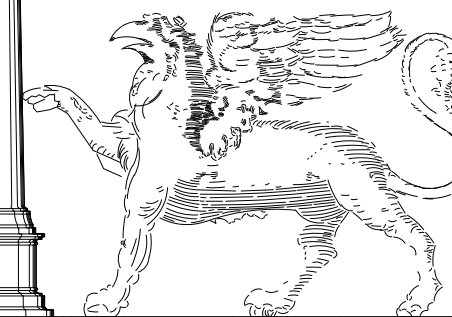




# T-Mobile

## SD06002A SAN DIEGO ZOO - SKYFARI BLDG. 2920 ZOO DRIVE, BALBOA PARK, SAN DIEGO, CA 92101



No.	Revision / Issue	Date
A	ISSUED FOR REVIEW	06/26/12
B	SD ZOO COMMENTS	07/23/12

MITCHELL J ARCHITECTURE, INC.  
 4883 RONSON COURT, SUITE N  
 SAN DIEGO, CA 92111  
 TEL: (658) 650-3130 (PH) / (658) 650-3140 (FAX)  
 WWW.MITCHELLJARCHITECTURE.COM



**T-Mobile**  
 LOSOS VISTA SORRENTO  
 PARKWAY SUITE 206  
 SAN DIEGO, CA 92121

**SAN DIEGO ZOO - SKYFARI BLDG.**  
**SD06002A**  
**2920 ZOO DRIVE**  
**SAN DIEGO, CA 92101**



Project: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Drawn By: RRA  
 Checked By: AB  
 Scale: NO SCALE

Mitchell J. Architecture

# G-001

Title Sheet, Project Information & Vicinity Map

architecture Mitchell J architecture

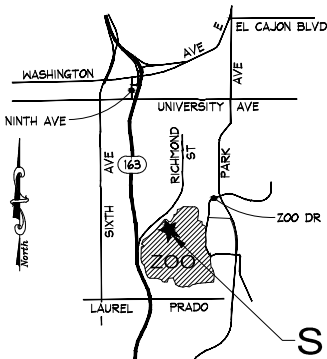
### LEGAL DESCRIPTION:

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

THAT PORTION OF PUEBLO LOT #181 OF THE PUEBLO LANDS, ACCORDING TO MAP MADE BY JAMES PASCOE IN 1870, AND FILED IN THE OFFICE OF THE COUNTY RECORDER OF SAN DIEGO COUNTY ON NOVEMBER 14, 1921 AS MISCELLANEOUS MAP #36, COMMONLY KNOWN AS THE SKYFARI WEST TERMINAL, AND BEING A PART OF THAT CERTAIN AREA IDENTIFIED AS "SAN DIEGO ZOO" ON SHEET 1 OF THAT CERTAIN SAN DIEGO ASSESSOR'S MAP BOOK 760 PAGE 212 PARCEL 45, WHICH IS MAPPED FOR ASSESSMENT PURPOSES ONLY, AND AS SUPPORTED BY THE SAN DIEGO REGIONAL URBAN INFORMATION SYSTEM AND THE SAN DIEGO DATA PROCESSING CORPORATION, BUT WITHOUT THE ASSUMPTION OF ANY LIABILITY BY THE AGENCIES.

### DIRECTIONS TO SITE

- (FROM T-MOBILE OFFICE: 10509 VISTA SORRENTO PARKWAY SUITE 206, SAN DIEGO, CA 92121)
- GO SOUTHEAST ON VISTA SORRENTO PARKWAY
  - TAKE THE FIRST RIGHT ONTO SORRENTO VALLEY RD.
  - TAKE THE RAMP ONTO I-805 SOUTH
  - TAKE EXIT 20 TO MERGE ONTO CA-163 SOUTH TOWARDS DOWNTOWN.
  - TAKE EXIT 2A ONTO WASHINGTON ST. EAST
  - KEEP LEFT ON THE FORK, FOLLOW SIGNS FOR UNIVERSITY AVENUE
  - TURN LEFT ONTO NINTH AVE
  - TURN LEFT ONTO UNIVERSITY AVE.
  - TURN RIGHT ONTO PARK BLVD.
  - TURN RIGHT ONTO ZOO DR.



### RF INITIALS:

DATE \_\_\_\_\_

### ARCHITECT INITIALS:

DATE \_\_\_\_\_

### SITE ACQUISITION INITIALS:

DATE \_\_\_\_\_

### ZONING/PLANNING INITIALS:

DATE \_\_\_\_\_

### CONSTRUCTION INITIALS:

DATE \_\_\_\_\_

### LANDLORD INITIALS:

DATE \_\_\_\_\_

### ACCESSIBILITY DISCLAIMER

THIS PROJECT IS AN UNOCCUPIED WIRELESS TELECOMMUNICATIONS FACILITY AND, ACCORDING TO WRITTEN INTERPRETATION FROM THE CALIFORNIA DEPARTMENT OF THE STATE ARCHITECT, IS EXEMPT FROM DISABLED ACCESS REQUIREMENTS.

### PROJECT STATEMENT

I HEREBY CERTIFY THAT THIS PROJECT COMPLIES WITH TITLE 24, PART 6 OF THE CALIFORNIA STATE CODE.

SIGNED \_\_\_\_\_

LEGAL DESCRIPTION

DIRECTIONS TO SITE

VICINITY MAP

CLIENT APPROVALS

TITLE 24 COMPLIANCE

### APPLICABLE CODES

- ALL WORK SHALL COMPLY WITH ALL APPLICABLE CODES, INCLUDING BUT NOT LIMITED TO:
- 2010 CALIFORNIA BUILDING CODE (CBC) / 2009 INTERNATIONAL BUILDING CODE (IBC)
  - 2010 CALIFORNIA RESIDENTIAL CODE (CRC) / 2009 INTERNATIONAL RESIDENTIAL CODE (IRC)
  - 2010 CALIFORNIA ELECTRICAL CODE (CEC) / 2008 NATIONAL ELECTRICAL CODE (NEC)
  - 2010 CALIFORNIA MECHANICAL CODE (CMC) / 2009 UNIFORM MECHANICAL CODE (UMC)
  - 2010 CALIFORNIA PLUMBING CODE (CPC) / 2009 UNIFORM PLUMBING CODE (UPC)
  - 2010 CALIFORNIA FIRE CODE (CFC) / 2009 (IFC)
  - 2010 CALIFORNIA GREEN BUILDINGS STANDARDS CODE
  - 2008 BUILDING ENERGY EFFICIENCY STANDARDS

**SITE NAME**  
SAN DIEGO ZOO - SKYFARI BLDG.  
**SITE NUMBER**  
SD06002A  
**SITE ADDRESS**  
2920 ZOO DRIVE  
SAN DIEGO, CA 92101  
**OWNER**  
ZOOLOGICAL SOCIETY OF SAN DIEGO  
2920 ZOO DRIVE  
SAN DIEGO, CA 92101

**APPLICANT**  
T-MOBILE  
10509 VISTA SORRENTO PARKWAY  
SUITE 206  
SAN DIEGO, CA 92121  
**ASSESSOR'S PARCEL NUMBER:**  
760-212-45  
**CURRENT ZONING:**  
UNZONED

**(E) TYPE OF CONSTRUCTION:**  
TYPE V  
**PROJECT DESCRIPTION:**  
T-MOBILE WIRELESS PROPOSES TO CONTINUE OPERATING AND MAINTAIN AN UNMANNED, DIGITAL MOBILE RADIO COMMUNICATIONS FACILITY AT THIS SITE.

