SEATAC TRANSMITTAL CHECKLIST
COUNTY OF LOS ANGELES
PROJECT NO. R2015-03222-(5)
CONDITIONAL USE PERMIT NO. 201500128

All of the below items, and this completed checklist, must be submitted to the SEATAC secretary

ITEM	COMPLETED
Completed SEA CUP application -electronic copy	✓
Site plan- hard copy (1)	✓
Site plan- electronic copy	✓
Applicant fees paid.	✓
Staff biologist site visit conducted.	N/A
Project Description and Recommendations Form (electronic copy)	✓
Any additional materials relevant to the project that the planner and/or staff biologist would like SEATAC to review (electronic copies)	✓
(*If applicable*) SEA BCA (electronic copy)	N/A
SEA BCA Checklist And Recommendations (electronic copy)	N/A
(*If applicable*) SEA Biota Report (electronic copy)	N/A
SEA Biota Report Checklist (electronic copy)	N/A

Los Angeles County
Department of Regional Planning

Planning for the Challenges Ahead

Richard J. Bruckner
Director

December 24, 2015

TO: SEATAC

FROM: Anthony Curzi, Regional Planning Assistant II AC
Zoning Permits North Section

SUBJECT: CROWN CASTLE WIRELESS TELECOMMUNICATION FACILITY IN SEA
PROJECT NO. R2015-03222-(5)
CONDITIONAL USE PERMIT NO. 201500128
ENVIRONMENTAL ASSESSMENT NO. 201500234
AGENDA ITEM NO. 3

BACKGROUND AND PROJECT INFORMATION

The Project is for the reauthorization of a previously approved wireless telecommunication facility (WTF) located in Santa Susana Mountains/Simi Hills Significant Ecological Area (SEA [No. 20]). The WTF was originally authorized through Conditional Use Permit (CUP) No. 91049-(5) on July 2, 1991. Another CUP (No. 95-071-[5]) authorized the modification of the WTF on August 13, 1996. This CUP expired on September 10, 2006. CUP No. 200600217 again reauthorized the use on April 1, 2008.

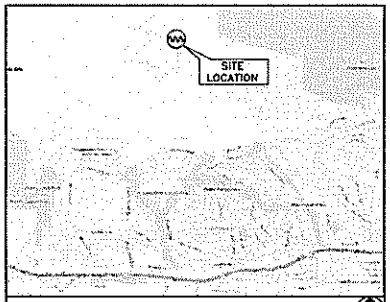
The Project Site is located on Palo Sola Truck Road in unincorporated Chatsworth in the west San Fernando Valley. The WTF is comprised of a 100-foot-tall lattice tower with an assortment of antennas and appurtenant equipment and a ground lease area. No modifications, including increases in height, are proposed at this time.

ORIGINAL MITIGATED NEGATIVE DECLARATION

An Initial Study concluded that a Mitigated Negative Declaration (MND) was the appropriate environmental documentation under the California Environmental Quality (CEQA). The MND stipulated that development shall remain within an area confined by a chain-link fence and that the applicant obtain an oak tree permit prior to trimming, removing, or removing any oak tree.

RG:AMC
December 24, 2015

OAT MOUNTAIN
PALO SOLA TRUCK ROAD, CHATSWORTH, CA 91313



VICINITY MAP

START AT 151 KALMUS DRIVE, COSTA MESA, CA 92626

GET ON CA-73 N FROM RED HILL AVE AND BRISTOL ST
HEAD NORTH TOWARD KALMUS DR
TURN RIGHT ONTO KALMUS DR
TURN RIGHT ONTO RED HILL AVE
TURN LEFT ONTO BRISTOL ST
TURN LEFT ONTO CAMPUS DR
TURN LEFT ONTO BRISTOL ST N
TAKE THE CA 73 N RAMP ON THE LEFT TO CALIFORNIA 55/INTERSTATE 405
FOLLOW I-405 N AND CA-118 W TO BROWNS CANYON RD IN LOS ANGELES.
TAKE THE DE SOTO AVE EXIT FROM CA-118 W
CONTINUE ON BROWNS CANYON RD. DRIVE TO PALO SOLA TRUCK RD
TURN RIGHT ONTO BROWNS CANYON RD
CONTINUE ONTO PALO SOLA TRUCK RD
DESTINATION WILL BE ON THE RIGHT

SITE DIRECTIONS

PROJECT DESCRIPTION:

APPLICATION FOR CONDITIONAL USE PERMIT FOR EXISTING 100-FOOT TALL LATTICE TOWER AND ASSOCIATED EQUIPMENT SHELTER.

PROJECT DESCRIPTION

PROPERTY OWNER

OWNER:	PACIFIC LIGHTING SERVICE, CO. C/O CROWN CASTLE INC. 38 EXECUTIVE PARK, SUITE 310 IRVINE, CA 92614
CONTACT:	NICHOLAS BURKE
DIRECT PHONE:	(909) 930-4349
EMAIL:	NICHOLAS.BURKE@CROWNCASTLE.COM

PARCEL INFORMATION:

A.P.N.:	2826-017-802
OCCUPANCY:	U
CONSTRUCTION TYPE:	V-B
CURRENT ZONING:	A-2-2
ACCESSIBILITY REQ'D:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. HANDICAPPED ACCESS NOT REQUIRED.

PROJECT SUMMARY

ARCHITECT:

DCI PACIFIC
32 EXECUTIVE PARK, SUITE 110
IRVINE, CA 92614
CONTACT: D.K. DO
PHONE: (949) 475-1000
E-MAIL: DK@DCIPACIFIC.COM
FAX: (949) 475-1001

APPLICANT REPRESENTATIVE:

AREEJ RAJPUT
CORE DEVELOPMENT SERVICES
2749 SATURN ST.
BREA, CA 92821
PHONE: (714) 729-8404
(714) 292-8391
EMAIL: ARAJPUT@CORE.US.COM

PROJECT TEAM

POWER:

COMPANY: SCE
PHONE: 1-800-990-7788

TELCO:

COMPANY: AT&T
PHONE: 1-800-288-2020

UTILITY PROVIDERS

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

1. 2013 CALIFORNIA ADMINISTRATIVE CODE (CAC)
2. 2013 CALIFORNIA BUILDING CODE (CBC), VOLUMES 1, AND 2
(2012 EDITION INTERNATIONAL BUILDING CODE WITH 2013 CALIFORNIA AMENDMENTS)
3. 2013 CALIFORNIA ELECTRICAL CODE
(2011 EDITION NATIONAL ELECTRICAL CODE WITH 2013 CALIFORNIA AMENDMENTS)
4. 2013 CALIFORNIA MECHANICAL CODE (CMC)
(2012 EDITION IAPMO UNIFORM MECHANICAL CODE WITH 2013 CALIFORNIA AMENDMENTS)
5. 2013 CALIFORNIA ENERGY CODE
(2013 EDITION CALIFORNIA ENERGY COMMISSION BUILDING ENERGY EFFICIENCY STANDARDS)
6. 2013 CALIFORNIA FIRE CODE (CFC)
(2012 EDITION OF INTERNATIONAL FIRE CODE WITH 2010 CALIFORNIA AMENDMENTS)
7. 2013 CALIFORNIA GREEN CODE
8. 2013 CALIFORNIA REFERENCES STANDARDS CODE
9. APPLICABLE LOCAL CODES

CODE COMPLIANCE

SHEET	DESCRIPTION	ISSUE LEVEL
T1	TITLE SHEET	--
A1	SITE PLAN	--
A2	ROOF PLAN & ANTENNA LAYOUT PLAN	--
A3	NORTH AND SOUTH ELEVATIONS	--
A4	EAST AND WEST ELEVATIONS	--
A5	COMMSCOPE VHLP4-18 SPECIFICATIONS	--
A6	COMMSCOPE VHLP2-23 SPECIFICATIONS	--
A7	COMMSCOPE VHLP2-18 SPECIFICATIONS	--
A8	AXXCELERA ANTENNA SPECIFICATIONS	--
A9	HUGHES ANTENNA SPECIFICATIONS	--
A10	MTI MT-463013 ANTENNA AND RADWIN MBS 5200 SPECIFICATIONS	--
A11	RFS ANTENNA SPECIFICATIONS	--
12	SHEETS TOTAL	

ISSUED FOR: ZONING
JURISDICTION: LOS ANGELES COUNTY

SHEET INDEX

DO NOT SCALE DRAWINGS

GENERAL CONTRACTOR NOTES

DCI PACIFIC
A|E|C WORKS
ARCHITECTURE | ENGINEERING | CONSULTING
32 EXECUTIVE PARK | SUITE 110
IRVINE | CA 92614

TelePacific COMMUNICATIONS

VeloTera

PROJECT IDENTIFICATION:
OAT MOUNTAIN
PALO SOLA TRUCK ROAD,
CHATSWORTH, CA 91313

CURRENT ISSUE DATE
08/24/15

ISSUED FOR:
ZONING

APPROVALS:

