific network deficiencies the required sectors are irregular meaning the orientation between sectors is not 120 degrees which cannot be accommodated by canister antennas. Irregular orientations are used to prevent the signal from excessive overlapping or overshooting adjacent sites which causes interference resulting in dropped or choppy calls or very slow data connections. These problems are sometimes impossible to fix with a regular orientation of the antennas.

- Canister antennas are typically used on power poles, flagpoles, traffic signal poles, and street light poles where the diameter of the pole is limited by the zoning ordinance or other design criteria. This in turn constrains the diameter of the canister antenna as well as the number of coaxial cable that can be run inside the pole. The height/width/depth of antennas inside a canister must be smaller to achieve the desired appearance for the canister. This results in a lower quality antenna pattern and signal which degrades the performance. On the other hand, if the diameter of the canister antenna must be significantly greater to accommodate the correct antennas then the pole becomes much more massive or if the canister is significantly greater in diameter than the pole the result is a lollipop appearance. Both results contradict the appearance desired when using canister antennas.

  The limitations described above tend to have a greater impact on AT&T than most other carriers because of the multiple technologies being supported by AT&T . For optimal performance each AT&T site will have 9 to 12 quad port antennas (four antennas with the appearance of one) with 24 to 36 coaxial cables. Each antenna is approximately 8'H X 12"W X 6"D. In order to meet the performance objective the canister would be 16' high due to the need to double stack the antennas and be 30" in diameter. The resultant degradation in performance due to the loss of RAD center caused by double stacking as well as the loss of one or two antennas per sector results in degradation of performance usually causing the need for additional sites to achieve the needed network results.

- The limitations of canister antennas described above also handicaps the role out of new technologies. This causes serious problems, especially during transition times from one technology to another, which means old and new technologies will need to coexist for long periods of time. For example 4G technology scheduled to launch next year will have to coexist with 3G and 2G technology until all customers migrate and 4G has sufficient capacity to handle

the migration. The problem is not only the number of antennas and ports, but also interference issues between technologies within ATT that are placed very close to each other in a very small space

CIRCULATION SYSTEM

No changes are proposed to the existing circulation system.

COMMUNITY FACILITIES AND SERVICES

No impact to local schools.

PUBLIC UTILITIES AND SERVICES

Electricity	200 - Amp service is required
Gas	N/A
Water	N/A
Refuse	N/A
Police	N/A – Unmanned facility
Fire	N/A – Site consists of metal equipment and electrical grounding
School	N/A
Urgent Care	N/A – Unmanned facility
Hospital	N/A – Unmanned facility

OTHER INFORMATION AND COMMUNICATION FACILITIES AND SERVICES

- No drainage report has been included with this application due to subject proposal being outside of the 100-year flood plain.
- No Traffic Impact Study is provided due to only one trip generation per month for routine maintenance. Technicians will apply for and receive a Right of Way permit for each needed occurrence.
- The Radio Frequency will operate in the FCC approved license frequency range.
- The use will not cause an adverse impact on adjacent properties.
- The site will be an unmanned facility.
- There will be no emissions of odor, dust, gas, noise, vibration, heat or glare at the level exceeding ambient.
- The subject proposal will not contribute in measureable ways to deterioration of the area contributing to the lower of property values. In fact, the enhanced coverage and options available should help as an additional selling feature for any property owner within the general area.
- The communications facility will not result in conditions or circumstances contrary to the public health, safety and welfare.

The subject proposal will comply with all conditions pursuant to the City of Chandler Unified Development Manual Section 35-2209 Wireless Communication Facilities and any other applicable sections.

AT&T is excited about the opportunity to bring enhanced services to the Chandler area. As a result, residents and tourist will benefit from in the improved coverage and options available. The improvements will help to enhance E-911, County and Public communication services.

Please refer to the attached drawings for further additional information.

Sincerely,

Timothy D. Burmer
602-277-7877 Ext. 226
tdburmer@fmgroup.net

PROJECT INFORMATION

SCOPE OF WORK:	UNMANNED TELECOMMUNICATIONS FACILITY
SITE ADDRESS:	23601 S. ARIZONA AVE. CHANDLER, AZ 85249
LATITUDE:	33° 13' 52.70" N
LONGITUDE:	111° 50' 14.40" W
APN:	APN: 303-53-013C
JURISDICTION:	CITY OF CHANDLER
ZONING:	PAD
EXISTING USE:	CHANDLER
PROPOSED USE:	UNMANNED TELECOMMUNICATIONS FACILITY

DRAWING INDEX

		REV
25471-PHNX-X508-01	TITLE SHEET	1
25471-PHNX-X508-LS1	SITE SURVEY	0
25471-PHNX-X508-02	OVERALL SITE PLAN	1
25471-PHNX-X508-03	DETAILED SITE PLAN	1
25471-PHNX-X508-04	TOWER ELEVATIONS & DETAILS	1

DESIGN PACKAGE BASED ON RF DATA SHEET DATE STAMPED 9-7-12, VERSION 0-B-0

NOTES

1. THE FOLLOWING NOTES, SYMBOLS AND DETAILS FROM BECHTEL DOCUMENT NUMBER 24782-000-A3-EF-00001 APPLIES TO THE IMPLEMENTATION OF THIS SITE DESIGN PACKAGE. REFERENCE STANDARD NOTES SHEET.

GENERAL NOTES	DETAIL 623 - REV 1
CONSTRUCTION NOTES	DETAIL 101 - REV 2
GROUNDING NOTES	DETAIL 621 - REV 3
ELECTRICAL INSTALLATION NOTES	DETAIL 622 - REV 2
RF NOTES	DETAIL 116 - REV 6
CONCRETE AND REINFORCING STEEL NOTES:	DETAIL 102 - REV 4
SITE WORK GENERAL NOTES	DETAIL 619 - REV 2

A/E DOCUMENT REVIEW STATUS

1	■	ACCEPTED - WITH MINOR OR NO COMMENTS, CONSTRUCTION MAY PROCEED
2		NOT ACCEPTED - PLEASE RESOLVE COMMENTS AND RESUBMIT

ACCEPTANCE DOES NOT CONSTITUTE APPROVAL OF DESIGN DETAILS, CALCULATIONS, ANALYSIS, TEST METHODS OR MATERIALS DEVELOPED OR SELECTED BY SUBCONTRACTOR AND DOES NOT RELIEVE SUBCONTRACTOR FROM FULL COMPLIANCE WITH CONTRACTUAL OBLIGATION.

	ENG.	CONST.			
REVIEWED:					
BY: Nieves, Matthew			DATE:		