- ENTITLEMENTS:** (6) ANTENNAS, (2) EQUIPMENT CABINETS
- (6) EXISTING ANTENNAS TO BE REPLACED BY (6) NEW ANTENNAS
  - (2) EXISTING EQUIPMENT CABINETS - NO CHANGE.

**OPERATING FREQUENCIES:**  
 TX (GSM) - 1950 TO 1965 MHZ  
 RX (GSM) - 1870 TO 1885 MHZ  
 TX (WCDMA) - 2150 TO 2155 MHZ  
 RX (WCDMA) - 1750 TO 1755 MHZ

**ARCHITECTS & ENGINEERS**  
MITCHELL J. ARCHITECTURE  
4883 RONSON COURT, SUITE N  
SAN DIEGO, CA 92111  
TEL: (658) 650-3130  
FAX: (658) 650-3140

**CONTACT:** ART BROWN (PROJECT MANAGER)

**APPLICANT REPRESENTATIVE**  
MITCHELL J. ARCHITECTURE  
4883 RONSON COURT, SUITE N  
SAN DIEGO, CA 92111  
TEL: (658) 650-3130  
FAX: (658) 650-3140

**CONTACT:** LYNEA BARRETT (SITE ACQUISITION SPECIALIST)

**APPLICANT CONTACT**  
T-MOBILE WEST CORP.  
10509 VISTA SORRENTO PARKWAY STE 206  
SAN DIEGO, CA 92121  
TEL: (658) 334-6158

Sheet Number	Sheet Title
G-001	TITLE SHEET - PROJECT INFORMATION & VICINITY MAP
A-101	SITE PLAN & NOTES
A-201	EXTERIOR ELEVATIONS
A-401	EQUIPMENT LAYOUT PLAN
D-501	ANTENNA DETAILS

MCMXCVII

APPLICABLE CODES

MCMXCVII

PROJECT SUMMARY

MCMXCVII

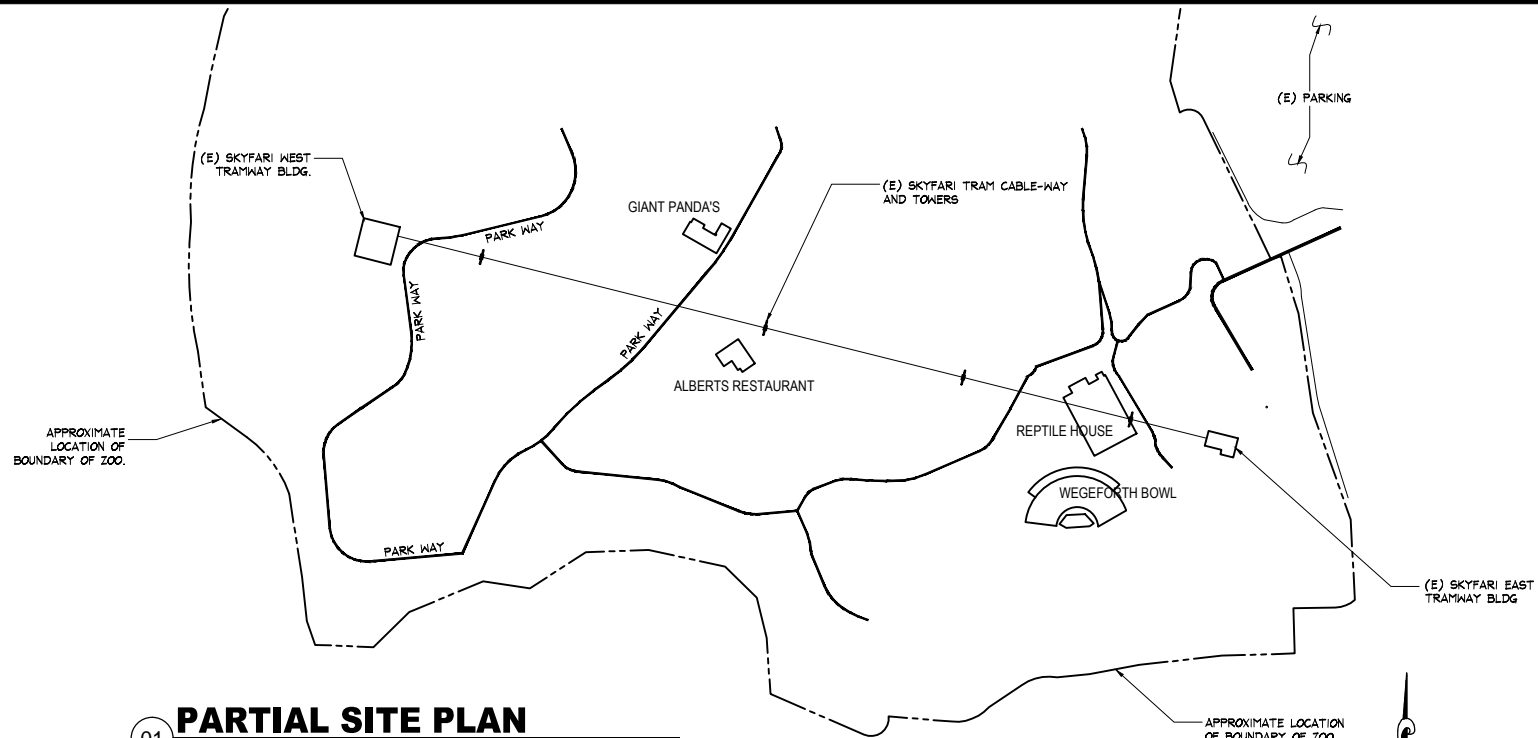
CONSULTANT TEAM

MCMXCVII

SHEET INDEX

THIS IS NOT A SITE SURVEY.  
ALL PROPERTY BOUNDARIES, ORIENTATION OF TRUE NORTH AND STREET HALF-WIDTHS HAVE BEEN OBTAINED FROM AN EXISTING PLAN DATED 02-07-96 'FINAL CD' AND ARE APPROXIMATE.