APPROVED BY:	INITIALS:	DATE:
LANDLORD		
LEASING		
ZONING		
RF		
CM		

DRAWN BY:	CHK:	APV:
IP	BOK	DKD

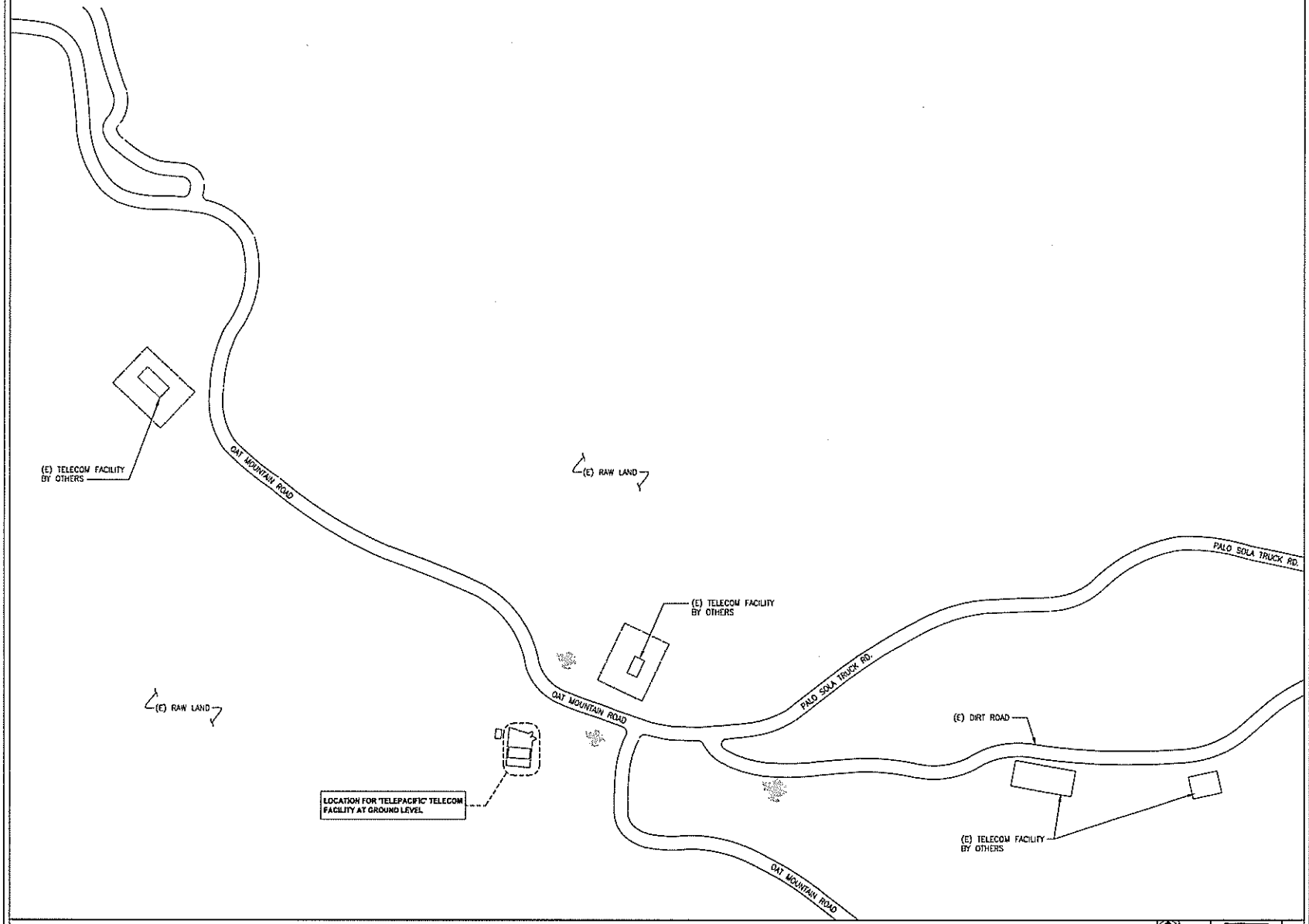
ISSUE STATUS:

△	DATE:	DESCRIPTION:	BY:
---	03/20/14	90% ZD	IP
---	07/10/14	100% ZD	VT
---	07/30/15	UPDATED ZD	VT
---	08/24/15	UPDATED PROJECT DESCRIPTION	VT

SHEET TITLE:
TITLE SHEET

SHEET NUMBER: **T1**
ISSUE LEVEL:
OAT MOUNTAIN

NOTE:
NO SURVEY DRAWINGS PROVIDED



SITE PLAN

NORTH SCALE: 1"=40'-0" 0 20' 40' 80'

1

DCI PACIFIC
A|E|C WORKS
ARCHITECTURE | ENGINEERING | CONSULTING
32 EXECUTIVE PARK | SUITE 110
IRVINE | CA 92614

TelePacific COMMUNICATIONS

VeloTera

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OAT MOUNTAIN
PALO SOLA TRUCK ROAD,
CHATSWORTH, CA 91313

CURRENT ISSUE DATE:
08/24/15

ISSUED FOR:
ZONING

APPROVALS:

APPROVED BY:	INITIALS:	DATE
LANDLORD		
LEASING		
ZONING		
RF		
CM		

DRAWN BY:	CHK:	APV:
IP	BOK	DKD

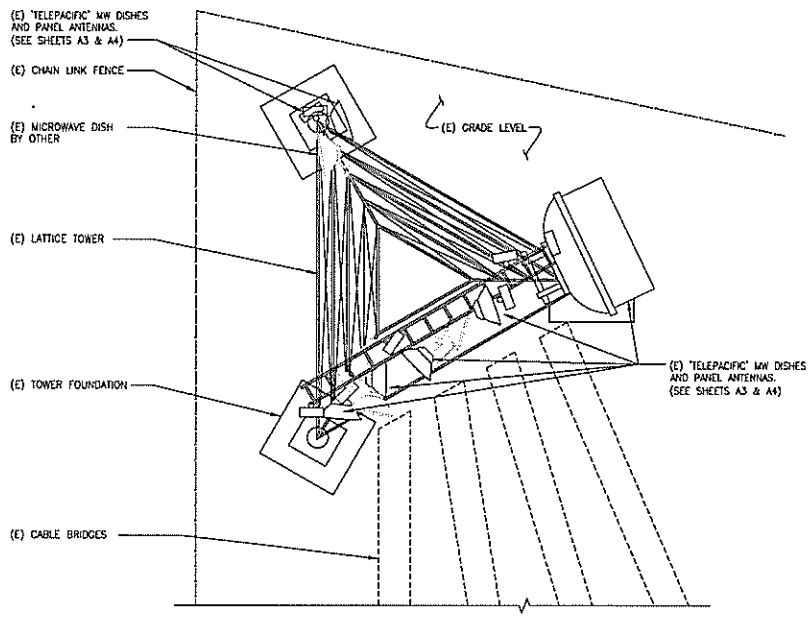
ISSUE STATUS:

△	DATE:	DESCRIPTION:	BY:
	05/30/14	90% ZD	IP
	07/10/14	100% ZD	VT
	07/30/15	UPDATED ZD	VT
	08/24/15	UPDATED PROJECT DESCRIPTION	VT