REDLINE DRAWING REVIEW

NAME (PRINT) SIGNATURE DATE

GENERAL CONTRACTOR - CONFIRM ACCURACY OF THESE REDLINE DRAWINGS

NAME (PRINT) SIGNATURE DATE

FIELD COORDINATOR - VERIFY INSTALLATION PER REDLINE DRAWINGS

NAME (PRINT) SIGNATURE DATE

ENGINEERING - Market Engineer Shall Review Redline Drawings To Ensure Changes Do Not Alter The Original Design Intent And/Or Are Code Compliant

at&t Mobility

SITE NUMBER: W624 (X508)
CANDIDATE NAME: CROWN CASTLE 806176
23601 S. ARIZONA AVE.
CHANDLER, AZ 85249

APPROVALS

AT&T (RF): _____ DATE: _____

AT&T (CONST.): _____ DATE: _____

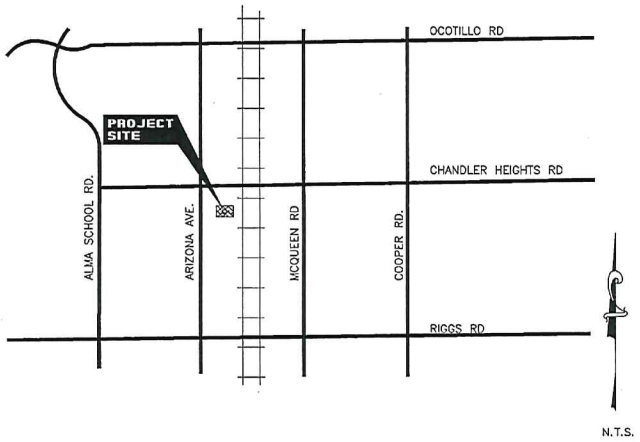
AT&T (OPS): _____ DATE: _____

LANDLORD: _____ DATE: _____

LANDLORD: _____ DATE: _____

VICINITY MAP

DIRECTIONS:
FROM AT&T OFFICE: TAKE SR-101 EAST, PROCEED ON THE SR-101 SOUTH UNTIL YOU MERGE ON THE 202 SAN TAN FWY HEADING EAST. TAKE EXIT 47 ARIZONA AVE., TAKE A RIGHT HEADING SOUTH UNTIL CHANDLER HEIGHTS ROAD, TAKE A LEFT ON CHANDLER HEIGHTS ROAD, SITE WILL BE ON YOUR RIGHT. ARRIVE AT 23601 N. ARIZONA AVE., CHANDLER, AZ 85249.



SITE QUALIFICATION PARTICIPANTS

	NAME	COMPANY	NUMBER
A/E	SANDEEP MANE	TELESPAN NETWORK SERVICES	480-905-8689
SAC	ROD VAN HEUSEN	BECHTEL COMMUNICATIONS	204-447-3543
RF	OZGUR CELIK	at&t MOBILITY	602-625-3782
LANDLORD	BRENDAN THOMSON	CROWN CASTLE	480-734-2431

APPLICABLE BUILDING CODES AND STANDARDS

SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE, AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.

BUILDING CODE:
INTERNATIONAL BUILDING CODE 2009

ELECTRICAL CODE:
[NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 70 - 2008, NATIONAL ELECTRICAL CODE,
LIGHTNING PROTECTION CODE:
[NFPA 780 - 2000, LIGHTNING PROTECTION CODE)

SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS.
AMERICAN CONCRETE INSTITUTE (ACI) 318, BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE
AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC), MANUAL OF STEEL, THIRTEENTH EDITION
TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G, STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES:
TIA 607, COMMERCIAL BUILDING GROUNDING AND BONDING REQUIREMENTS FOR TELECOMMUNICATIONS

INSTITUTE FOR ELECTRICAL AND ELECTRONICS ENGINEERS (IEEE) 81, GUIDE FOR MEASURING EARTH RESISTIVITY, GROUND IMPEDANCE, AND EARTH SURFACE POTENTIALS OF A GROUND SYSTEM
IEEE 1100 (1999) RECOMMENDED PRACTICE FOR POWERING AND GROUNDING OF ELECTRONIC EQUIPMENT

IEEE C62.41, RECOMMENDED PRACTICES ON SURGE VOLTAGES IN LOW VOLTAGE AC POWER CIRCUITS (FOR LOCATION CATEGORY "C3" AND "HIGH SYSTEM EXPOSURE")

TELCORDIA GR-1275, GENERAL INSTALLATION REQUIREMENTS

TELCORDIA GR-1503, COAXIAL CABLE CONNECTIONS

ANSI T1.311, FOR TELECOM - DC POWER SYSTEMS - TELECOM, ENVIRONMENTAL PROTECTION

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHODS OF CONSTRUCTION, OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

DETAIL 1001 -

TeleSpan NETWORK SERVICES
2151 EAST BROADWAY ROAD, SUITE 217, TEMPE, AZ 85282
VOICE: 480.905.8689 FAX: 480.905.8818

CROWN CASTLE 806176
W624 (X508)
23601 S. ARIZONA AVE.
CHANDLER, AZ 85249

at&t
AT&T MOBILITY
20830 N. TATUM BLVD. SUITE 400
PHOENIX, AZ 85050
PHONE: (480) 414-1829

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/24/12	CLIENT COMMENTS	MV	DH	SM
0	02/06/12	CLIENT COMMENTS	JM	BH	SM
A	01/26/12	ISSUED FOR REVIEW	JM	BH	SM

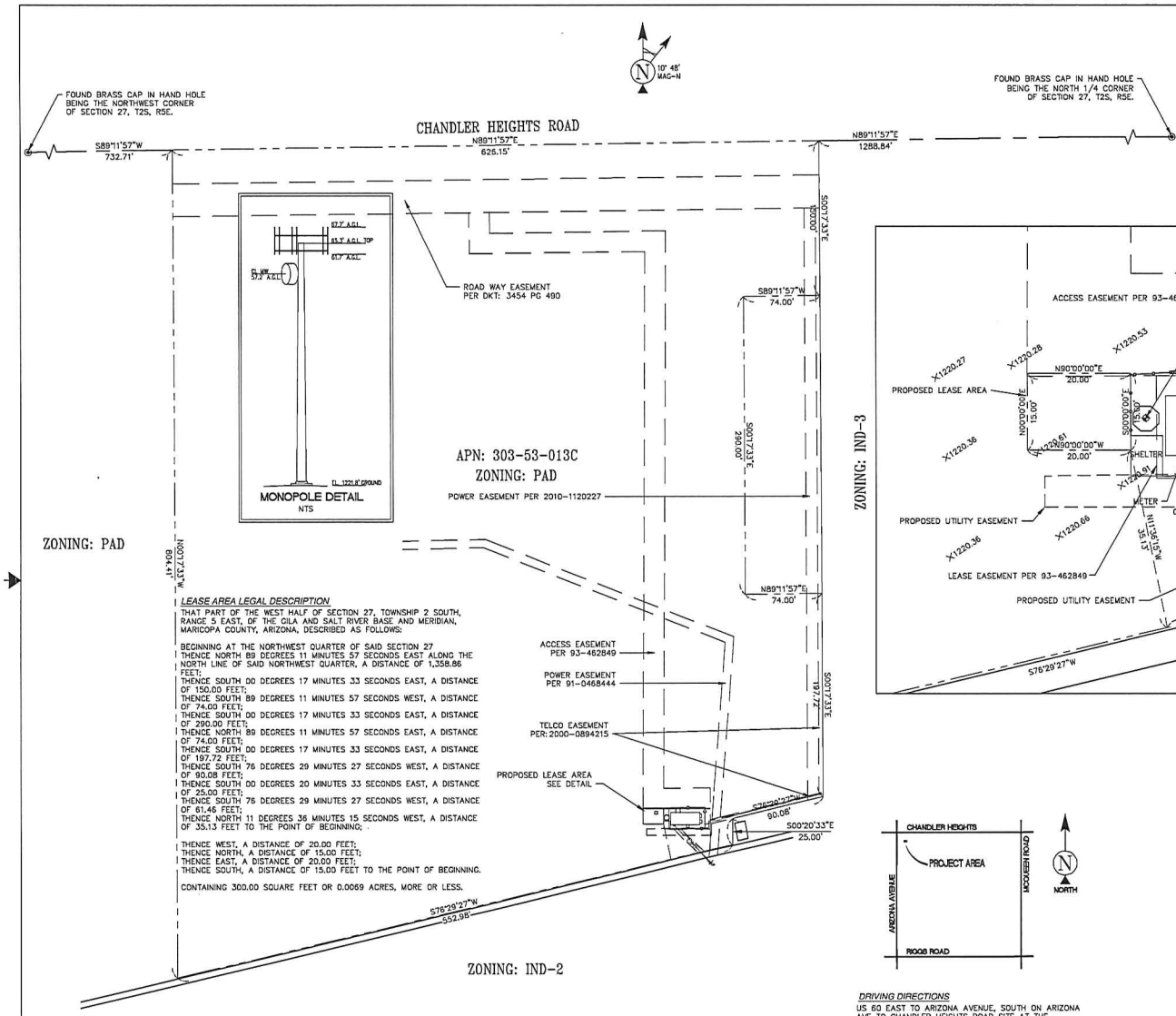
SCALE: AS SHOWN DESIGNED BY: JM DRAWN BY: JM