ANTENNA SCHEDULE		
AZIMUTH	2G	3G
A	0°	0°
B	120°	120°
C	240°	240°

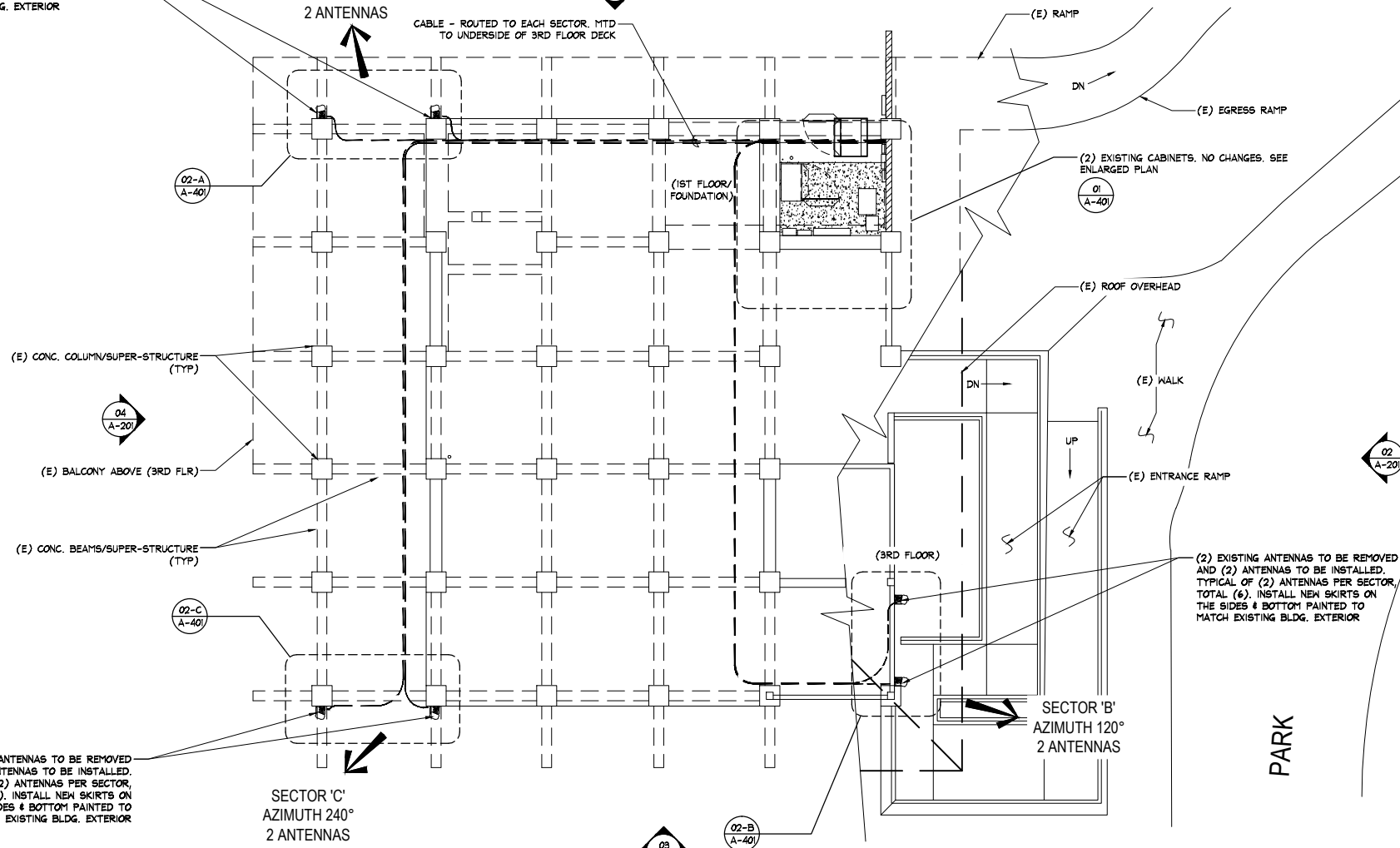


**01 PARTIAL SITE PLAN**  
SCALE: NTS

(2) EXISTING ANTENNAS TO BE REMOVED AND (2) ANTENNAS TO BE INSTALLED. TYPICAL OF (2) ANTENNAS PER SECTOR, TOTAL (6). INSTALL NEW SKIRTS ON THE SIDES & BOTTOM PAINTED TO MATCH EXISTING BLDG. EXTERIOR

SECTOR 'A'  
AZIMUTH 0°  
2 ANTENNAS

CABLE - ROUTED TO EACH SECTOR, MTD TO UNDERSIDE OF 3RD FLOOR DECK



**02 ENLARGED PARTIAL SITE PLAN**  
SCALE: 1/16" = 1'-0"

(2) EXISTING ANTENNAS TO BE REMOVED AND (2) ANTENNAS TO BE INSTALLED. TYPICAL OF (2) ANTENNAS PER SECTOR, TOTAL (6). INSTALL NEW SKIRTS ON THE SIDES & BOTTOM PAINTED TO MATCH EXISTING BLDG. EXTERIOR

SECTOR 'C'  
AZIMUTH 240°  
2 ANTENNAS

(2) EXISTING ANTENNAS TO BE REMOVED AND (2) ANTENNAS TO BE INSTALLED. TYPICAL OF (2) ANTENNAS PER SECTOR, TOTAL (6). INSTALL NEW SKIRTS ON THE SIDES & BOTTOM PAINTED TO MATCH EXISTING BLDG. EXTERIOR

SECTOR 'B'  
AZIMUTH 120°  
2 ANTENNAS

No.	Revision / Issue	Date
A	ISSUED FOR REVIEW	06/26/12
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**SITE PLAN & NOTES**

**Mobile**

**San Diego Zoo - Skyfari Bldg.**  
SD06002  
2920 ZOO DRIVE  
SAN DIEGO, CA 92101

**MITCHELL J. ARCHITECTURE, INC.**  
8880 JONES BLVD., SUITE N  
SAN DIEGO, CA 92131  
858.650.3130 (ph) / 858.650.3140 (fax)

