

# COUNTY OF MENDOCINO DEPARTMENT OF PLANNING AND BUILDING SERVICES

860 North Bush Street · Ukiah · California · 95482 120 West Fir Street · Ft. Bragg · California · 95437 JULIA KROG, DIRECTOR TELEPHONE: 707-234-6650 FAX: 707-463-5709 FB PHONE: 707-964-5379 FB FAX: 707-961-2427 pbs@mendocinocounty.org/pbs

September 15, 2022

Environmental Health - Ukiah Building Inspection - Ukiah Assessor Air Quality Management Department of Forestry/ CalFire -Land Use Cloverdale Rancheria Redwood Valley Rancheria Sherwood Valley Band of Pomo Indians Potter Valley Tribe

CASE#: AP\_2022-0030 DATE FILED: 8/3/2022 OWNER: JOEL LLAMAS APPLICANT: T-MOBILE WEST LLC AGENT: ADAMS-BRUNS-TRUKHIN

**REQUEST:** Administrative Permit to replace an existing microwave unit along with two ODUs and various ancillary equipment to an existing sixty-five foot tall monopole. All work will be completed within the existing 2,304 square foot lease area.

**LOCATION:** 1± miles northeast of Potter Valley town center, lying on the east side of Eel River Road (CR 240B), 0.6± miles north of its intersection with Main Street (CR 245) located at 12531 Eel River Road, Potter Valley (APN: 175-010-10).

SUPERVISORIAL DISTRICT: 1 STAFF PLANNER: KEITH GRONENDYKE RESPONSE DUE DATE: September 29, 2022

#### PROJECT INFORMATION CAN BE FOUND AT:

www.mendocinocounty.org

Select "Government" from the drop-down; then locate Planning and Building Services/Public Agency Referrals.

Mendocino County Planning & Building Services is soliciting your input, which will be used in staff analysis and forwarded to the appropriate public hearing. You are invited to comment on any aspect of the proposed project(s). Please convey any requirements or conditions your agency requires for project compliance to the project coordinator at the above address, or submit your comments by email to <u>pbs@mendocinocounty.org</u>. Please note the case number and name of the project coordinator with all correspondence to this department.

We have reviewed the above application and recommend the following (please check one):

No comment at this time.

Recommend conditional approval (attached).

Applicant to submit additional information (attach items needed, or contact the applicant directly, copying Planning and Building Services in any correspondence you may have with the applicant)

Recommend denial (Attach reasons for recommending denial).

Recommend preparation of an Environmental Impact Report (attach reasons why an EIR should be required).

Other comments (attach as necessary).

**REVIEWED BY:** 

Signature \_\_\_\_

Department \_\_\_\_\_

Date \_\_\_\_

# **REPORT FOR: ADMINISTRATIVE PERMIT**

OWNER:	LOBAL SIGNAL ACQUISITIONS IV LLC
APPLICANT:	T-MOBILE WEST
AGENT:	ADAM BRUNS-TRUKHIN/CROWN CASTLE
REQUEST:	Administrative Permit to replace an existing microwave unit along with two ODUs and various ancillary equipment to an existing sixty-five foot tall monopole. All work will be completed within the existing 2,304 square foot lease area.
LOCATION:	1± miles northeast of Potter Valley town center, lying on the east side of Eel River Road (CR 240B), 0.6± miles north of its intersection with Main Street (CR 245) located at 12531 Eel River Road, Potter Valley (APN: 175-010-10).
APN:	175-010-10
PARCEL SIZE:	40± Acres
GENERAL PLAN:	Rangeland (RL 160)
ZONING:	Rangeland (RL 160)
EXISTING USES:	Cellular Antenna site
SUPERVISORAL DISTRICT:	1 <sup>st</sup> District (McGourty)

## **RELATED CASES:**

- Administrative Permit, AP\_2020-0020. Application to add a 30 Kw electrical generator for back-up emergency power, approved.
- Use Permit Renewal, UR\_2019-0004. Application to renew the original use permit that had expired; approved.
- Administrative Permit, AP\_2017-0097. Application to add new antennas to the existing tower; approved.
- Administrative Permit, AP\_2016-0035. Application to add new antennas to the existing tower; approved.
- Administrative Permit, AP\_2016-0020. Application to add an emergency electricity generator; approved.
- Administrative Permit, AP\_2014-0034. Application to add three additional panel antennas to the existing tower; approved.
- Administrative Permit, AP\_2014-0022. Application to add a microwave dish to the existing tower; approved.
  Use Permit Modification, UM\_2009-0008. Application to add three new panel antennas and an additional microwave
- dish to the existing tower; approved.
- Use Permit, U\_2006-0016. Application to construct a sixty-five foot tall monopole; approved.