AT&T MOBILITY

TITLE SHEET

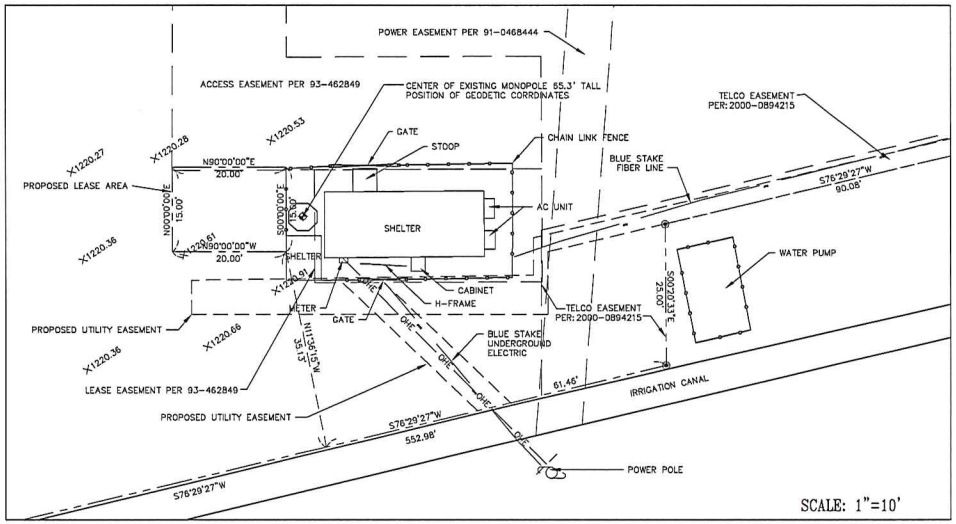
DRAWING NUMBER		REV
25471-620	PHNX-X508-01	1

22 x 34 "D" SIZE



LESSOR'S LEGAL DESCRIPTION

THE LAND REFERRED TO IN THIS REPORT IS DESCRIBED AS FOLLOWS:
THAT PART OF THE WEST HALF OF SECTION 27, TOWNSHIP 2 SOUTH, RANGE 5 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:
BEGINNING AT A POINT ON THE NORTH LINE OF THE NORTHWEST QUARTER OF SAID SECTION 27 FROM WHICH THE NORTHWEST CORNER THEREOF BEARS SOUTH 89 DEGREES 28 MINUTES 30 SECONDS WEST, 732.71 FEET;
THENCE NORTH 89 DEGREES 28 MINUTES 30 SECONDS EAST ALONG SAID NORTH LINE, 626.15 FEET TO A POINT ON THE WEST RIGHT OF WAY LINE OF THE SOUTHERN PACIFIC RAILROAD, FROM WHICH THE NORTHEAST CORNER OF THE NORTHWEST QUARTER OF SAID SECTION 27 BEARS NORTH 89 DEGREES 28 MINUTES 30 SECONDS EAST, 1288.84 FEET;
THENCE SOUTH 00 DEGREES 01 MINUTES EAST, ALONG SAID RIGHT OF WAY LINE 150.00 FEET;
THENCE SOUTH 89 DEGREES 28 MINUTES 30 SECONDS WEST, 74.00 FEET;
THENCE SOUTH 00 DEGREES 01 MINUTES EAST, 290.00 FEET;
THENCE NORTH 89 DEGREES 28 MINUTES 30 SECONDS EAST, 74.00 FEET TO A POINT ON THE WEST RIGHT OF WAY LINE OF THE
SOUTHERN PACIFIC RAILROAD;
THENCE SOUTH 00 DEGREES 01 MINUTES EAST ALONG SAID RIGHT OF WAY LINE, 197.72 FEET;
THENCE SOUTH 76 DEGREES 46 MINUTES WEST 90.08 FEET;
THENCE SOUTH 00 DEGREES 04 MINUTES EAST, 25.00 FEET;
THENCE SOUTH 76 DEGREES 46 MINUTES WEST, 552.98 FEET;
THENCE NORTH 00 DEGREES 01 MINUTES WEST, 804.41 FEET TO THE POINT OF BEGINNING;
EXCEPT THE NORTH 65 FEET THEREOF.



LEASE AREA LEGAL DESCRIPTION

THAT PART OF THE WEST HALF OF SECTION 27, TOWNSHIP 2 SOUTH, RANGE 5 EAST, OF THE GILA AND SALT RIVER BASE AND MERIDIAN, MARICOPA COUNTY, ARIZONA, DESCRIBED AS FOLLOWS:

BEGINNING AT THE NORTHWEST QUARTER OF SAID SECTION 27
THENCE NORTH 89 DEGREES 11 MINUTES 57 SECONDS EAST ALONG THE NORTH LINE OF SAID NORTHWEST QUARTER, A DISTANCE OF 1,358.86 FEET;
THENCE SOUTH 00 DEGREES 17 MINUTES 33 SECONDS EAST, A DISTANCE OF 150.00 FEET;
THENCE SOUTH 89 DEGREES 11 MINUTES 57 SECONDS WEST, A DISTANCE OF 74.00 FEET;
THENCE SOUTH 00 DEGREES 17 MINUTES 33 SECONDS EAST, A DISTANCE OF 290.00 FEET;
THENCE NORTH 89 DEGREES 11 MINUTES 57 SECONDS EAST, A DISTANCE OF 74.00 FEET;
THENCE SOUTH 00 DEGREES 17 MINUTES 33 SECONDS EAST, A DISTANCE OF 197.72 FEET;
THENCE SOUTH 76 DEGREES 29 MINUTES 27 SECONDS WEST, A DISTANCE OF 90.08 FEET;
THENCE SOUTH 00 DEGREES 20 MINUTES 33 SECONDS EAST, A DISTANCE OF 25.00 FEET;
THENCE SOUTH 76 DEGREES 29 MINUTES 27 SECONDS WEST, A DISTANCE OF 61.46 FEET;
THENCE NORTH 11 DEGREES 36 MINUTES 15 SECONDS WEST, A DISTANCE OF 35.13 FEET TO THE POINT OF BEGINNING;

THENCE WEST, A DISTANCE OF 20.00 FEET;
THENCE NORTH, A DISTANCE OF 15.00 FEET;
THENCE EAST, A DISTANCE OF 20.00 FEET;
THENCE SOUTH, A DISTANCE OF 15.00 FEET TO THE POINT OF BEGINNING.

CONTAINING 300.00 SQUARE FEET OR 0.0069 ACRES, MORE OR LESS.

DRIVING DIRECTIONS

US 60 EAST TO ARIZONA AVENUE, SOUTH ON ARIZONA AVE TO CHANDLER HEIGHTS ROAD SITE AT THE SOUTHEAST CORNER.