**MITCHELL J. architecture**

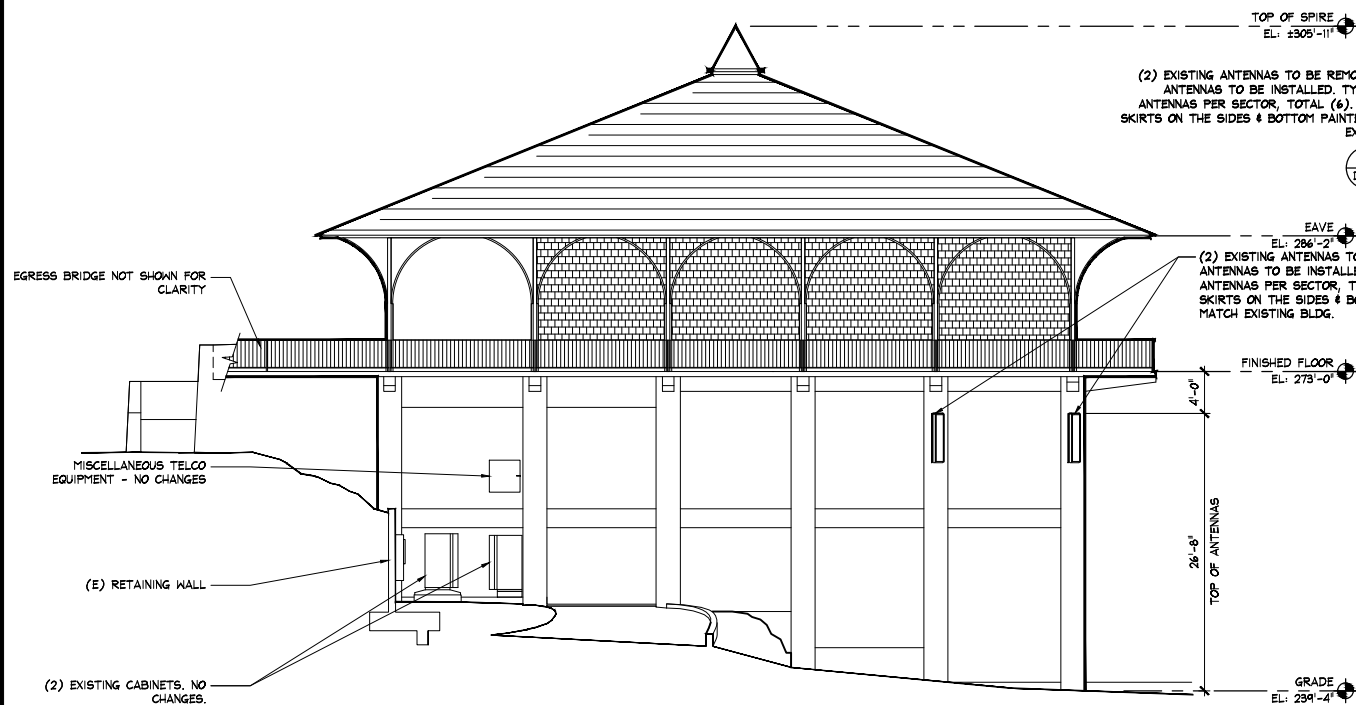


Project	
Date	
Drawn By	RRA
Checked By	AB
Scale	AS SHOWN

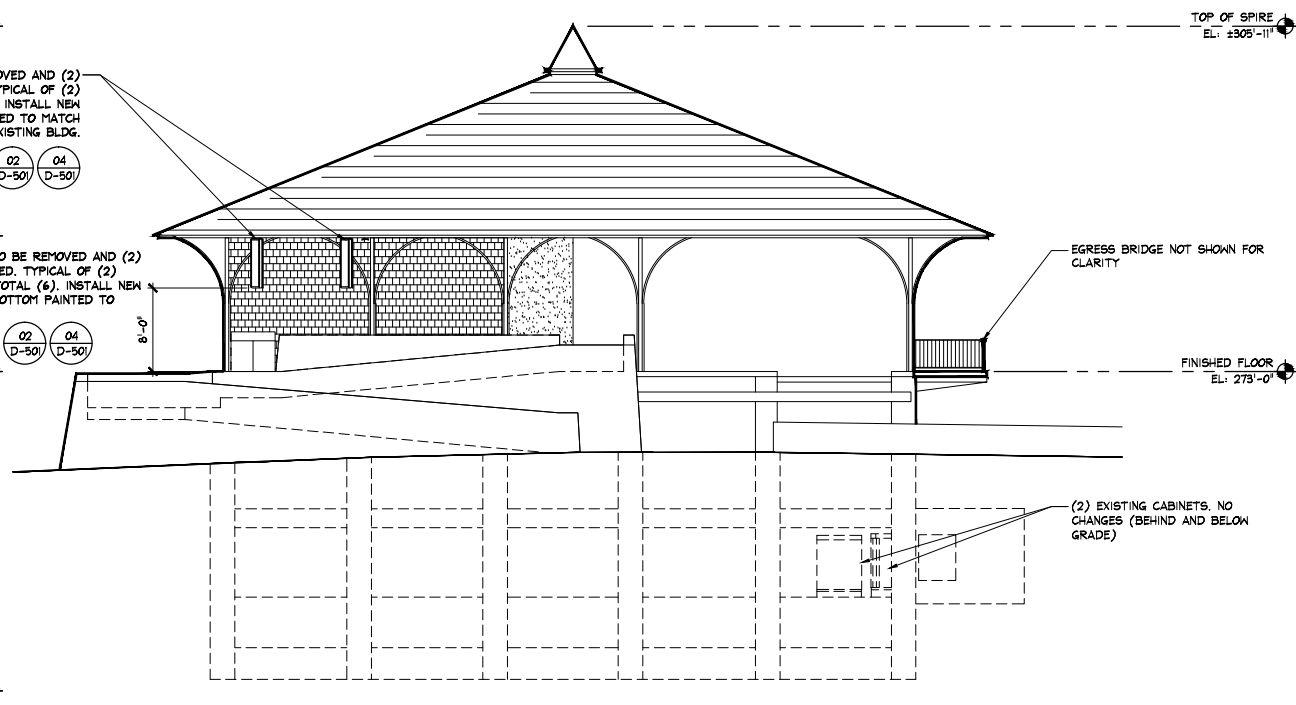
**MITCHELL J. ARCHITECTURE**

**A-101**

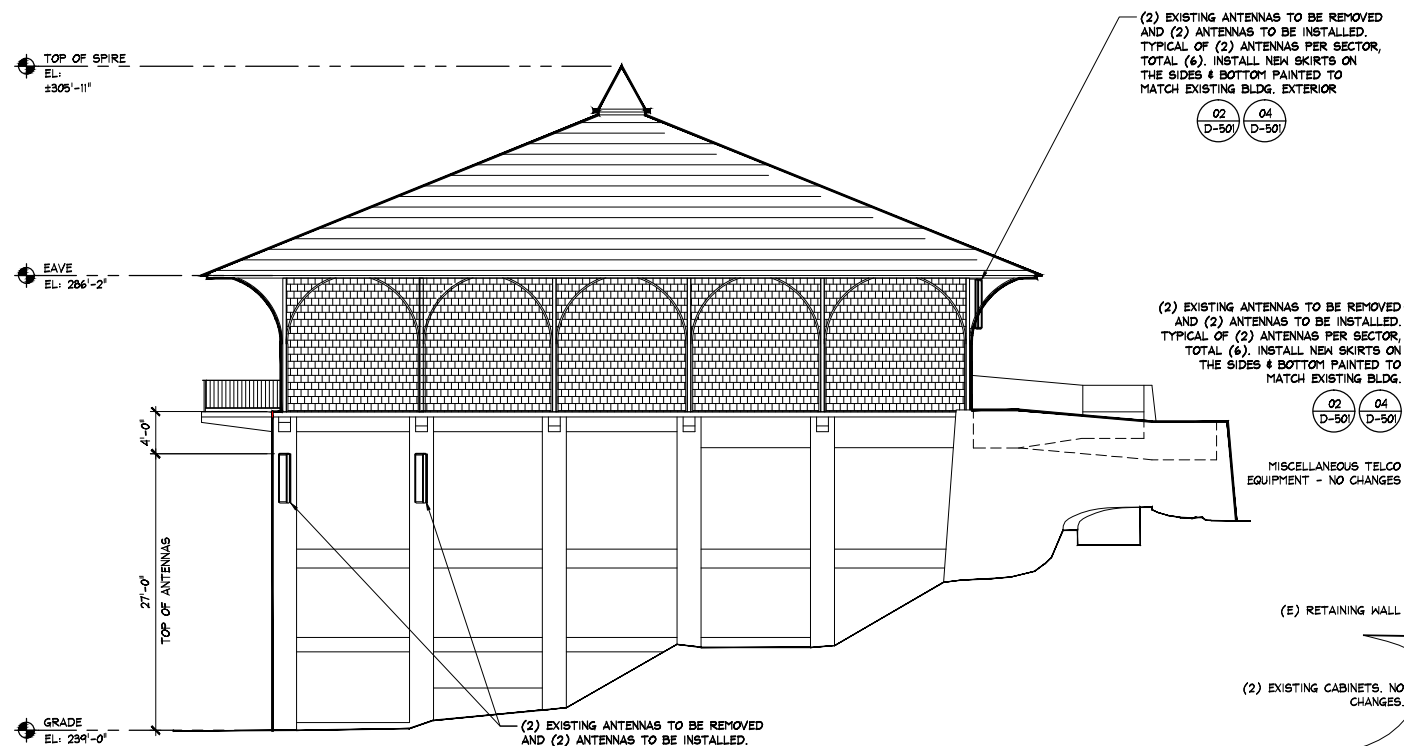
No.	Revision / Issue	Date
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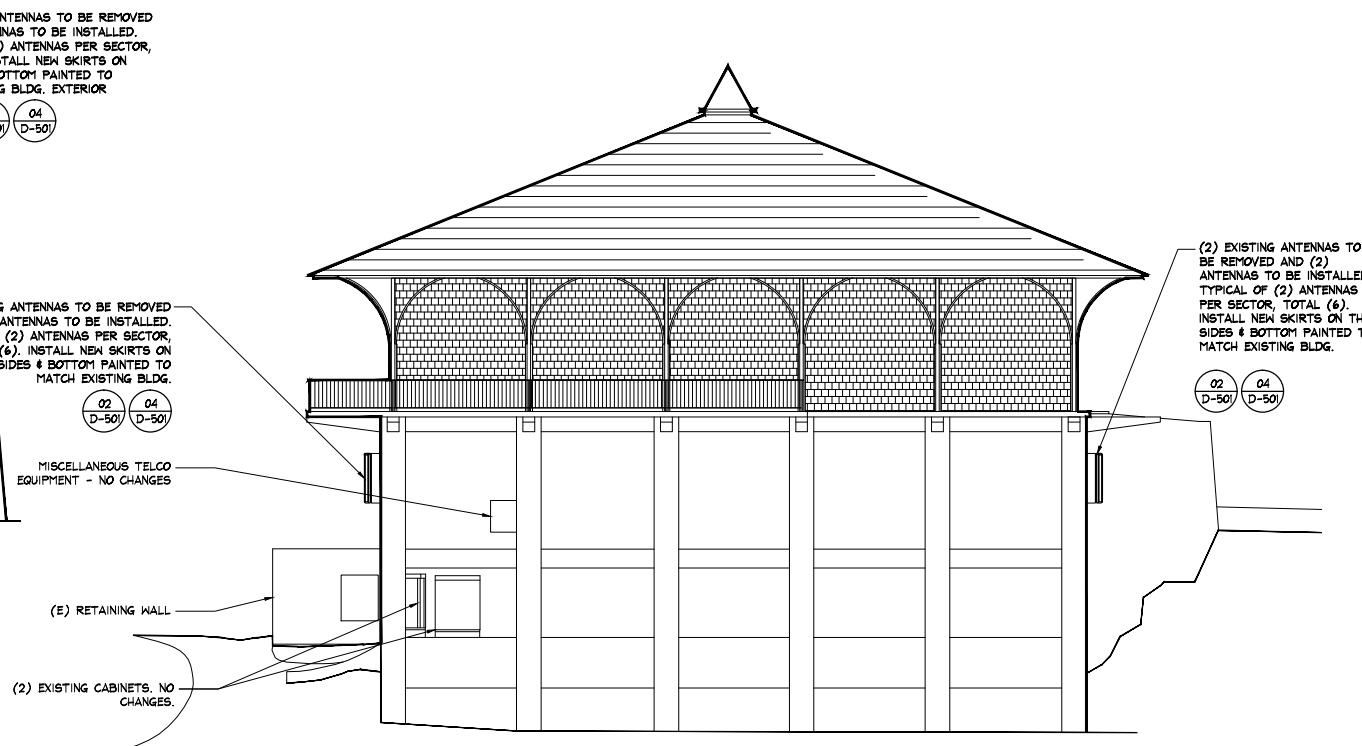
01 **NORTH ELEVATION**  
SCALE: 1/8" = 1'-0"



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



03 **SOUTH ELEVATION**  
SCALE: 1/8" = 1'-0"



04 **WEST ELEVATION**  
SCALE: 1/8" = 1'-0"

**EXTERIOR ELEVATIONS**  
**Mobile**  
 LOS ANGELES VISTA SORRENTO  
 PARKWAY SUITE 206  
 SAN DIEGO, CA 92121  
**San Diego Zoo - SkyFari Bldg.**  
 2920 ZOO DRIVE  
 SAN DIEGO, CA 92101  
**architecture Mitchell J architecture**