	ADJACENT GENERAL PLAN	ADJACENT ZONING	ADJACENT LOT SIZES	ADJACENT USES
NORTH:	Range Lands (RL 160)	Range Lands (RL 160)	40± Acres	Barn-Agricultural
EAST:	Range Lands (RL 160)	Range Lands (RL 160)	80± Acres	Barn-Agricultural
SOUTH:	Agricultural (AG 40)	Agricultural (AG 40)	43± Acres	SFD-Barn-Agricultural
WEST:	Range Lands (RL 160)	Range Lands (RL 160)	6.5± Acres	Vacant

#### **REFERRAL AGENCIES**

LOCAL ⊠ Air Quality Management District ⊠ Assessor's Office	STATE ⊠ CALFIRE (Land Use)	Sherwood Valley Band of Pomo Indians
Building Division	<u>TRIBAL</u> ⊠ Cloverdale Rancheria ⊠ Redwood Valley Rancheria	

DATE: 9/12/2022

## ENVIRONMENTAL DATA

- 1. MAC: N/A
- 2. FIRE HAZARD SEVERITY ZONE: High
- 3. FIRE RESPONSIBILITY AREA: Calfire
- 4. FARMLAND CLASSIFICATION: G
- 5. FLOOD ZONE CLASSIFICATION: N/A
- 6. COASTAL GROUNDWATER RESOURCE AREA: N/A
- 7. SOIL CLASSIFICATION: Eastern Soils
- 8. PYGMY VEGETATION OR PYGMY CAPABLE SOIL: N/A
- 9. WILLIAMSON ACT CONTRACT: Yes, non-prime
- 10. TIMBER PRODUCTION ZONE: No
- 11. WETLANDS CLASSIFICATION: N/A

- 12. EARTHQUAKE FAULT ZONE: No
- 13. AIRPORT LAND USE PLANNING AREA: No
- 14. SUPERFUND/BROWNFIELD/HAZMAT SITE: No
- 15. NATURAL DIVERSITY DATABASE: No
- 16. STATE FOREST/PARK/RECREATION AREA ADJACENT: N/A
- 17. LANDSLIDE HAZARD: N/A
- 18. WATER EFFICIENT LANDSCAPE REQUIRED: No
- 19. WILD AND SCENIC RIVER: N/A
- 20. SPECIFIC PLAN/SPECIAL PLAN AREA: N/A
- 21. STATE CLEARINGHOUSE REQUIRED: No
- 22. OAK WOODLAND AREA: No
- 23. HARBOR DISTRICT: N/A

CASE NO: DATE FILED: **PLANNING & BUILDING** FEE: SERVICES **RECEIPT NO: RECEIVED BY:** Office Use Only Site Address 12531 EEL RIVER ROAD Site City, State, Zip POTTER VALLEY, CA 95469 **APPLICATION FORM** Parcel Tax ID 175-010-10-00 BU 857683 **APPLICANT:** APP 598811 T-Mobile West LLC by Crown Castle USA Inc. Adam Bruns-Trukhin 314-420-7386 Name: Phone: 3025 Highland Pkwy, Ste 400 Mailing Address: Adam.Bruns-Trukhin@crowncastle.com IL, 60515 City: Downers Grove State/Zip: Email: **PROPERTY OWNER:** Name: LOBAL SIGNAL ACQUISITIONS IV LLC a subsidiary of Crown Castle Phone: 314-420-7386 3025 Highland Pkwy, Ste 400 Mailing Address: State/Zip: IL, 60515 Email: Adam.Bruns-Trukhin@crowncastle.com Downers Grove City: AGENT: Adam Bruns-Trukhin Name: Phone: 314-420-7386 3025 Highland Pkwy, Ste 400 Mailing Address: Email: Adam.Bruns-Trukhin@crowncastle.com City: Downers Grove State/Zip: IL, 60515 ASSESSOR'S PARCEL NUMBER/S: \_\_\_\_\_175-010-10-00 **TYPE OF APPLICATION:** 

🗌 General Plan Amendment
Land Division – Minor
Land Division – Major
Land Division – Parcel
Land Division – Re-Subdivision
Modification of Conditions
Reversion to Acreage
Rezoning

I certify that the information submitted with this application is true and accurate.