CENTER OF EXISTING MONOPOLE	(NAD83)
LATITUDE 33° 13' 52.70" NORTH	
LONGITUDE 111° 50' 14.40" WEST	
ELEVATION 1221.8'	(NAVD88)

LEGEND

POB	POINT OF BEGINNING	×0000.0	SPOT ELEVATION
POT	POINT OF TERMINUS		POSITION OF GEODETIC COORDINATES
PUE	PUBLIC UTILITY EASEMENT		WATER CONTROL VALVE
ROW	RIGHT OF WAY		FIRE HYDRANT
DW	DRIVEWAY		POWER POLE
SW	SIDEWALK	EM	ELECTRIC MANHOLE
BCHH	BRASS CAP IN HANDHOLE	T	TELCO MANHOLE
BCFL	BRASS CAP FLUSH		FOUND AS NOTED

OHE — OVERHEAD ELECTRIC; PROPERTY LINE; BARBED WIRE FENCE

BENCHMARK

ELEVATION ESTABLISHED FROM GPS DERIVED ORTHOMETRIC HEIGHTS, APPLYING GEOID 99 SEPARATIONS, CONSTRAINING TO NGS CONTROL STATION COSA, ELEVATION 1383.8' NAVD88.

BASIS OF BEARINGS

BEARINGS SHOWED HEREON ARE BASED UPON U.S. STATE PLANE NAD83 COORDINATE SYSTEM *ARIZONA CENTRAL ZONE*, DETERMINED BY GPS OBSERVATIONS.

SURVEY DATE

January 13, 2012

SURVEYOR'S NOTES

REFERENCE IS MADE TO THE TITLE REPORT ORDER #21005532, ISSUED BY FIRST AMERICAN TITLE INSURANCE COMPANY, DATED JUNE 28, 2012.
ALL EASEMENTS CONTAINED WITHIN SAID TITLE REPORT AFFECTING THE IMMEDIATE AREA SURROUNDING THE LEASE HAVE BEEN PLOTTED (EXCEPT FOR ROOFTOPS). SURVEYOR HAS NOT PERFORMED A SEARCH OF PUBLIC RECORDS TO DETERMINE ANY DEFECT IN TITLE ISSUED. THE BOUNDARY SHOWN HEREON IS PLOTTED FROM RECORD INFORMATION AND DOES NOT CONSTITUTE A BOUNDARY SURVEY OF THE PROPERTY.

UTILITY NOTES

SURVEYOR DOES NOT GUARANTEE THAT ALL UTILITIES ARE SHOWN OR THEIR LOCATIONS. IT IS THE RESPONSIBILITY OF THE CONTRACTOR AND DEVELOPER TO CONTACT BLUE STAKE AND ANY OTHER INVOLVED AGENCIES TO LOCATE ALL UTILITIES PRIOR TO CONSTRUCTION, REMOVAL, RELOCATION AND/ OR REPLACEMENT IS THE RESPONSIBILITY OF THE CONTRACTOR.

Western Cartographics Services
2925 E Riggs Rd Suite 8-191
Chandler, AZ 85249
(480) 656-7912 office
(480) 219-5195 fax

W624 (X508)
CROWN CASTLE 806176
23601 S. ARIZONA AVE.
CHANDLER, AZ 85249
MARICOPA COUNTY

at&t
AT&T MOBILITY
20830 TATUM BLVD SUITE 400
PHOENIX, AZ 85050

NO.	DATE	REVISIONS	BY	CHK	APP'D
D	9.25.12	COMMENTS	MD	JC	JC
C	9.13.12	COMMENTS	MD	JC	JC
B	1.27.12	COMMENTS	MD	JC	JC
A	1.16.12	SUBMITTAL	MD	JC	JC

SCALE: AS SHOWN | X50B SURVEY _REVD | DRAWN BY: MD

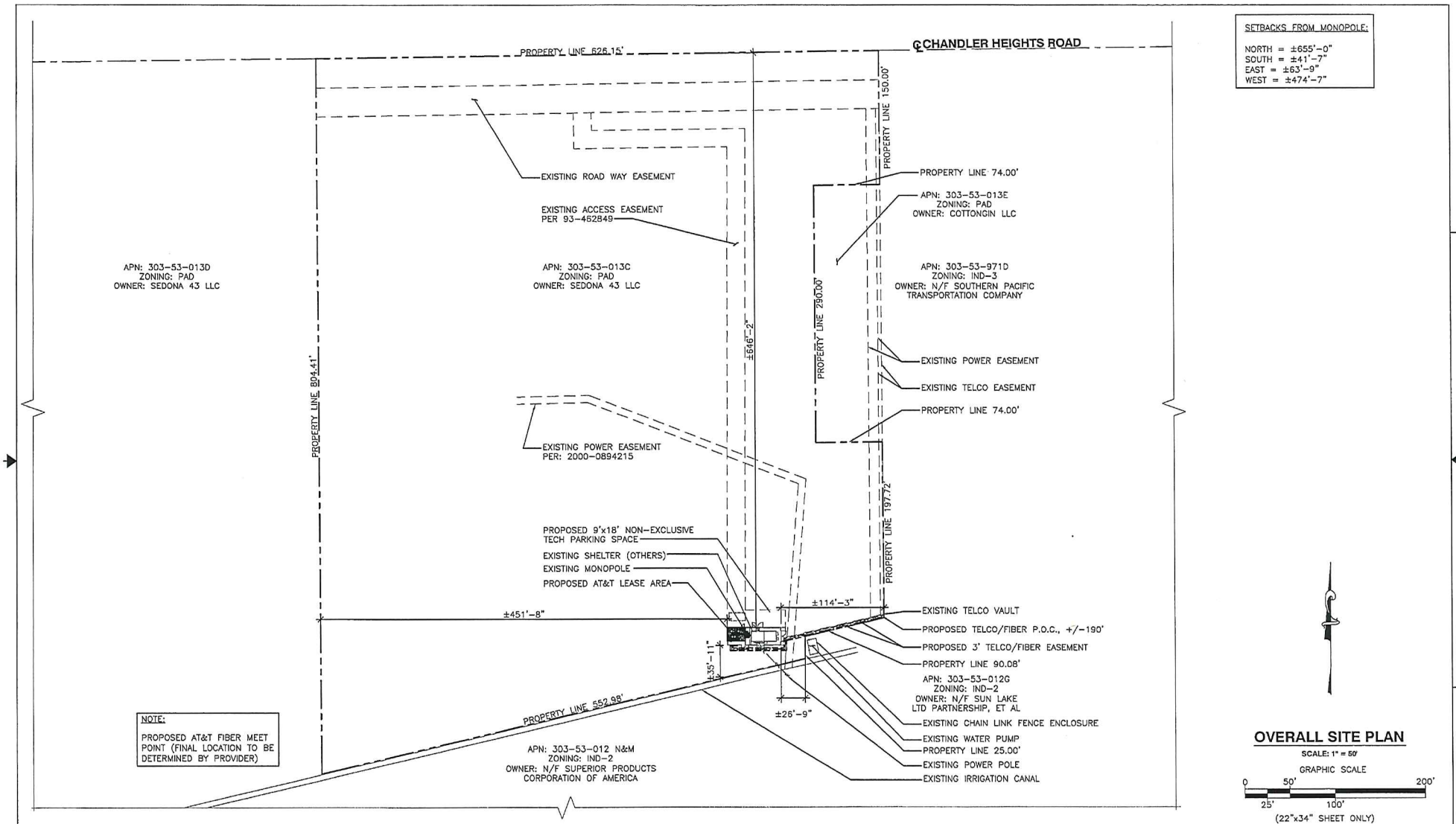
REGISTERED LAND SURVEYOR 29718 JEFF R. COOK ARIZONA, U.S.A. EXPIRES: 3/31/2013

AT&T MOBILITY

SITE SURVEY

DRAWING NUMBER	REV
25471-620- PHNXAZ- W624 (X508) -04A	D

6 5 4 3 2



SETBACKS FROM MONOPOLE:

NORTH = ±655'-0"
SOUTH = ±41'-7"
EAST = ±63'-9"
WEST = ±474'-7"

NOTE:

PROPOSED AT&T FIBER MEET POINT (FINAL LOCATION TO BE DETERMINED BY PROVIDER)

OVERALL SITE PLAN

SCALE: 1" = 50'

GRAPHIC SCALE

0 50' 200'
25' 100'

(22"x34" SHEET ONLY)

TeleSpan NETWORK SERVICES
2151 EAST BROADWAY ROAD, SUITE 217, TEMPE, AZ 85282
VOICE: 480.905.8889 FAX: 480.905.8818

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23601 S. ARIZONA AVE.
CHANDLER, AZ 85249

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PHOENIX, AZ 85050
PHONE: (480) 414-1829

NO.	DATE	REVISIONS	BY	CHK	APP'D
1	09/24/12	CLIENT COMMENTS	MV	BH	SM
0	02/08/12	CLIENT COMMENTS	JM	BH	SM
A	01/26/12	ISSUED FOR REVIEW	JM	BH	SM

SCALE: AS SHOWN DESIGNED BY: JM DRAWN BY: JM

AT&T MOBILITY

OVERALL SITE PLAN

DRAWING NUMBER		REV
25471-620	PHNX-X508-02	1

22 x 34 "D" SIZE

POWER & TELEPHONE GENERAL NOTES

1. SUBCONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK/MATERIALS REQUIREMENTS AND CONSTRUCT TO UTILITY COMPANY ENGINEERING PLANS AND SPECIFICATIONS ONLY.
2. SUBCONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, PULL WIRES, CABLE PULLBOXES, CONCRETE ENCASEMENT OF CONDUIT (IF REQUIRED), TRANSFORMER PAD, BARRIERS, POLE RISERS, TRENCHING, BACKFILL, AND INCLUDE ANY UTILITY COMPANY REQUIREMENTS IN SCOPE OF WORK.
3. UTILITY CONTACTS

TELEPHONE COMPANY:		POWER COMPANY:	
COMPANY NAME:	QWEST	COMPANY NAME:	SRP
ADDRESS:	--	ADDRESS:	--
CITY, STATE, ZIP	--	CITY, STATE, ZIP	--
PHONE NUMBER:	--	PHONE NUMBER:	--
CONTACT:	-	CONTACT:	-

NOTICE

1. ELECTRICAL SUBCONTRACTOR SHALL CONTACT UTILITY COMPANIES 14 DAYS MINIMUM PRIOR TO ACTIVATION AND NOTIFY UTILITY COMPANY REPRESENTATIVE OF THE EXACT DATE OF ACTIVATION.
2. VERIFY ALL EXISTING UNDERGROUND UTILITIES BEFORE TRENCHING. THESE DRAWINGS HAVE NOT BEEN CONFIRMED WITH THE UTILITY COMPANIES DUE TO TIME CONSTRAINTS AND ARE INTENDED AS A GENERAL GUIDE ONLY.
3. ELECTRICAL SUBCONTRACTOR SHALL CONTACT TELE. CO. & POWER CO. VERIFY EXACT ROUTING/SIZES & CONDITIONS BEFORE TRENCHING.
4. INSTALL ALL CONDUITS & EQUIPMENT AS SPECIFIED BY POWER CO. & TELEPHONE CO.
5. FIELD VERIFY EXACT MEASUREMENT OF ALL PROPOSED UTILITY FEEDERS PRIOR TO BID. DO NOT SCALE FROM THESE PLANS.
6. CONTACT UTILITY COMPANIES FOR UNDERGROUND CONDUIT INSPECTIONS PRIOR TO BACKFILLING TRENCH.
7. IT IS THE ELECTRICAL SUBCONTRACTORS RESPONSIBILTY TO COORDINATE WITH THE POWER AND TELEPHONE COMPANIES TO INSURE THAT SERVICE CONDUITS ARE TERMINATED AT THE CORRECT POWER POLE, PEDESTAL, ETC.

NOTE:

1. HAND DIG EXCAVATIONS NEAR EXISTING UTILITIES & WHERE INDICATED ON SITE PLAN
2. SUBCONTRACTOR SHALL HAVE PRIVATE UTILITY LOCATOR BEFORE ANY CONSTRUCTION

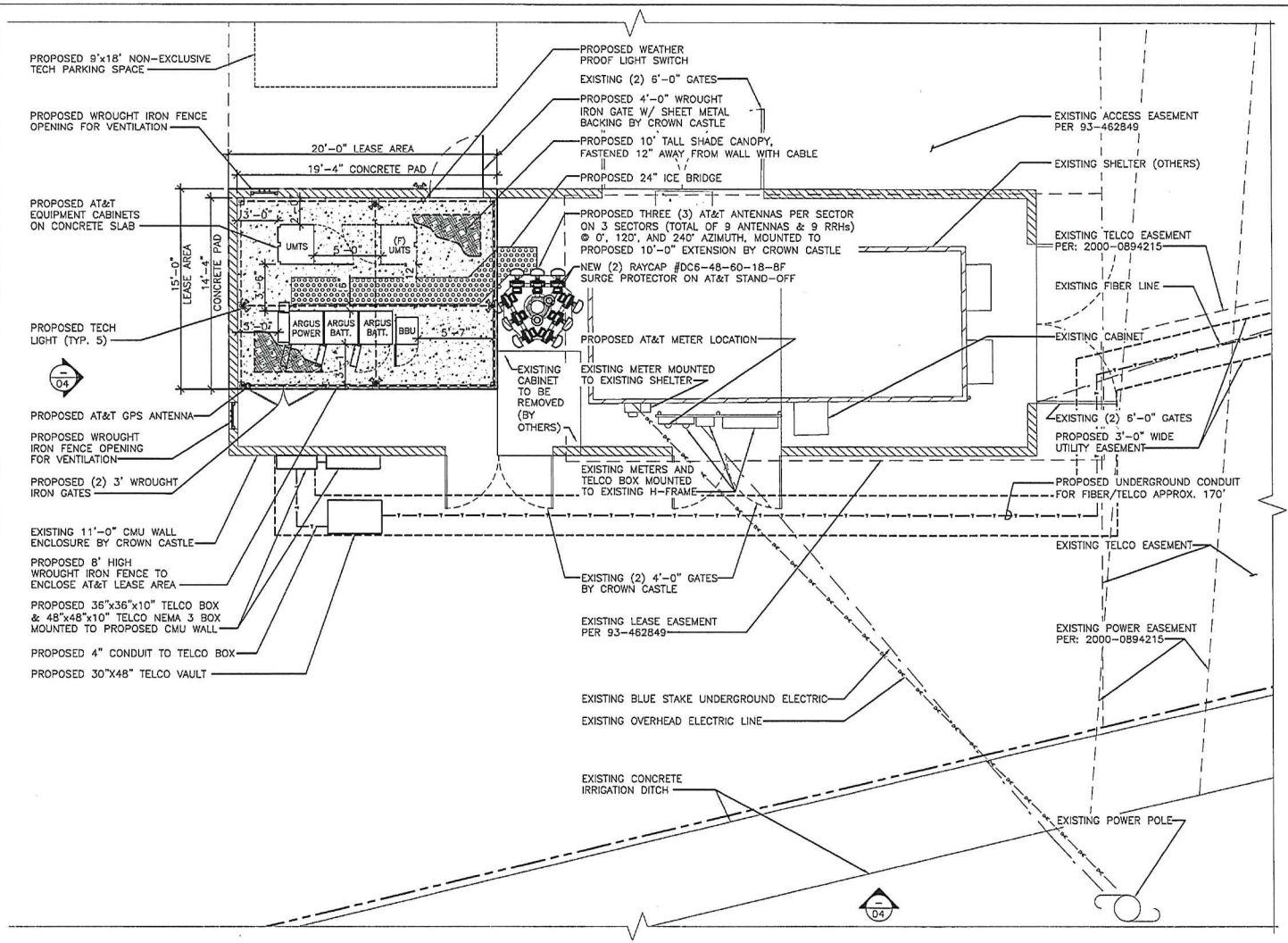
CALL TWO WORKING DAYS BEFORE YOU DIG
602-263-1100
1-800-STAKE-IT
(OUTSIDE MARICOPA COUNTY)