SHEET TITLE:
SITE PLAN

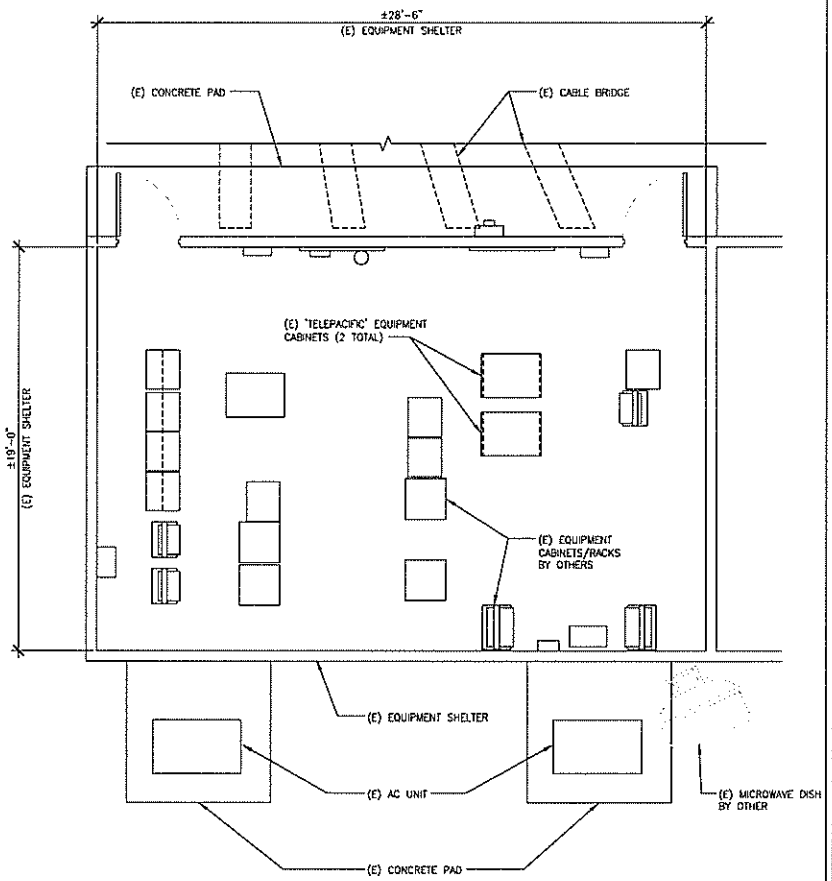
SHEET NUMBER: **A1**

ISSUE LEVEL: OAT MOUNTAIN



ANTENNA LAYOUT PLAN

NORTH | SCALE: 3/8"=1'-0" | 0 1' 2' 3' | 2



EQUIPMENT LAYOUT PLAN

NORTH | SCALE: 3/8"=1'-0" | 0 1' 2' 3' | 1

DCI PACIFIC
A|E|C WORKS
ARCHITECTURE | ENGINEERING | CONSULTING
32 EXECUTIVE PARK | SUITE 110
IRVINE | CA 92614

TelePacific COMMUNICATIONS

VeloTera

PROJECT IDENTIFICATION:
OAT MOUNTAIN
PALO SOLA TRUCK ROAD,
CHATSWORTH, CA 91313

CURRENT ISSUE DATE:
08/24/15

ISSUED FOR:
ZONING

APPROVALS:

APPROVED BY:	INITIALS:	DATE:
LANDLORD		
LEASING		
ZONING		
RF		
CM		

DRAWN BY:	CHK:	APV:
IP	BOK	DKD

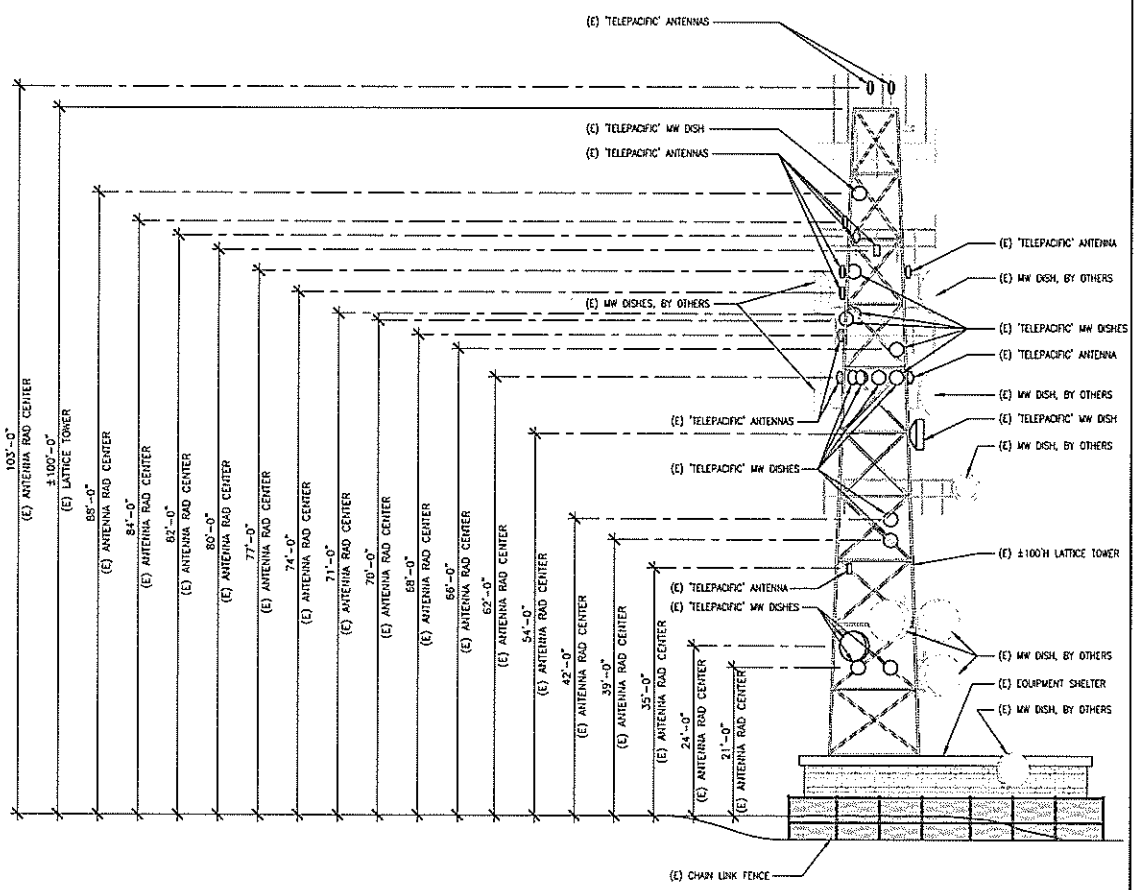
ISSUE STATUS:

△	DATE:	DESCRIPTION:	BY:
___	05/30/14	90% ZD	IP
___	07/10/14	100% ZD	VT
___	07/30/15	UPDATED ZD	VT
___	08/24/15	UPDATED PROJECT DESCRIPTION	VT

SHEET TITLE:
EQUIPMENT & ANTENNA LAYOUT PLAN

SHEET NUMBER: **A2**
ISSUE LEVEL: OAT MOUNTAIN

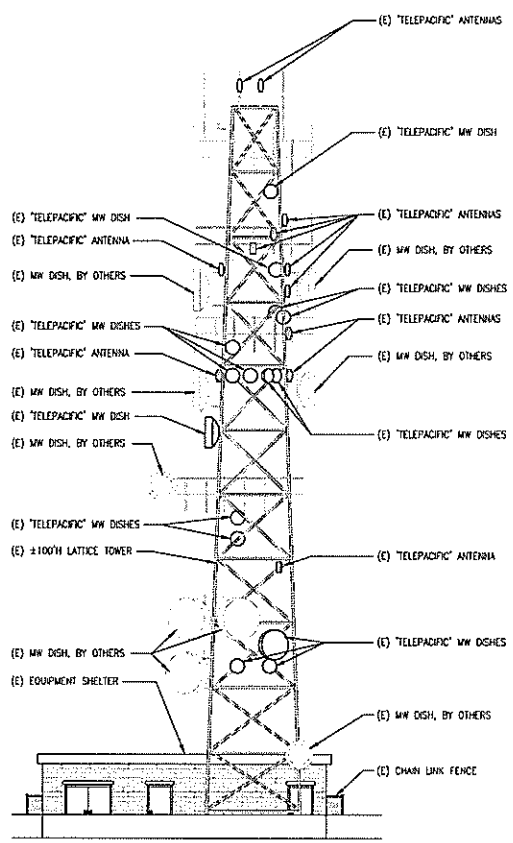
"TELEPACIFIC" ANTENNAS ON (E) 100' LATTICE TOWER:
- TWO, 12"ø MW DISH
- TWELVE, 24"ø MW DISH
- TWO, 48"ø MW DISH
- TWELVE, 20" & 27" ANTENNAS



SOUTH ELEVATION

SCALE: 1/8"=1'-0" 0 2' 4' 8'

2



NORTH ELEVATION

SCALE: 1/8"=1'-0" 0 2' 4' 8'

1

DCI PACIFIC
A|E|C WORKS
ARCHITECTURE | ENGINEERING | CONSULTING
30 ENDELINE PARK | SUITE 110
IRVINE | CA 92614

TelePacific COMMUNICATIONS

VeloTera

PROJECT IDENTIFICATION:
OAT MOUNTAIN
PALO SOLA TRUCK ROAD,
CHATSWORTH, CA 91313

CURRENT ISSUE DATE:
08/24/15

ISSUED FOR:
ZONING

APPROVALS:

APPROVED BY:	INITIALS:	DATE:
LANDLORD		
LEASING		
ZONING		
RF		
CM		

DRAWN BY:	CHK:	APV:
IP	BDK	DKD

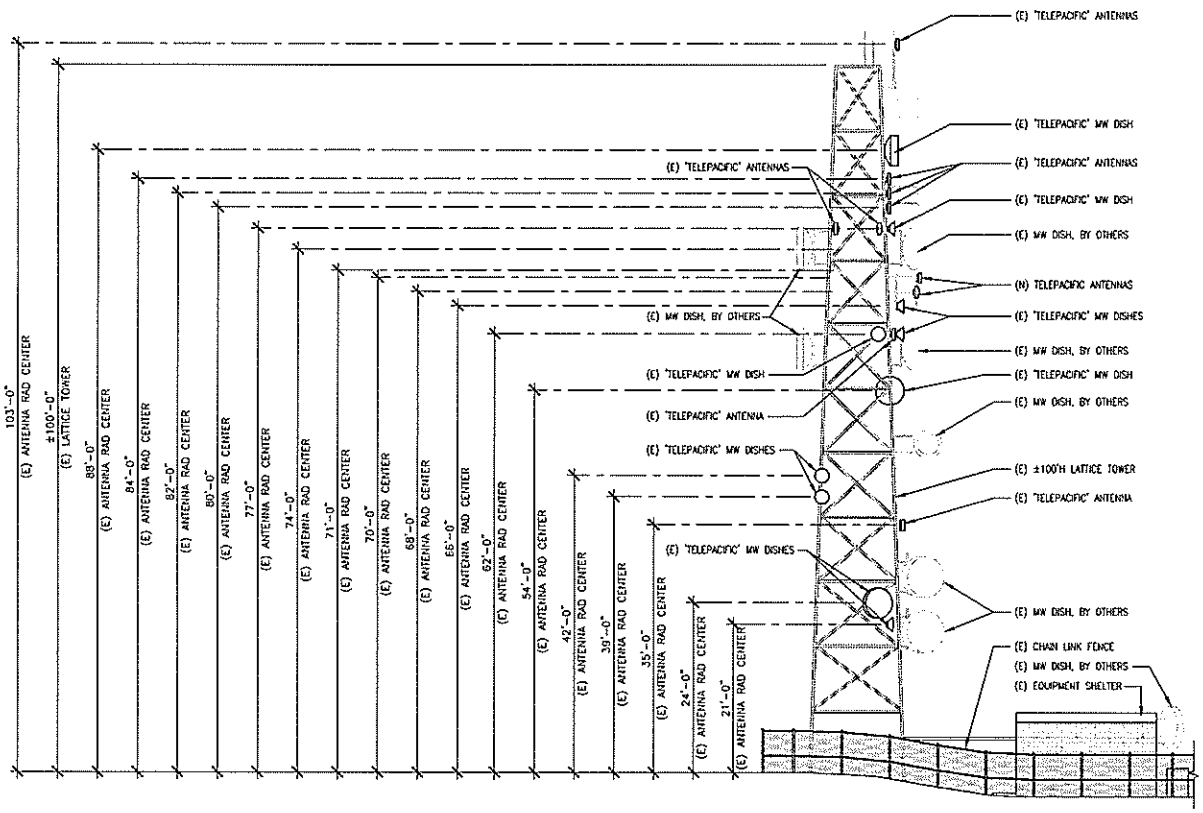
ISSUE STATUS:

△	DATE:	DESCRIPTION:	BY:
___	05/30/14	90% ZD	IP
___	07/10/14	100% ZD	VT
___	07/30/15	UPDATED ZD	VT
___	08/24/15	UPDATED PROJECT DESCRIPTION	VT

SHEET TITLE:
NORTH AND SOUTH ELEVATIONS

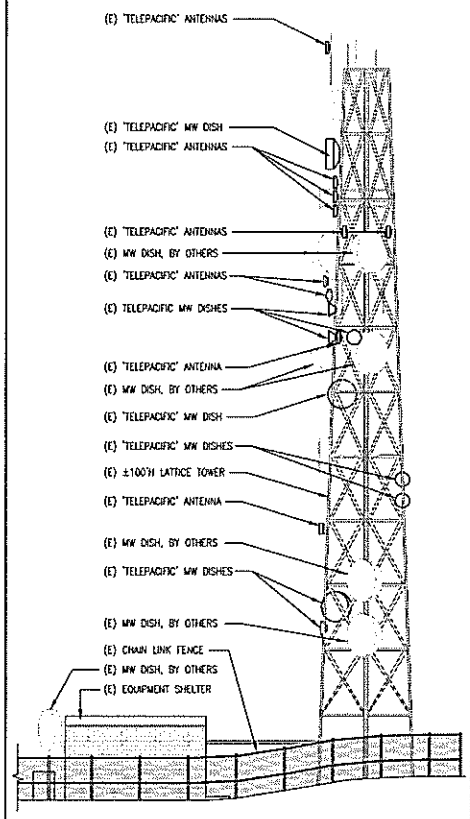
SHEET NUMBER: **A3**
ISSUE LEVEL: OAT MOUNTAIN

'TELEPACIFIC' ANTENNAS ON (E) 100' LATTICE TOWER:
- TWO, 12"ø MW DISH
- TWELVE, 24"ø MW DISH
- TWO, 46"ø MW DISH
- TWELVE, 20" & 27" ANTENNAS



WEST ELEVATION

SCALE: 1/8"=1'-0" 2



EAST ELEVATION

SCALE: 1/8"=1'-0" 1

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ARCHITECTURE | ENGINEERING | CONSULTING
32 EXECUTIVE PARK | SUITE 110
IRVINE | CA 92614

TelePacific COMMUNICATIONS

VeloTera

PROJECT IDENTIFICATION:
OAT MOUNTAIN
PALO SOLA TRUCK ROAD,
CHATSWORTH, CA 91313

CURRENT ISSUE DATE
08/24/15

ISSUED FOR:
ZONING

APPROVALS:

APPROVED BY:	INITIALS:	DATE:
LANDLORD		
LEASING		
ZONING		
RF		
CM		

DRAWN BY:	CHK:	APV:
IP	BOK	DKD

ISSUE STATUS:

△	DATE:	DESCRIPTION:	BY:
	05/30/14	90% ZD	IP
	07/10/14	100% ZD	VT
	07/30/15	UPDATED ZD	VT
	08/24/15	UPDATED PROJECT DESCRIPTION	VT

SHEET TITLE:
EAST AND WEST ELEVATIONS

SHEET NUMBER: **A4**
ISSUE LEVEL:
OAT MOUNTAIN

Product Specifications

ANDREW. A CommScope Company

VHLP4-18-1WH

4 ft VHLP® High Performance Low Profile Antenna, single-polarized, 17.7–19.7 GHz, HG flange, white antenna, white radome

CHARACTERISTICS

General Specifications

Antenna Type	VHLP - Versatile High Performance Low Profile Antenna, single-polarized
Diameter, nominal	1.2 m | 4 ft
Antenna Input	HG-5965U
Polarization	Single
Reflector Construction	One-piece reflector
Antenna Color	white
Radome Color	white
Radome Material Description	Polymer
Flash Included	No
Packing	Standard pack

Electrical Specifications

Operating Frequency Band	17.700 – 19.700 GHz
Gain, Top Band	40.1 dBi
Gain, Mid Band	44.7 dBi
Gain, Low Band	44.5 dBi
Front-to-Back Ratio	72 dB
Cross Polarization Discrimination (XPD)	30 dB
Beamwidth, Vertical	0.9°
VSWR	1.50
Return Loss	17.7 dB
Radiation Pattern Envelope Reference (RPE)	Class
Electrical Compliance	US FCC Part 101A | Broad Band Class 2 | Canada DRSP 313 Part A | ETSI 302 217 Class 2

Product Specifications

ANDREW. A CommScope Company

VHLP4181WH

Mechanical Specifications

Wind Velocity Operational	113 km/h | 70 mph
Wind Velocity Survival Rating	249 km/h | 155 mph
Fine Azimuth Adjustment	±15°
Fine Elevation Adjustment	±15°
Mounting Pipe Diameter	115 mm | 4.5 in
Side Struts, Included	1 inboard
Side Struts, Optional	1 inboard
Net Weight	46 kg | 101 lb

Wind Forces At Wind Velocity Survival Rating

Axial Force (FA)	3165 N | 711 lbf
Side Force (FS)	1569 N | 352 lbf
Twisting Moment (MT)	1570 N·m
Flat without Ice	193 mm | 7 in
Flat with 1/2" (12 mm) Radial Ice	241 mm | 10 in
Weight with 1/2" (12 mm) Radial Ice	115 kg | 254 lb

Wind Forces At Wind Velocity Survival Rating Image

Packed Dimensions

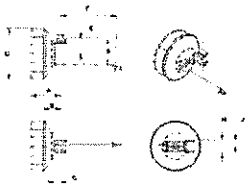
Gross Weight, Packed Antenna	102.0 kg | 224.9 lb
Length	1391.6 mm | 54.8 in

Product Specifications

ANDREW. A CommScope Company

VHLP4181WH

Antenna Dimensions And Mounting Information



Antenna Dimensions and Mounting Information			
A	[illegible]	J	[illegible]
B	[illegible]	K	[illegible]
C	[illegible]	M	[illegible]
D	[illegible]	J	[illegible]
F	[illegible]		

* Footnote

Axial Force (FA)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Cross Polarization Discrimination (XPD)	The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle within the 3 dB beamwidth of the co-polarized main beam.
Front to Back Ratio	Denotes highest radiation relative to the main beam, at 180° ± 40°, across the band. Production antennas do not exceed published values by more than 2 dB unless stated otherwise.
Gain, Mid Band	For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns.