Use Permit – Cottage Use Permit – Minor Use Permit - Major Use Permit – Modification Variance Other

# Mendocino County

# AUG 03 2022

# Planning & Building Services

im Bruns-Trukhin	7/6/22	see LOA and Grant of East	sement	
ignature of Applicant/Agent	Date	Signature of Owner	Date	

#### 4. Will the project be phased?

Will vegetation be removed on areas other than t	the building sites and road	ds?
Will the project involve the use or disposal of pot	entially hazardous mater	ials such as toxic substances, flammables, or explosiv
□ YES □ YAO If yes, explain:		
A		
	NA - Work prop	osed on existing tower
How much off-street parking will be provided?	Number	Size
No. of covered spaces:		
No. of uncovered spaces: No. of standard spaces:		
No. of accessible spaces:		
Existing no. of spaces:		
Proposed additional spaces:		
Total:		
. Is any road construction or grading planned? If y	os grading and drainago	nlans may be required
		e.g., steep, moderate slope, flat, etc.)
Also, please describe the	terrain to be traversed. Je	
	an teoret data est	
. For grading or road construction, complete the fe	ollowing: NA - Work	proposed on existing tower
		proposed on existing tower
Amount of cut:	cubic yards	proposed on existing tower
Amount of cut: Amount of fill:	cubic yards cubic yards	proposed on existing tower
Amount of cut: Amount of fill: Max. height of fill slope:	cubic yards cubic yards feet	proposed on existing tower
Amount of fill:	cubic yards cubic yards feet feet	proposed on existing tower

	on be removed on areas other than t	he building sites and roads?
□ YES	<b>XNO</b> If no, explain:	
_		
C. 11/2/1		
6. Will the proje	ect involve the use or disposal of pote (If yes, explain:	entially hazardous materials such as toxic substances, flammables, or explosives?
	X. Hyes, explain.	
		The Report of the Second
		NA - Work proposed on existing tower
7. How much o	ff-street parking will be provided? No. of covered spaces:	Number Size
	No. of uncovered spaces:	
	No. of standard spaces: No. of accessible spaces:	
	Existing no. of spaces:	
	Proposed additional spaces:	
	Total:	
8. Is any road o	onstruction or grading planned? If ye	es, grading and drainage plans may be required.
□ YES	Also, please describe the	terrain to be traversed. (e.g., steep, moderate slope, flat, etc.)
9. For grading	or road construction, complete the fo	ollowing: NA - Work proposed on existing tower
	cut:	
	fill:	
Max. heigh	t of fill slope:	feet
	t of cut slope:	feet
	import/export:	

10. Does the project involve sand removal, mining or gravel extraction? If yes, detailed extraction, reclamation and monitoring plans may be required.

VES XNO

11. Will the proposed development convert land currently or previously used for agriculture to another use?

13. Is the proposed development visible from State Highway 1 or other scenic route?

15. Does the development involve diking, filling, dredging or placing structures in open coastal water, wetlands, estuaries or lakes?

Diking:	VES XNO				
Filling:	VES NO				
Dredging:	VES NO				
Structures:	Open Coastal Waters	□ Wetlands	Estuaries	Lakes	
If so, what is	the amount of material to be	dredged/filled?		cubic yards	
	redged material disposal site	and Statut and			
		and the second of			
Has a U.S. Ari	my Corps of Engineers permit	t been applied for?		1	
6. Will there be	e any exterior lighting?				
□ YES		below and identif	fy the location of a	all exterior lighting on the plot and building plans.	
			11. C	0 0 1 01	
					-
					_
					_
					-
17. Utilities will	be supplied to the site as	follows:			
Electricity:	Wtility Company (servic	e exists to parcel)			
	🗇 Utility Company (requir	es extension of serv	ice to site):	feetmiles	
	On Site Generation – Sp	pecify:			
Gas:	Utility Company/Tank				
	On Site Generation – Sp	pecify:			
		seeny.			
Telephone:	I YES I NO				

<sup>12.</sup> Will the development provide public or private recreation opportunities?