NOTE:
SCALE NOTED APPLIES TO 22"X34" SHEET SIZE. IF PRINT SIZE IS 11"X17", THEN ACTUAL SCALE IS ONE HALF OF SCALE NOTED. (EXAMPLE: 1/2" = 1'-0" BECOMES 1/4" = 1'-0" ON 11" X 17" SHEET SIZE). THIS NOTE APPLIES TO ALL DRAWING SHEETS.

LEGEND

- EXISTING EQUIPMENT
- PROPOSED EQUIPMENT
- FUTURE EQUIPMENT
- EXIST. CABLE TRAY
- PROPOSEDCABLE TRAY
- CONDUCTORS AND RACEWAY TO BE FURNISHED & INSTALLED BY SUBCONTRACTOR

GRAPHIC SCALE
0 1' 5' 10'
(22"x34" SHEET ONLY)



DETAILED SITE PLAN

SCALE: 1/4" = 1'

TeleSpan NETWORK SERVICES
2151 EAST BROADWAY ROAD, SUITE 217, TEMPE, AZ 85282
VOICE: 480.905.8689 FAX: 480.905.8818

CROWN CASTLE 806176
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23601 S. ARIZONA AVE.
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AT&T MOBILITY
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NO.	DATE	REVISIONS	BY	CHK	APP'D
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0	02/08/12	CLIENT COMMENTS	JM	BH	SM
A	01/26/12	ISSUED FOR REVIEW	JM	BH	SM

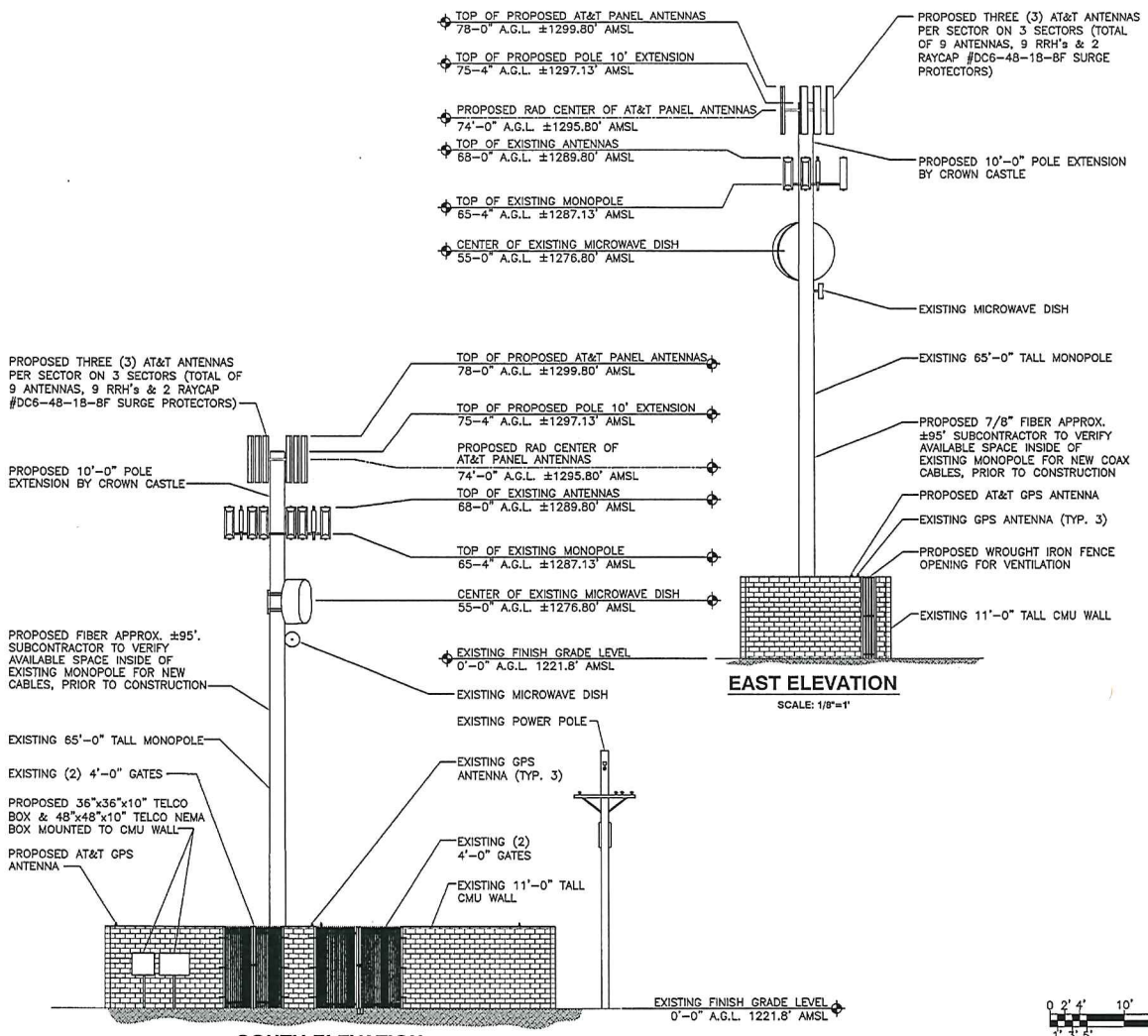
SCALE: AS SHOWN DESIGNED BY: JM DRAWN BY: JM

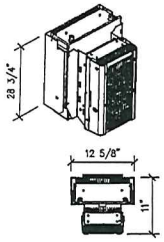
AT&T MOBILITY

DETAILED SITE PLAN

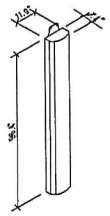
DRAWING NUMBER		REV
25471-620	PHNX-X508-03	1

22 x 34 "D" SIZE
PSC= : :





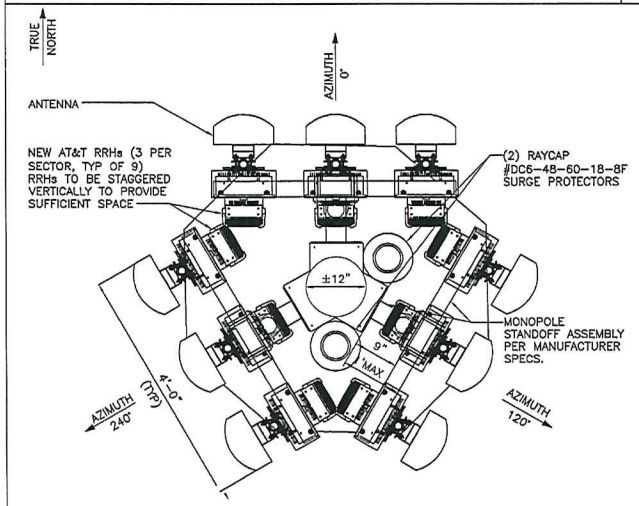
REMOTE RADIO HEAD (RRH)
MANUFACTURER:
ALCATEL-LUCENT
PART#: 9442



MANUFACTURER:
ANDREW
PART#: SBNH-1 D6565C
LENGTH: 96.4"
WIDTH: 11.9"
DEPTH: 7.1"
WEIGHT: 66.1 LBS (NET WEIGHT)

NOTE:
MOUNTING EQUIPMENT SUPPLIED W/ ANTENNA. INSTALL PER MANUFACTURER'S SPECIFICATIONS.