Product Specifications

ANDREW. A CommScope Company

VHLP4181WH

Operating Frequency Band	Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.
Packing	Andrew standard packing is suitable for export. Antennas are shipped as standard in heavy recyclable cardboard or wire-bound crates (dependent on product). For your convenience, Andrew offers heavy duty export packing options.
Radiation Pattern Envelope Reference (RPE)	Radiation patterns determine an antenna's ability to discriminate against unwanted signals under conditions of radio congestion. Radiation patterns are dependent on antenna size, type, and frequency.
Return Loss	This figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a result of those that are accepted.
Side Force (FS)	Maximum axial forces exerted on support structures by side struts as a result of a 200 km/h (125 mph) wind from the most critical direction and antenna angle permitted. This force are accompanied by, not in addition to, the maximum forces specified above.
Twisting Moment (MT)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
VSWR	Maximum, in the guaranteed Peak Voltage Standing Wave Ratio within the operating band.
Wind Velocity Operational	The wind speed where the antenna deflection is equal to or less than 0.1 degrees.
Wind Velocity Survival Rating	Microwave antennas, including mounts and radomes, where applicable, will withstand the simultaneous wind and ice conditions as specified.

COMMSCOPE VHLP4-18 SPECIFICATIONS

SCALE: N.T.S. | 1

DCI PACIFIC
A|E|C WORKS
ARCHITECTURE | ENGINEERING | CONSULTING
22 EXECUTIVE PARK | SUITE 110
IRVINE | CA 92614

TelePacific COMMUNICATIONS

VeloTera

PROJECT IDENTIFICATION:
OAT MOUNTAIN
PALO SOLA TRUCK ROAD,
CHATSWORTH, CA 91313

CURRENT ISSUE DATE:
08/24/15

ISSUED FOR:
ZONING

APPROVALS:

APPROVED BY:	INITIALS:	DATE:
LANDLORD		
LEASING		
ZONING		
RF		
CM		

DRAWN BY:	CHK:	APV:
IP	BOK	DKD

ISSUE STATUS:

Δ	DATE:	DESCRIPTION:	BY:
___	05/30/14	90% ZD	IP
___	07/10/14	100% ZD	VT
___	07/30/15	UPDATED ZD	VT
___	08/24/15	UPDATED PROJECT DESCRIPTION	VT

SHEET TITLE:
COMMSCOPE VHLP4-18 SPECIFICATIONS

SHEET NUMBER: **A5**
ISSUE LEVEL:
OAT MOUNTAIN

Product Specifications

ANDREW. A CommScope Company

VHLP2-23-1-WH-B

0.6 m | 2 ft VeloVine® High Performance Low Profile Antenna, single-polarized, 21.200–23.600 GHz, UG-599/U flanged, white antenna, polymer white radome without flash, standard one-piece reflector

- VeloVine Vision™ VHLP2 and VHLPX2 antennas will be available from Andrew manufacturing plants globally in the coming weeks.

CHARACTERISTICS

General Specifications

Antenna Input	UG-599/U Flanged
Packing	Compact pack
Radome Color	White
Radome Material	Polymer
Reflector Construction	One-piece reflector
Antenna Color	White
Antenna Type	VHLP - VeloVine® High Performance Low Profile Antenna, single-polarized
Diameter (nominal)	0.6 m | 2 ft
Field Installed	No
Polarization	Single

Electrical Specifications

Beamwidth, Horizontal	1.7°
Beamwidth, Vertical	1.7°
Cross Polarization Discrimination (XPD)	30 dB
Electrical Compliance	Brazil Anatel Class 2 | Canada RSS-P 521 B Part A | ETSI EN 302 217 v2ex 3 | US FCC Part 101A
Front-to-Back Ratio	65 dB
Gain, Low Band	40.0 dBi
Gain, Mid Band	40.5 dBi
Gain, Top Band	41.0 dBi
Operating Frequency Band	21.200 – 23.600 GHz
Radiation Pattern Envelope Reference (RPE)	72358
Return Loss	17.7 dB

Product Specifications

ANDREW. A CommScope Company

VHLP2-23-1-WH-B

VSWR	1.30

Mechanical Specifications

Fine Azimuth Adjustment	±15°
Fine Elevation Adjustment	±15°
Mounting Pipe Diameter	46 mm–115 mm | 1.9 in–4.5 in
Net Weight	11 kg | 25 lb
Side Struts, Included	0
Side Struts, Optional	0
Wind Velocity Operational	160 km/h | 112 mph
Wind Velocity Survival Rating	250 km/h | 155 mph

Wind Forces At Wind Velocity Survival Rating

Axial Force (FA)	1272 N | 286 lbf
Side Force (FS)	650 N | 142 lbf
Twisting Moment (MT)	470 N·m
Weight with 1/2 in (12 mm) Radial Ice	17 kg | 37 lb
Zig with 1/2 in (12 mm) Radial Ice	162 mm | 6 in
Zig without Ice	152 mm | 6 in

Product Specifications

ANDREW. A CommScope Company

VHLP2-23-1-WH-B

Wind Forces At Wind Velocity Survival Rating Image

Packed Dimensions

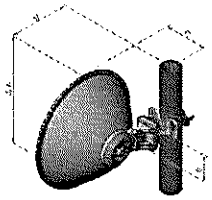
Gross Weight, Packed Antenna	16.0 kg | 35.3 lb
Height	330.0 mm | 13.0 in
Length	708.0 mm | 27.9 in
Volume	0.2 m³
Width	798.0 mm | 31.4 in

Product Specifications

ANDREW. A CommScope Company

VHLP2-23-1-WH-B

Antenna Dimensions And Mounting Information



Dimensions in inches (mm)				
Antenna Size, ft (m)	A	B	C	D
2(0.6)	25.9 (658)	14.6 (373)	10.2 (259)	6.4 (163)

* Footnotes

Axial Force (FA)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The indicated maximums specified may not occur simultaneously. All forces are referenced to the mounting pole.
Cross Polarization Discrimination (XPD)	The difference between the peak of the co-polarized main beam and the maximum cross polarized signal over an angle twice the 3-dB beamwidth of the co-polarized main beam.
Front-to-Back Ratio	Denotes highest radiation relative to the main beam, at 180° ±40°, across the band. Production antennas do not exceed rated values by more than 2 dB, unless stated otherwise.
Gain, Mid Band	For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns.
Operating Frequency Band	Bands correspond with CEPT recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order.
Packing	Antenna standard packing is suitable for transit. Antennas are shipped as standard in totally recyclable cardboard or wire-bound crates (dependent on product). For your convenience, Andrew offers heavy duty export packing.

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VeloTera

PROJECT IDENTIFICATION:
OAT MOUNTAIN

PALO SOLA TRUCK ROAD
CHATSWORTH, CA 91313

CURRENT ISSUE DATE:
08/24/15

ISSUED FOR:
ZONING

APPROVALS:

APPROVED BY:	INITIALS:	DATE:
LANDLORD		
LEASING		
ZONING		
RF		
CM		

DRAWN BY:	CHK:	APV:
IP	BDK	DKD

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___	07/10/14	100% ZD	VT
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___	08/24/15	UPDATED PROJECT DESCRIPTION	VT

SHEET TITLE:
SOMMSCOPE VHLP2-23 SPECIFICATIONS

SHEET NUMBER: **A6**

ISSUE LEVEL:

OAT MOUNTAIN

Product Specifications

COMMSCOPE®

on the go

VHLP2-18-2WH/B

0.6 m | 2 ft ValuLine® High Performance Low Profile Antenna, single-polarized, 17.700–19.700 GHz, PBR220, white antenna, polymer white radome without flash, standard pack—one-piece reflector

- ValuLine Vision™ VHLP2 and VHLFX2 antennas will be available from Andrew manufacturing plants globally in the coming weeks

General Specifications

Packing	Compact pack
Radome Color	White
Radome Material	Polymer
Reflector Construction	One-piece reflector
Antenna Input	PBR220
Antenna Color	White
Antenna Type	VHLP = ValuLine® High Performance Low Profile Antenna, single-polarized
Diameter, nominal	0.6 m | 2 ft
Flash Included	No
Polarization	Single

Electrical Specifications

Beamwidth, Horizontal	2.1 °
Beamwidth, Vertical	2.1 °
Cross Polarization Discrimination (XPD)	30 dB
Electrical Compliance	Brazil Anatel Class 2 | Canada SRSP 217.6 Part A | ETSI 302 217 Class 3 | US FCC Part 101A
Front-to-Back Ratio	66 dB
Gain, Low Band	38.4 dBi
Gain, Mid Band	38.9 dBi
Gain, Top Band	39.1 dBi
Operating Frequency Band	17.700 – 19.700 GHz
Radiation Pattern Envelope Reference (RPE)	720dB
Return Loss	17.7 dB
VSWR	1.30

Mechanical Specifications

Fine Azimuth Adjustment	±15°
Fine Elevation Adjustment	±15°
Mounting Pipe Diameter	46 mm–115 mm | 1.9 in–4.5 in
Net Weight	11 kg | 25 lb
Side Struts, Included	0
Side Struts, Optional	0
Wind Velocity Operational	180 km/h | 112 mph