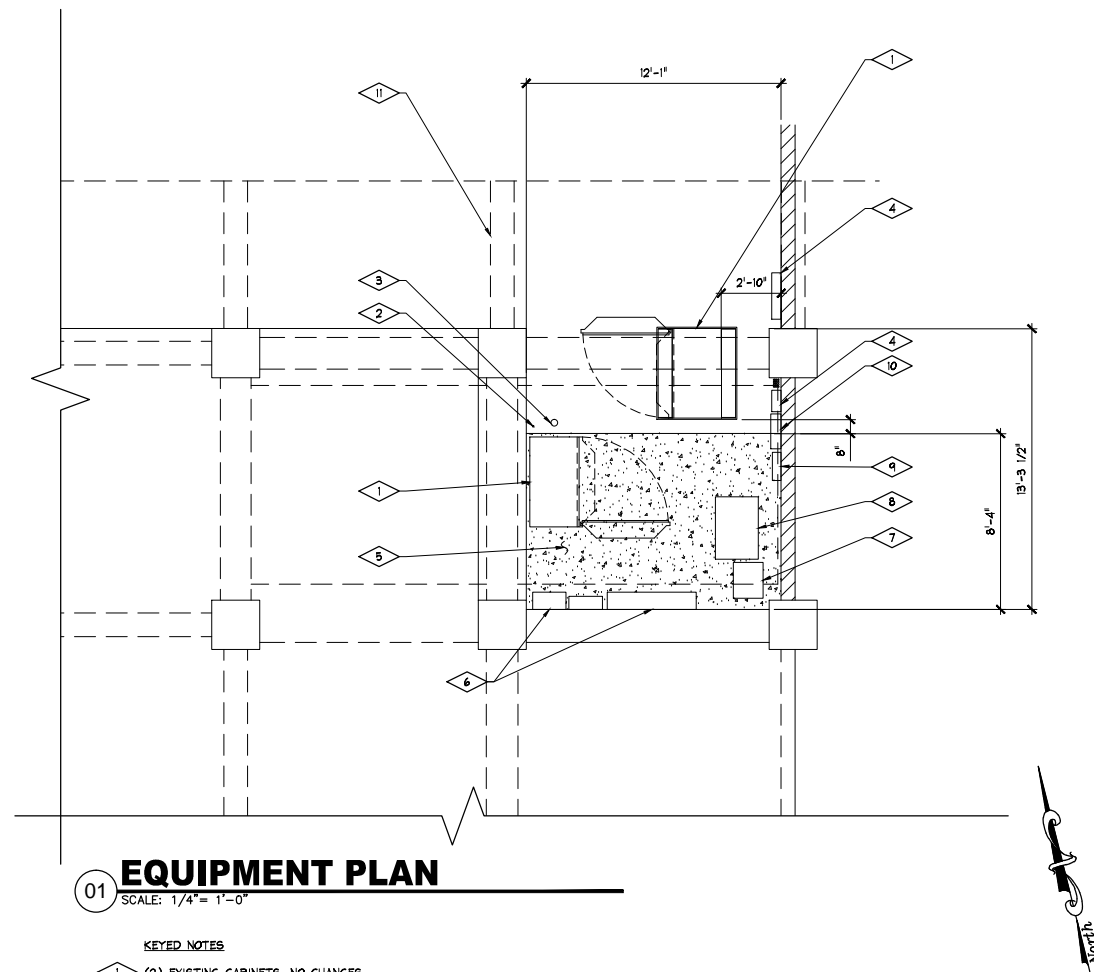
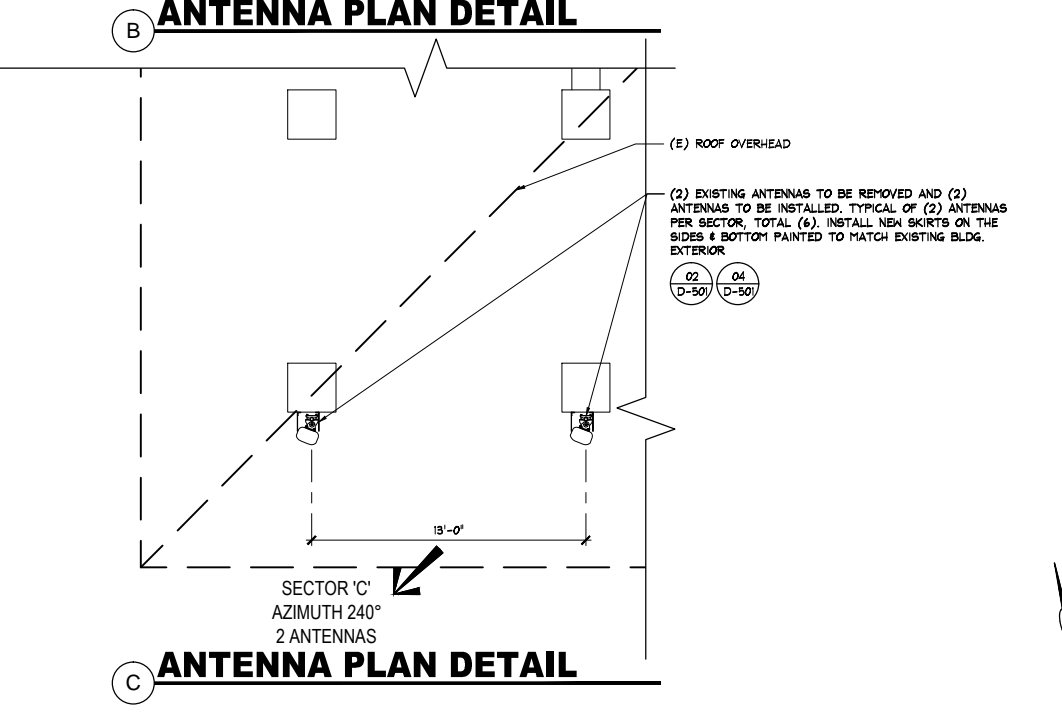
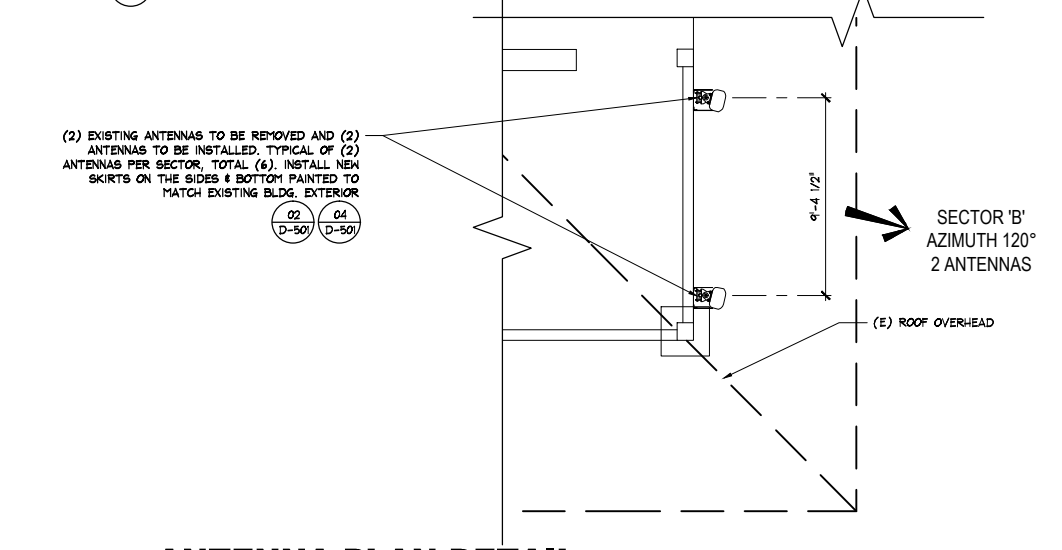
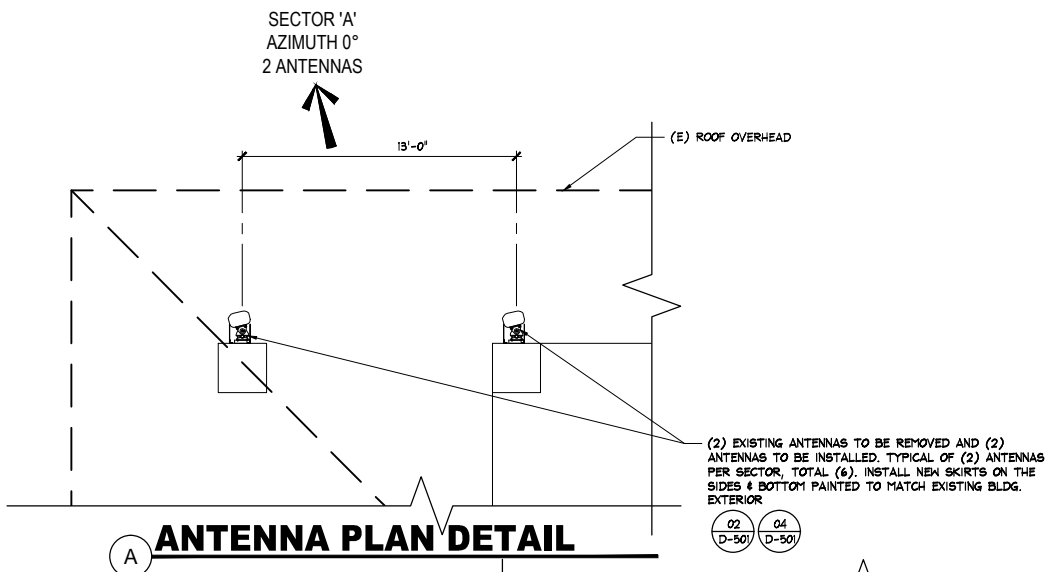