PANEL ANTENNA — SCALE: NTS — 1



NOTE:

1. THE NEW STANDOFF ARM ASSEMBLY AND ANTENNA MOUNTS ARE DESIGNED BY POLE MANUFACTURER OR POLE EXTENSION ENGINEER & PROVIDED BY BECHTEL
2. RRH's INSTALLED BEHIND ANTENNAS
3. ANTENNA CONFIGURATION INCLUDING MOUNTS, RRH's & TMA's TO BE VERIFIED BY BECHTEL COMMUNICATIONS

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A	01/26/12	ISSUED FOR REVIEW	JM	BH	SM

SCALE: AS SHOWN | DESIGNED BY: JM | DRAWN BY: JM

AT&T MOBILITY

TOWER ELEVATIONS & DETAILS

DRAWING NUMBER		REV
25471-620	PHNX-X508-04	1

22 x 34 "D" SIZE

X508 Coverage

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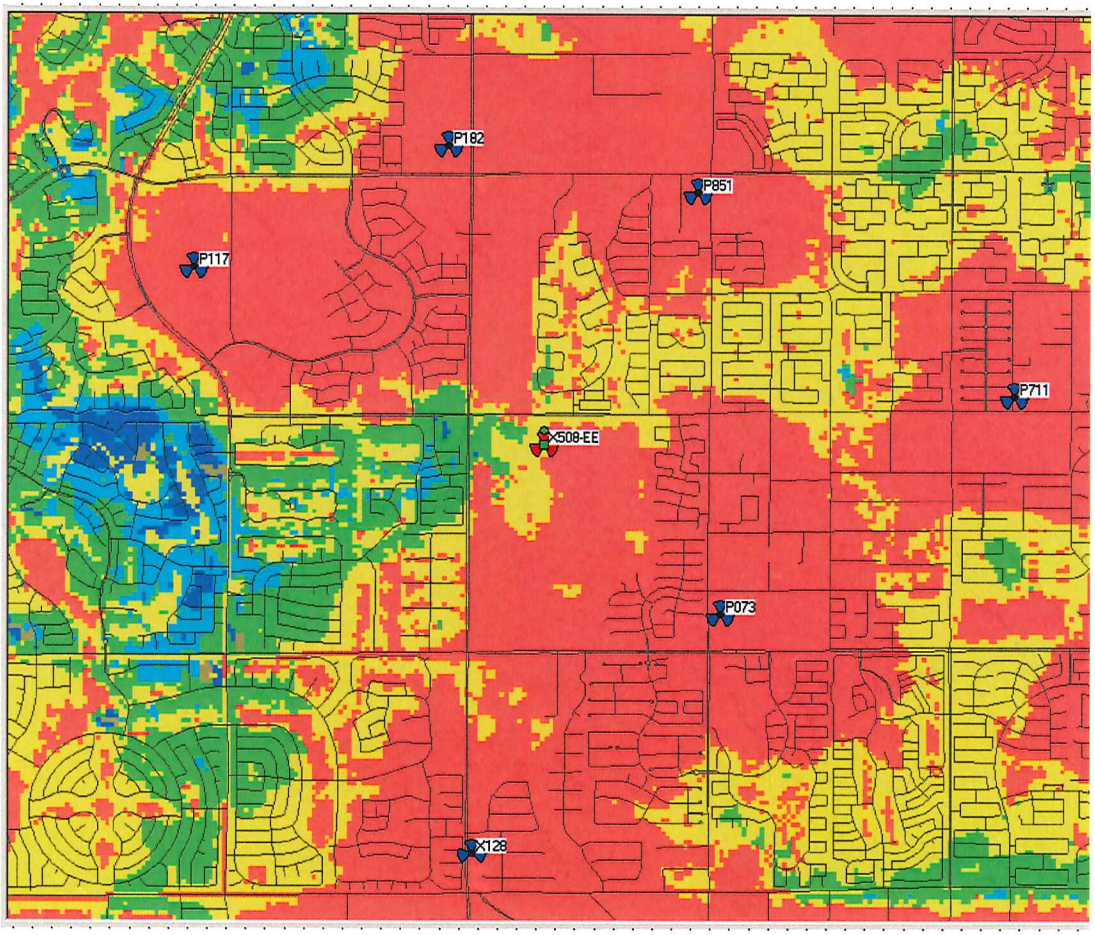
Existing Coverage



- Best Signal Level (dBm) >=-85
- Best Signal Level (dBm) >=-95
- Best Signal Level (dBm) >=-100
- Best Signal Level (dBm) >=-103
- Best Signal Level (dBm) >=-105
- Best Signal Level (dBm) >=-115

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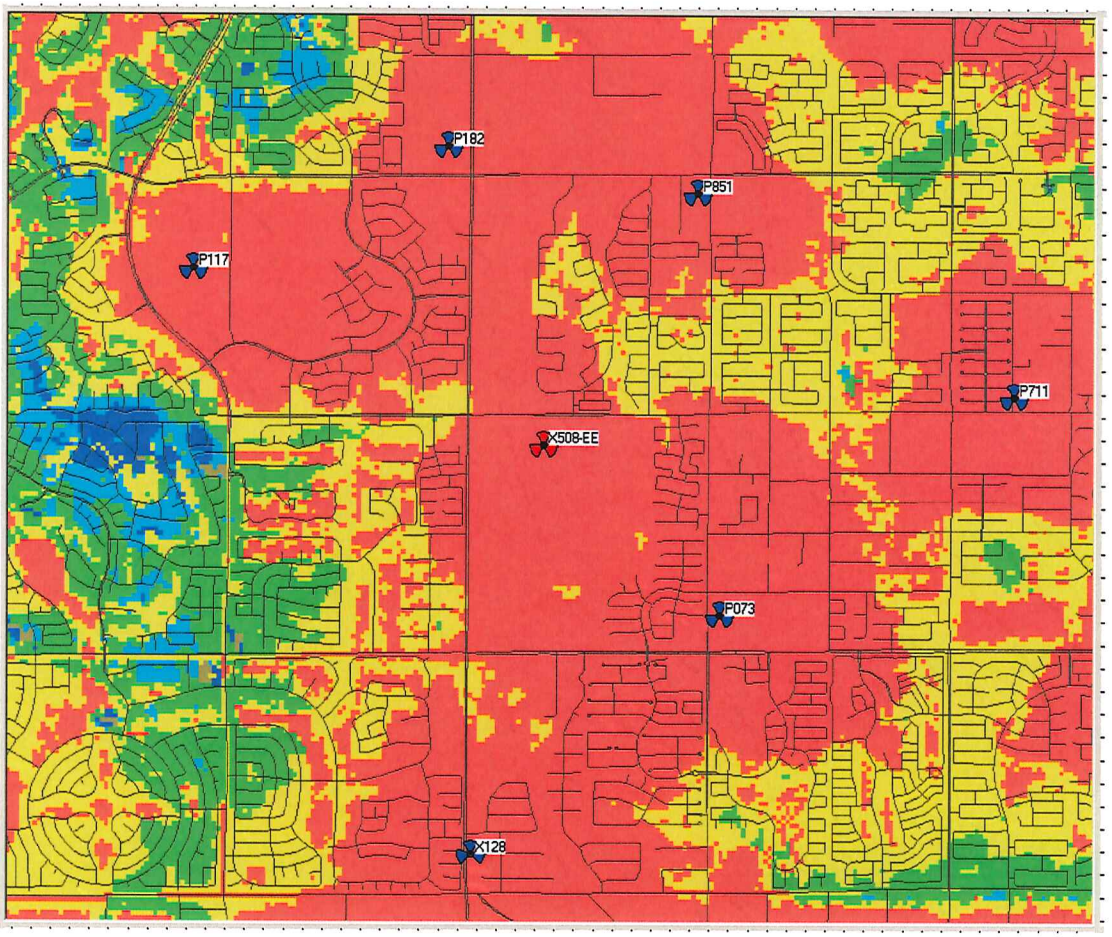
Existing Coverage with X508