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Product Specifications

COMMSCOPE®

on the go

VHLP2-18-2WH/B

Wind Velocity Survival Rating	250 km/h | 155 mph

Wind Forces At Wind Velocity Survival Rating

Axial Force (FA)	1272 N | 286 lbf
Side Force (FS)	630 N | 142 lbf
Twisting Moment (MT)	473 N•m
Weight with 1/2 in (12 mm) Radial Ice	17 kg | 37 lb
Zcg with 1/2 in (12 mm) Radial Ice	102 mm | 4 in
Zcg without Ice	157 mm | 6 in

Product Specifications

COMMSCOPE®

on the go

VHLP2-18-2WH/B

Wind Forces At Wind Velocity Survival Rating Image

Packed Dimensions

Gross Weight, Packed Antenna	16.0 kg | 35.3 lb
Height	330.0 mm | 13.0 in
Length	706.0 mm | 27.8 in
Volume	0.2 m³
Width	798.0 mm | 31.4 in

Product Specifications

COMMSCOPE®

on the go

VHLP2-18-2WH/B

Antenna Dimensions And Mounting Information

Regulatory Compliance/Certifications

Agency	Classification
ISO 9001:2008	Designed, manufactured and/or distributed under this quality management system

* Footnotes

Axial Force (FA)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Cross Polarization Discrimination (XPD)	The difference between the peak of the co-polarized main beam and the maximum cross-polarized signal over an angle twice the 3 dB beamwidth of the co-polarized main beam.
Front-to-Back Ratio	Denotes highest radiation relative to the main beam, at 180° ±40°, across the band. Production antennas do not exceed rated values by more than 2 dB unless stated otherwise.
Gain, Mid Band	For a given frequency band, gain is primarily a function of antenna size. The gain of Andrew antennas is determined by either gain by comparison or by computer integration of the measured antenna patterns.
Operating Frequency Band	Bands correspond with CCIR recommendations or common allocations used throughout the world. Other ranges can be accommodated on special order
Packing	Andrew standard packing is suitable for export. Antennas are shipped as standard in totally recyclable cardboard or wire-bound crates (depends on product). For your convenience, Andrew offers heavy duty export packing options.
Radiation Pattern Envelope Reference (RPE)	Radiation patterns determine an antenna's ability to discriminate against unwanted signals under conditions of radio congestion. Radiation patterns are dependent on antenna series, size, and frequency.
Return Loss	The figure that indicates the proportion of radio waves incident upon the antenna that are rejected as a ratio of those that are accepted.
Side Force (FS)	Maximum side force exerted on the mounting pipe as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe.
Twisting Moment (MT)	Maximum forces exerted on a supporting structure as a result of wind from the most critical direction for this parameter. The individual maximums specified may not occur simultaneously. All forces are referenced to the mounting pipe
VSWR	Maximum is the guaranteed Peak Voltage-Standing-Wave-Ratio within the operating band.
Wind Velocity Operational	The wind speed where the antenna deflection is equal to or less than 0.1 degrees. In the case of ValuLine antennas, it is defined as a maximum deflection of 0.3 x the 3 dB beam width of the antenna
Wind Velocity Survival Rating	The maximum wind speed the antenna, including mounts and radomes, where applicable, will withstand without permanent deformation. Realignment may be required. This wind speed is applicable to antenna with the specified amount of radial ice.

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SHEET TITLE:
COMMSCOPE VHLP2-18 SPECIFICATIONS

SHEET NUMBER: **A7**
ISSUE LEVEL:
OAT MOUNTAIN

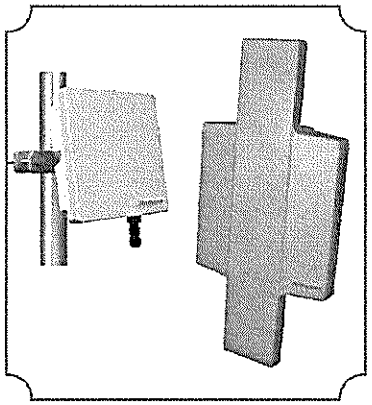
AB-MAX™

Point to Multipoint

Key Features
- WiMAX Compliant (802.16d), NLOS, Point-to-Multipoint system
- FCC and CE approved for U-NII and ISM bands
- Supports 5.47 - 5.85 GHz operation on a single platform
- QoS Support (CIR, PIR)
- Programmable dual-pol. Access Point antennas
- Dynamic Frequency Selection (DFS)
- Integrated GPS synchronization

Benefits
- Improved cell penetration and range
- Improved cell throughput (Up to 64QAM modulation)
- Different SLAs for different end users

Applications
- Wireless ISPs
- Rural Broadband
- Public Safety
- Transportation
- Cyber Cafes
- Enterprise Networks



AXXCELERA BROADBAND

Axxcelera Broadband Wireless is a data networking solutions company that is developing leading-edge technology for the deployment of broadband wireless communications over the Internet. The AB-MAX™ fixed wireless broadband platform bridges the last mile, currently replacing the local loop for corporate and small business subscribers and migrating to the residential market and will be certified WiMAX compliant. Axxcelera is a principal member of the WiMAX Forum.

AB-MAX OVERVIEW

AB-MAX™ consists of fixed broadband wireless access equipment (Access Point and CPE) for Internet, data, multimedia, video, voice, and other emerging IP based applications. Combining WiMAX with higher level network features, AB-MAX™ provides a robust, cost-effective alternative to wired alternatives such as T1/E1, DSL and cable modems.

REASONS TO BUY AB-MAX

AB-MAX™ offers service providers a standards based Non Line of Site (NLOS) platform that helps improve cell range and penetration compared with proprietary single carrier solutions. It also supports Quality of Service (QoS) features like CIR and PIR along with advanced scheduling services like best effort service, real time polling and UGS services. This allows a service provider to offer different classes of service to different end customers. Deployments may use frequencies from the U-NII and ISM 5GHz spectrum. Select from various modulation options and antenna polarizations, all in a low cost, easy-to-deploy product.

WiMAX FORUM

Axxcelera BROADBAND WIRELESS

Rev. 01/05/05

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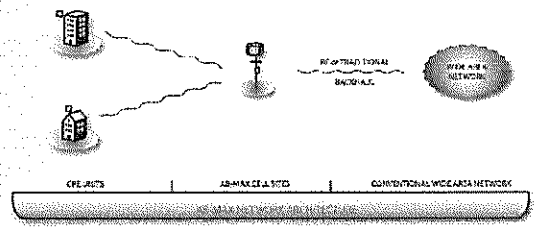

AB-MAX OPERATION

AB-MAX™ offers numerous options for provisioning and management. For small campus type networks, AB-MAX™ can be configured in a static environment via a web interface. For larger networks, AB-MAX™ can be configured via an automated provisioning server, where each unit can be provisioned and managed from a single location. AB-MAX™ also includes support MIB-2, WiMAX MIB and Axxcelera custom MIB.

CELLSITE COMPONENTS

- One or more environmentally sealed Access Points (AP), each with an integrated 60° by 7° beam width patch antenna
- Six Access Points provide 360° geographic coverage
- Ethernet switch or router
- Backhaul equipment such as that offered by Axxcelera
- Other third party equipment as required

CUSTOMER PREMISES (CPE) COMPONENTS

- AB-MAX™ Customer Premises Equipment (CPE) with integrated 20° by 20° beam width single polarization patch antenna

NON LINE OF SIGHT

WiMAX technology includes OFDM, which provides greater non line of sight deployment options.

ENVIRONMENTAL CHARACTERISTICS

Temperature Range	-33°C to +55°C ambient temperature
Humidity	Up to 100% at 45°C
Wind Loading	130 miles/hour (+195 km/hour) per Bellcore GR-487-CORE section 3.31

SPECIFICATION SUMMARY

Operating Frequency Range	5.47 - 5.725 GHz, 5.725 - 5.850 GHz (Per U-NII and ISM band Specifications)
Channel Bandwidth	5, 10, or 15 MHz
Modulation	Dynamic Adaptive (BPSK, QPSK, 16QAM, 64QAM)

SPECIFICATION SUMMARY (Continued)