Project	
Date	
Drawn By	RRA
Checked By	AB
Scale	AS SHOWN

Mitchell J. Architecture

**A-201**

No.	Revision / Issue	Date
A	ISSUED FOR REVIEW	06/26/12
B	SD ZOO COMMENTS	07/23/12



- KEYED NOTES**
- 1 (2) EXISTING CABINETS. NO CHANGES.
  - 2 (E) 3/4" C
  - 3 (E) 4" C
  - 4 (E) TELCO BOX
  - 5 (E) CONCRETE SLAB
  - 6 (E) ELECTRICAL BOX
  - 7 (E) SKYFARI MAIN SWITCH
  - 8 (E) TRANSFORMER
  - 9 (E) ATS
  - 10 (E) AC PANEL
  - 11 (E) OVERHEAD CONC. BEAMS

EQUIPMENT LAYOUT PLAN

SAN DIEGO ZOO - SKYFARI BLDG.  
S.D. 06002  
2920 ZOO DRIVE  
SAN DIEGO, CA 92101

Mobile  
LOSOS VISTA SORRENTO  
PARKWAY SUITE 206  
SAN DIEGO, CA 92121


MITCHELL J. ARCHITECTURE, INC.  
8880 JONES BLVD., SUITE N  
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M Mitchell J. architecture



Project	
Date	
Drawn By	RRA
Checked By	AB
Scale	AS SHOWN

Mitchell J. Architecture  
**A-401**

	<b>TMBX-6516-R2M</b> DualPol® Panel Antenna	<b>DualPol®</b> Teletilt®
<ul style="list-style-type: none"> <li>Patented cross dipole and feed system</li> <li>Rugged, reliable design with excellent PIM suppression</li> <li>Includes factory installed AISG 2.0 RET actuator</li> <li>Fully compatible with Andrew Teletilt® remote control antenna system</li> </ul>		
<b>ELECTRICAL</b>		
Frequency Range (MHz):	1710-2155	
Characteristic Impedance (Ohms):	50	
Azimuth BW (Deg):	65 ± 6	
Elevation BW (Deg):	7.2 ± 1.1	
Gain (dBi):	17.5 ± 0.7	
Polarization:	±45°	
Front-to-Back Ratio (dB)	0° 2° 4° 6° 8° 10°	
Copol, 180° ± 30°:	>25 >25 >25 >24 >24	
Total Power, 180° ± 30°:	>24 >24 >24 >24 >22	
Upper Sidelobe (dB)	0° 2° 4° 6° 8° 10°	
Main Beam ID >20°:	>+18 >+18 >+17 >+15 >+12	
VSWR / Return Loss (dB):	1.35:1 / 16.5	
Port-to-Port Isolation (dB):	>30	
Electrical Tilt Range (Deg):	0-10	
Electrical Downtilt Accuracy (Deg):	± 0.6	
Cross-pol (dB)	0° 2° 4° 6° 8° 10°	
± 3 dB Beamwidth:	>+15 >+15 >+15 >+15 >+14	
Intermodulation Products (dBc)		
3rd Order, 2 x 20 Watts:	155	
Max. Input Power (Watts):	250	
Lightning Protection:	DC Ground	
<b>PERFORMANCE TRACKING</b>		
Gain Variation (dB) (between UL and DL frequency pair):	1.3	
Electrical Tilt Accuracy (Deg) (between UL and DL frequency pair within 0.5°):	<0.5	
Azimuth HPBW (Deg) (between UL and DL frequency pair):	9	
<b>MECHANICAL</b>		
Net Weight (kg / lbs):	5.1 / 11.2	
Dimensions-LxWxD:	1528 x 168 x 84 mm	
(with actuator)	60.1 x 6.6 x 3.3 inch	
Length without actuator	1306 mm / 51.4 inch	
Max. Wind Area (m² / ft²):	0.11 / 1.2	
Max. Wind Load (N / lbf):	298.0 / 67.0	
Max. Wind Speed (km/h / mph):	241 / 150	
Hardware Material:	Hot Dip Galvanized	
Connector Type:	7-16 DIN, Female (2)	
Color:	Off White	
Standard Mounting Hardware:	TM602030A	

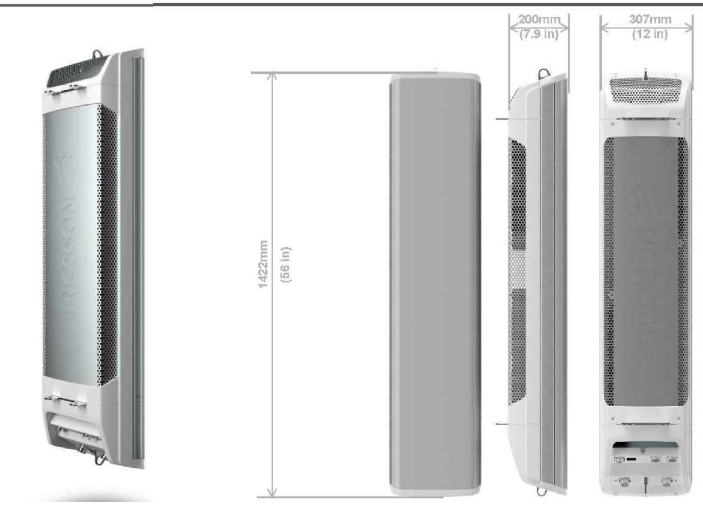


\*Specifications may vary when using 0° or 1° electrical tilt.