- Best Signal Level (dBm) >=-85
- Best Signal Level (dBm) >=-95
- Best Signal Level (dBm) >=-100
- Best Signal Level (dBm) >=-103
- Best Signal Level (dBm) >=-105
- Best Signal Level (dBm) >=-115

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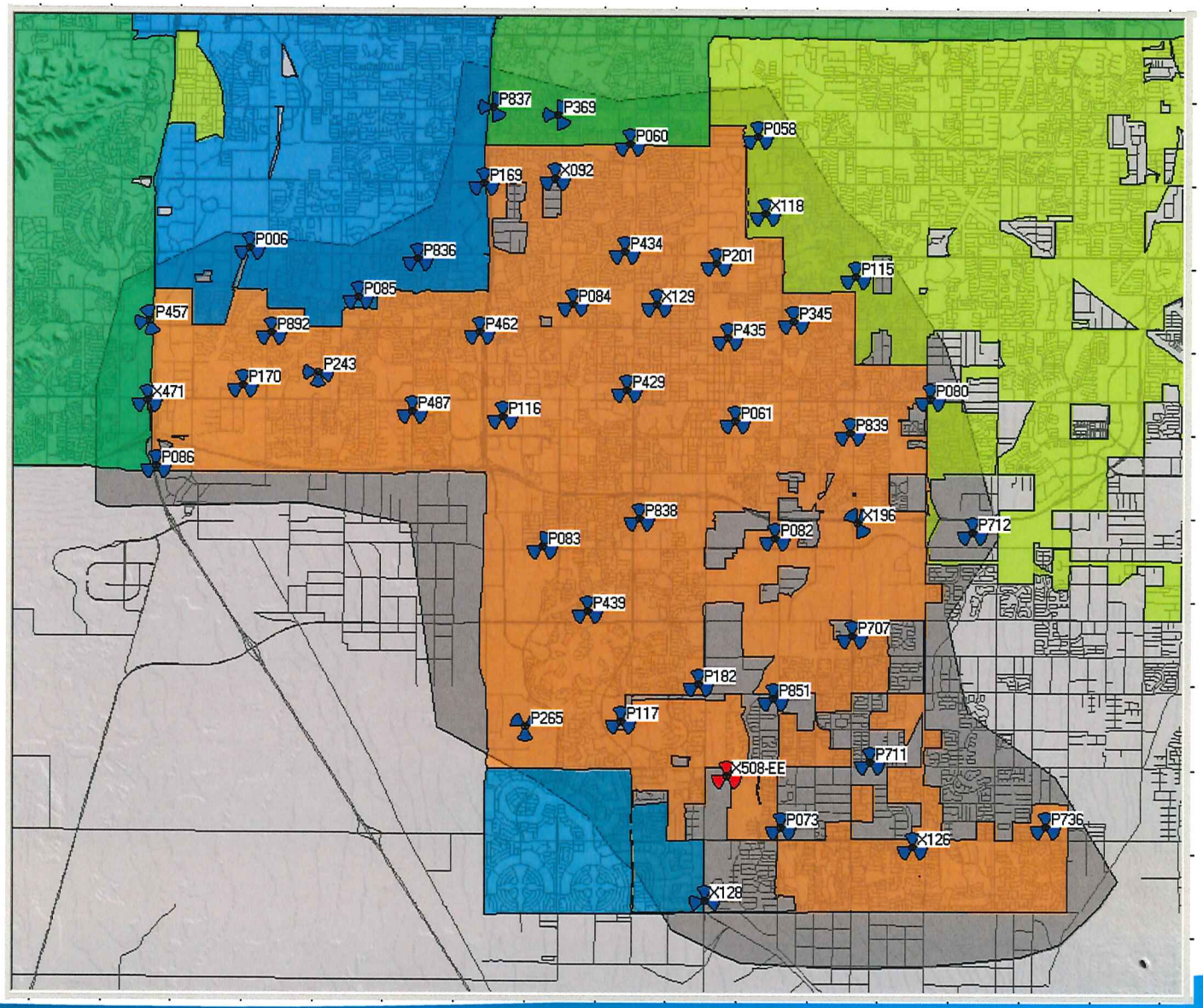
Chandler Area Sites



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Chandler Site List

Site	Short ID	Type	Antenna RAD Center
AZPHU0006	P006	Monopole	79'
AZPHU0058	P058	Monopole	120'
AZPHU0060	P060	Monopole	75'
AZPHU0061	P061	Monopole	65'
AZPHU0073	P073	Monopole	98'
AZPHU0080	P080	Monopole	65'
AZPHU0082	P082	Monopole	69'
AZPHU0083	P083	Monopole	102'
AZPHU0084	P084	Light Standard	59'
AZPHU0085	P085	Monopole	65'
AZPHU0086	P086	Monopole	75'
AZPHU0115	P115	Roof Top	69'
AZPHU0116	P116	Monopole	82'
AZPHU0117	P117	Monopole	69'
AZPHU0169	P169	Power Pole	62'
AZPHU0170	P170	Monopole	98'
AZPHU0182	P182	Light Standard	66'
AZPHU0201	P201	Monopole	66'
AZPHU0243	P243	Roof Top	68'
AZPHU0265	P265	Monopole	58'
AZPHU0345	P345	Light Standard	48'
AZPHU0369	P369	Stealth Pole (canister)	57'
AZPHU0429	P429	Power Pole	45'
AZPHU0434	P434	Palm Tree	62'
AZPHU0435	P435	Monopole	75'
AZPHU0439	P439	Light Standard	67'
AZPHU0457	P457	Monopole	61'
AZPHU0462	P462	Roof Top	77'
AZPHU0487	P487	Power Pole	58'
AZPHU0707	P707	Power Pole	68'
AZPHU0711	P711	Monopole	65'
AZPHU0712	P712	Monopole	60'
AZPHU0736	P736	Light Standard	78'
AZPHU0836	P836	Palm Tree	53'
AZPHU0837	P837	Power Pole	70'
AZPHU0838	P838	Palm Tree	58'
AZPHU0839	P839	Light Standard	37'
AZPHU0851	P851	Monopole	52'
AZPHU0892	P892	Stealth Pole (canister)	47'
AZPHU6092	X092	Palm Tree	60'
AZPHU6118	X118	Light Standard	65'
AZPHU6126	X126	Palm Tree	60'
AZPHU6128	X128	Palm Tree	63'
AZPHU6129	X129	Palm Tree	63'
AZPHU6196	X196	Palm Tree	58'
AZPHU6471	X471	Pine Tree	52'

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