Transmit Power*	Access Point: +15 dBm (5.47 - 5.725 GHz) +18 dBm (5.725 - 5.850 GHz) CPE: +15 dBm (5.47 - 5.725 GHz), +18 dBm (5.725 - 5.850 GHz)
Integrated Antenna	Access Point: 16 dBi, dual-pol. prog. steerable CPE: 18 dBi, single-pol.
Rx Sensitivity	-92 dBm
Dimensions	CPE: 8"Ht x 8"W x 1.2"D (203mm x 203mm x 30mm) Access Point: 20"Ht x 10"W x 2.5"D (508mm x 254mm x 63mm)
Weight	CPE: 7.7lbs (3.5kg) Access Point: 11.0lbs (5.0kg)
Net Channel Throughput (bands without DFS)	47Mbps@15MHz, 31Mbps@10MHz, 15Mbps@5MHz
Net Channel Throughput (bands with DFS)	43Mbps@15MHz, 28Mbps@10MHz, 14Mbps@5MHz
Certifications	FCC, CE, WiMAX**
External Antenna (optional)	N-Type connector
Security	x.509 authentication, CBC-Mode 56-bit DES, AES-CCM mode
Protocols	Ethernet Bridging per IEEE802.1D, VLAN per IEEE 802.1Q (CPE only) Diffserv and Services per IEEE802.1Dp DHCP client (CPE only)
Interfaces	RJ45 socket offering 10/BaseT Ethernet
Error Control	1/2, 2/3, or 3/4 FEC
Regulatory Compliance	FCC 15.247, FCC 15.401-407, RSS-210 A9, RSS-210 A9, R&TTE Directive 1999/5/EC, EN 301 893, EN 301 502, EMC, FCC Part 15, IC ICES-003, EMC Directive 1004/108/EC, EN 301 489-1, EN 301 489-17, Safety: Low Voltage Directive 2006/95/EC, IEC60950, EN60950, UL 60950

* Actual transmit power level is subject to local regulatory constraints
**Planned

Axxcelera BROADBAND WIRELESS
a Motorola company

54 Cherokee Dr. Santa Barbara CA 93117 USA
tel 805-563-9623 fax 805-563-9630
e-mail: sales@axxcelera.com
web site: www.axxcelera.com

Axxcelera Broadband Wireless is certified to the ISO 9001:2000 Quality Management System standard.

Axxcelera reserves the right to make changes to specifications of products described in this data sheet at any time without notice.
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Rev. 01/05/05

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SHEET TITLE:
AXXCELERA ANTENNA SPECIFICATIONS

SHEET NUMBER: **A8**
ISSUE LEVEL:
OAT MOUNTAIN

Antenna Radome

The HT antenna can be equipped with a radome as shown in Figure 2-7.

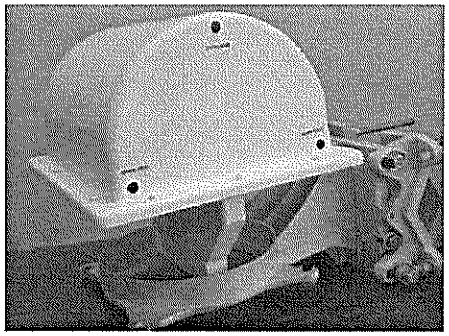

Figure 2-7. HT Antenna Radome

Antenna specification

Table 2-26 lists the 90° antenna specifications.

Table 2-27 lists the 180° antenna specifications.

Figure 2-6 shows a side view of the 180° antenna.

Table 2-26. 9400H ODU – 90° antenna specifications

Parameter	Specification
26 GHz Frequency Range 28 GHz Frequency Range	24.25 to 26.8 GHz 27.3 to 29.5 GHz
Polarization	Vertical / Horizontal
Cross-polarization	- 25 dB min EN 301215-2 Class CS-2
Front to back	- 40 dB min EN 301215-2 Class CS-2
Beamwidth azimuth (3 dB)	90°
Beamwidth elevation	6°
Nominal boresight gain (dBi)	16 min
Size (H x W x D)	11.81 in x 9.97 in x 5.88 in 300 mm x 253 mm x 149 mm
Weight (including mount)	Approximately 20 lb. (9.1 kg)
Mount	Integrated adjuster 2 in to 4.5 in diameter mast (5.1 cm to 11.4 cm)

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SHEET TITLE:
HUGHES ANTENNA SPECIFICATIONS

SHEET NUMBER: A9
ISSUE LEVEL:
OAT MOUNTAIN

MTI WIRELESS EDGE LTD.

MT-463013/N-FH
4.9-6.25 GHz 16.5 dBi 60° DUAL POLARITY SECTOR ANTENNA

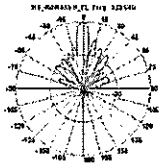
MECHANICAL	
REGULATORY COMPLIANCE	RoHS CE ISO
FREQUENCY RANGE	4.9 – 6.55 GHz
GAIN	15 dBi (min) 16.5 dBi (typ)
VSWR	1.7:1 (typ), 2:1 (max)
POLARIZATION	Dual Linear Vertical + Horizontal
3DB ELEVATION BEAMWIDTH	8° (typ)
3DB AZIMUTH BEAMWIDTH	60° (typ)
ELEVATION SIDELOBE LEVEL	-12 dB (typ)
F/B RATIO	20dB (typ)
CROSS POLARIZATION	-15 dB (typ)
PORT TO PORT ISOLATION	22 dB (typ) 20 dB (min)
POWER	20W (max)
INPUT IMPEDANCE	50 Ohms
LIGHTNING PROTECTION	DC Grounded
MECHANICAL	
DIMENSIONS (LxWxD)	500x500x20 mm (max)
CONNECTOR	2 x N-Type Female
WEIGHT	1.5 (typ) (max)
MOUNTING KIT	MT-126005
RADOME MATERIAL	Plastic
RADOME THICKNESS	2.0 ± 0.2 mm
BASE PLATE MATERIAL	Aluminum with chromate conversion coating

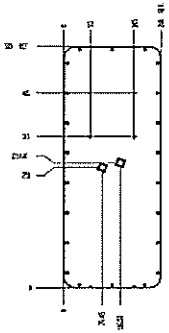
ADDITIONAL INFORMATION UPON REQUEST

ENVIRONMENTAL				
TEST	STANDARD	DURATION	TEMPERATURE	NOTES
LOW TEMPERATURE	IEC 68-2-1	72h	-55°C	
HIGH TEMPERATURE	IEC 68-2-2	72h	+71°C	
TEMP. CYCLING	IEC 68-2-14	6h	-45°C +70°C	5 cycles
VIBRATION	IEC 60721-3-4	30 minutes		Random
STRUCTURAL	IEC 60721-3-4			4MS
HUMIDITY	ETSI EN300-2-4 14.1E	144h		95%
WATER TIGHTNESS	IEC 529			IP67
SOLAR RADIATION	ASTM D53	250h		
FLAMMABILITY	UL 94			Class HB
SALT SPRAY	IEC 68-2-11 Ka	500h		
ICE AND SNOW				25mm Radial
WIND SPEED SURVIVAL OPERATION				250 Km/h 160 Mph

AZIMUTH RADIATION PATTERN MEDIAN FREQ. 5.25 GHz

ELEVATION RADIATION PATTERN MEDIAN FREQ. 5.25 GHz





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RADWIN HPMP MBS 5200 Series
Sector Base Station - Data Sheet

RW-5200-0250

Product Description

RW-5200-0250 is a Sector Base Station radio unit (RBS) that provides up to 250 Mbps net aggregate throughput while delivering access connectivity for up to 32 Subscriber Units (SUs).
RW-5200-0250 supports 4.9 to 6 GHz and complies with FCC/IC, Universal, IC, WPC & MII regulations.
The radio is Connectorized for external antenna (2 x N-type).

Product Highlights

- Up to 250 Mbps net aggregated throughput
- Long range – up to 20 km/15 miles
- Supports up to 32 RSUs
- Guaranteed Service Level Agreement (SLA) per RSU
- Exceptional short and constant latency
- Single radio supporting multiple bands
- Advanced MIMO, OFDM and Diversity technologies
- Robust and reliable operation in harsh conditions, extreme temperatures and non-line-of-sight scenarios
- Ease of operation and maintenance

Product Specifications:

CONFIGURATION	
RADIO	
SUPPORTED BANDS	
MECHANICAL	
POWER	
ENVIRONMENTAL	
SAFETY	
EMC	
LED	
LATCH	

Ordering Info

Corporate Headquarters, T: +972-3-765-5000, E: sales@radwin.com, www.radwin.com

RADWIN

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SHEET TITLE:
MTI MT-463013 ANTENNA AND RADWIN MBS 5200 SPECIFICATIONS

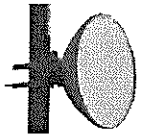
SHEET NUMBER: **A10**
ISSUE LEVEL: OAT MOUNTAIN

Technical Data Sheet SC2-220BB

CompactLine Easy Antenna, Ultra High Performance, Single Polarized, 2 ft

Product Description

RFS CompactLine® and CompactLine® Easy Antennas are designed for short-haul microwave systems in all common frequency ranges from 6 GHz to 80 GHz. They are typically deployed in dense urban areas, metropolitan and suburban locations, aggregation points. They are especially optimized to integrated radios to reduce costs, installation complexity and time.