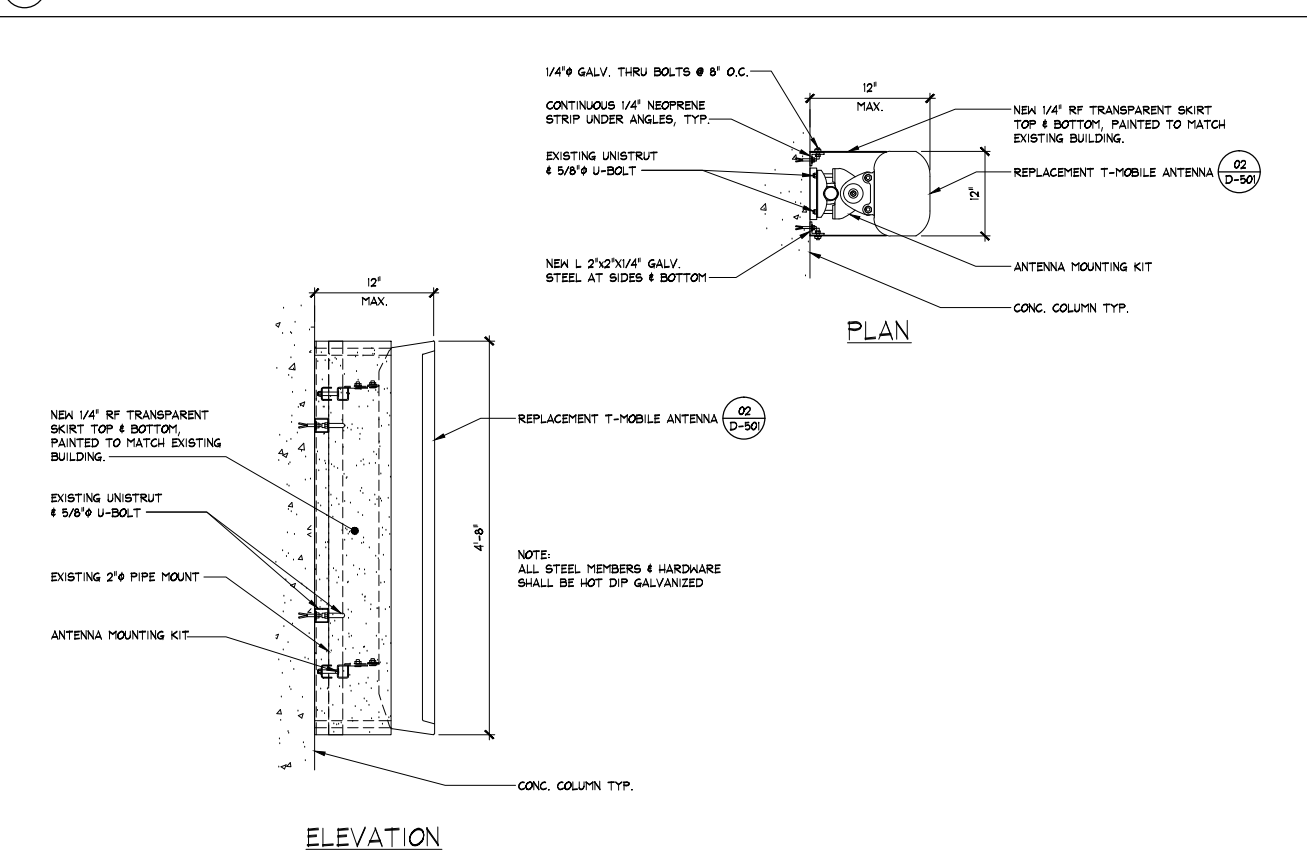
Andrew Wireless Solutions www.commscope.com  
 Customer Service 24 hours  
 U.S.A., Canada, Mexico: 1-800-368-4478 © 2008 Commscope, Inc. All rights reserved.  
 U.K.: 0800 220055 Andrew Wireless Solutions is a trademark of Commscope. All trademarks identified by ® or ™ are registered trademarks or trademarks, respectively, of Commscope. This document is for planning purposes only and is not intended to modify or supplement any specifications or warranties relating to Andrew Wireless Solutions products or services.  
 TM602030A  
 Information correct at date of issue but may be subject to change without notice.

### AIR 21 - Key Data

- Radio:
  - Frequency bands: 1900 MHz (B2) and 1700/2100 MHz (B4)
  - One active antenna/radio, supporting e.g. 2x2 MIMO, 2 Tx + 4 Rx
  - 8 Carriers (4 carriers per radio)
  - IBW = 20 MHz per radio
- Antenna
  - One best in class 65° passive antenna : 17,2 to 17,8 dBi gain
  - Two integrated RETs, one per frequency band, -2° - 12° tilt
  - Vertical beam width : 6.5° - 7.1°
  - Dual column for UL beam-forming / 4-way RX Diversity
- Interfaces
  - Two optical fiber ports (CPR) for active antenna/radio
  - One power connector, -48 V DC
  - Two 7/16 female connectors for passive antenna, with RET support
  - Two N female connectors for LMU (RX sharing ports) on 1900 MHz variant
- Physical Characteristics and Environment:
  - H x W x D = 1422 x 307 x 200 mm (56" x 12" x 7.9")
  - 41.5 kg (91 lbs). Two mounting brackets - add 1 2.1 kg ( 5 lbs).
  - <750 N Wind load (worst direction, static @ 150 km/h)
  - Operating temperature range: -40°C to +55°C (-40°F to +131°F)
  - Heat dissipation 300 W



### PROPOSED ANTENNA DETAIL



### PROPOSED ANTENNA MOUNTING DETAIL

SCALE: N.T.S.

### EXISTING ANTENNA DETAIL

SCALE: N.T.S.

### NOT USED

SCALE: N.T.S.

No.	Revision / Issue	Date
A	ISSUED FOR REVIEW	06/26/12
B	SD ZOO COMMENTS	07/23/12

**ANTENNA DETAILS**

**Mitchell J. Architecture**

**Mobile**

SAN DIEGO ZOO - SKYFARI BLDG.  
 2920 ZOO DRIVE  
 SAN DIEGO, CA 92101

**Mitchell J. Architecture**  
 LICENSED ARCHITECT  
 No. C20355  
 STATE OF CALIFORNIA

Project: \_\_\_\_\_  
 Date: \_\_\_\_\_  
 Drawn By: RRA  
 Checked By: AB  
 Scale: AS SHOWN

**D-501**