Antenna

Features/Benefits

- Sizes ranging from 0.3 m (1 ft) to 1.8 m (6 ft)
- Frequencies ranging from 5.925 GHz to 80 GHz with support for three wideband frequency ranges (5.925-7.125, 7.125-8.5 and 10.9-11.7 GHz) to reduce antenna requirements and simplify logistics
- Single (SD and SC) and dual-polarized (SBX and SCX) models with the ability to upgrade from single to dual polarization and change frequencies in the field
- Low-profile design to reduce transportation requirements, wind load and antenna weight
- Simplified mounting design to accelerate installation
- CompactLine EASY models are extra light and easy to transport, deploy and upgrade
- Hardcover radomes
- Tested and validated ultra-high (ETSI EN 302 217 Class 3, FCC Class A) electrical performance
- Support for winds up to 250 km/h (155 mph) and even 320 km/h (195 mph) for SB1/SBX1
- An optional sway bar for antennas 1 m (3 ft) and larger for added assurance in case mistakes are made during installation

Technical Features

Product Type	Point to point antennas
Frequency, GHz	21.2 - 23.6
Diameter, ft (m)	2 (0.6)
Profile	CompactLine Easy
Reflector	1-part
Swaybar	0 (not applicable)
optional Swaybar	0 (not applicable)
Performance	Ultra High
Polarization	Single
Regulatory Compliance	ETSI EN 302217 Range 3 Class 3 , FCC Category A
3dB beamwidth (degrees)	1.5
Antenna input	PBR 220
Low Band Gain, dBi	42.5
Mid Band Gain, dBi	41
High Band Gain, dBi	41.5
F/B Ratio, dB	65
XPD, dB	33
Max VSWR / R.L. dB	1.29 (18)
Elevation Adjustment, degrees	± 20
Azimuth Adjustment, degrees	± 15
Polarization Adjustment, degrees	± 5
Radome	Rigid
Antenna color	White RAL 9010
Mounting Pipe Diameter minimum, mm (in)	48 (1.9)
Mounting Pipe Diameter maximum, mm (in)	114 (4.5)
Approximate Weight, kg (lb)	9 (20)
Survival Windspeed, km/h (mph)	252 (155)
Operational Windspeed, km/h (mph)	180 (112)

All information contained in the present data sheet is subject to confirmation at time of ordering

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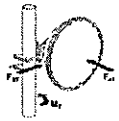
Technical Data Sheet SC2-220BB (Cont.)

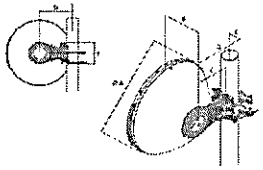
CompactLine Easy Antenna, Ultra High Performance, Single Polarized, 2 ft

All values @ Survival Wind Speed

F_{S1} Side force max, N (lb)	610 (136)
F_{A1} F_A Axial force max, N (lb)	1238 (278)
M Torque max , Nm (lb*ft)	420 (94)



Dimensions	mm (in)
ØA	570 (22.4)
B	296 (11.7)
C	238 (9.4)
D @ Mounting pipe Ø 219 (8.5)	not applicable
D @ Mounting pipe Ø 114 (4.5)	328 (12.9)
D @ Mounting pipe Ø 60 (3.5)	311.5 (12.3)
D @ Mounting pipe Ø 48 (1.9)	293 (11.5)
E	49 (1.9)
F	212 (8.3)
G	not applicable
H	not applicable



Notes

no notes

Documentation

Reflector Installation	RPE (IQ-Link format)
Feed Installation	RPE (Pulldown format)
	RPE (PDF format)

All information contained in the present data sheet is subject to confirmation at time of ordering

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A|E|C WORKS
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32 EXECUTIVE PARK | SUITE 110
IRVINE | CA 92614

TelePacific COMMUNICATIONS

VeloTera

PROJECT IDENTIFICATION:
OAT MOUNTAIN
PALO SOLA TRUCK ROAD,
CHATSWORTH, CA 91313

CURRENT ISSUE DATE:
08/24/15

ISSUED FOR:
ZONING

APPROVALS:

APPROVED BY:	INITIALS:	DATE:
LANDLORD		
LEASING		
ZONING		
RF		
CM		

DRAWN BY:	CHK:	APV:
IP	BOK	DKD

ISSUE STATUS:

△	DATE:	DESCRIPTION:	BY:
___	05/30/14	90% ZD	IP
___	07/10/14	100% ZD	VT
___	07/30/15	UPDATED ZD	VT
___	08/24/15	UPDATED PROJECT DESCRIPTION	VT

SHEET TITLE:
RFS ANTENNA SPECIFICATIONS

SHEET NUMBER: **A11**
ISSUE LEVEL: OAT MOUNTAIN

Crown Castle - Oat Mountain (870676)

Palo Sola Truck Road, Chatsworth, CA 91313

Crown Castle - Oat Mountain (870676)

Location 1 - Palo Sola Truck Road, Chatsworth, CA 91313

Crown Castle - Oat Mountain (870676)

Location 1 - Palo Sola Truck Road, Chatsworth, CA 91313

Crown Castle - Oat Mountain (870676)

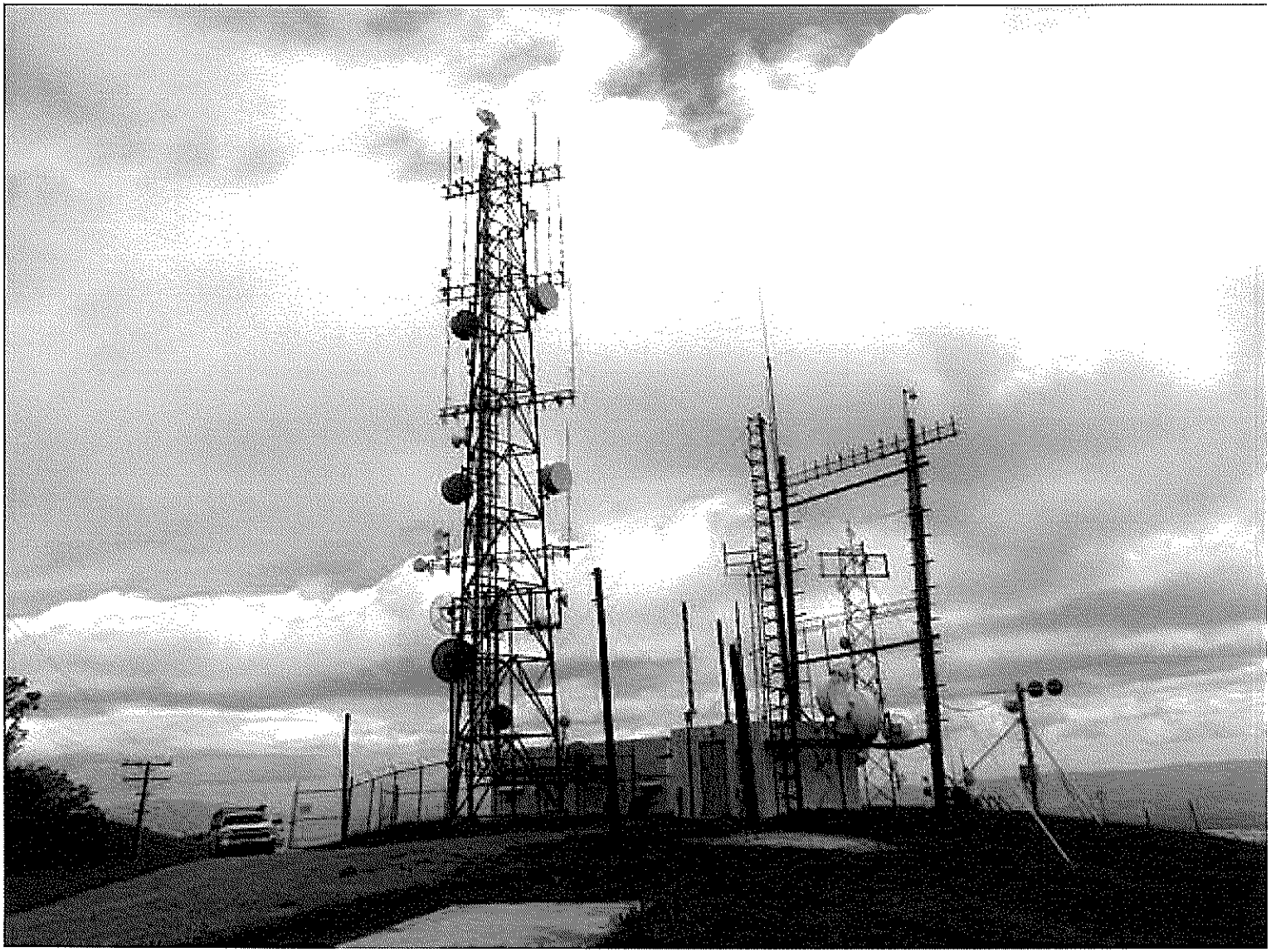
Location 2 - Palo Sola Truck Road, Chatsworth, CA 91313

Crown Castle - Oat Mountain (870676)

Location 2 - Palo Sola Truck Road, Chatsworth, CA 91313

Crown Castle - Oat Mountain (870676)

Location 3 - Palo Sola Truck Road, Chatsworth, CA 91313



Crown Castle - Oat Mountain (870676)

Location 4 - Palo Sola Truck Road, Chatsworth, CA 91313