<sup>14.</sup> Is the proposed development visible from a park, beach or other recreational area?

□ Other (specify):
Community Water System (specify supplier): Well Spring Other (specify): Interception of the site in terms of readily identifiable landmarks: (e.g., mailboxes, mile posts, street intersections, Cell tower is located at lat. 39° 19' 52.9" long123° 5' 53.2"
<ul> <li>□ Other (specify):</li></ul>
YES       Yes       If yes, explain: (e.g., Assessor's Parcel Number, address, etc.)         21. List and describe any other related permits and other public approval required for this project, including those required by of County departments, city, regional, State and Federal agencies:         NA         22. Describe the location of the site in terms of readily identifiable landmarks: (e.g., mailboxes, mile posts, street intersections, Cell tower is located at lat. 39° 19' 52.9" long123° 5' 53.2"
YES       Yes       If yes, explain: (e.g., Assessor's Parcel Number, address, etc.)         21. List and describe any other related permits and other public approval required for this project, including those required by of County departments, city, regional, State and Federal agencies:         NA         22. Describe the location of the site in terms of readily identifiable landmarks: (e.g., mailboxes, mile posts, street intersections, Cell tower is located at lat. 39° 19' 52.9" long123° 5' 53.2"
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23 Are there existing structures on the property? If yes, describe below and identify the use of each structure on the plot plan
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tentative map if the proposal is for a subdivision.
See existing site plan on the construction drawings, note that there is no increase in ground sp
24. Will any existing structure be demolished or removed? If yes, describe the type of development to be demolished or removed including the relocation site, if applicable.

#### 25. What is the maximum height of all structures?

Existing:	65'	feet
Proposed:	65'	feet

26. What is the gross floor areas of all structures, including covered parking and accessory buildings?

Existing: <u>NA</u> square feet Proposed: <u>NA</u> square feet

#### 27. What is the total lot area within property lines?

Total Lot Area: \_\_\_\_\_2,304 sq ft \_\_\_\_ □ acres ⊠ square feet

28. Briefly describe the project site as it exists before the project, including information on existing structures and their uses, slopes, soil stability, plants and animals, and any cultural, historical or scenic aspects. Attach any photographs of the site that you feel would be helpful:

Proposing to add/replace antennas, ancillary equipment and ground equipment as per plans for an existing carrier on

an existing wireless communication facility. Scope of work involves replacing a microwave and associated equipment

on the existing tower.

29. Briefly describe the surrounding properties, including information on plants, animals and any cultural, historic or scenic aspects. Indicate the type of land use (use chart below) and its general intensity. Attach any photographs of the vicinity that you feel would be helpful.

This cell tower is surrounded on all sides by agricultural uses

#### 30. Indicate the surrounding land uses:

a the second second	Vacant	Residential	Agriculture	Commercial	Industrial	<b>Public Facility</b>	Timberland	Other	
North:			X						
East:			X						
South:			×						
West:			×						

#### CERTIFICATION AND SITE VIEW AUTHORIZATION

- I hereby certify that I have read this completed application and that, to the best of my knowledge, the information in this application, and all attached appendices and exhibits, is complete and correct. I understand that the failure to provide any requested information or any misstatements submitted in support of the application shall be grounds for either refusing to accept this application, for denying the permit, for suspending or revoking a permit issued on the basis of such misrepresentations, or for seeking of such further relief as may seem proper to the County.
- 2. I hereby grant permission for County Planning and Building Services staff and hearing bodies to enter upon and site view the premises for which this application is made in order to obtain information necessary for the preparation of required reports and render its decision.

Adam Bruns-Trukhin 7/6/22 Owner/Authorized Agent Date

NOTE: IF SIGNED BY AGENT, OWNER MUST SIGN BELOW.

AUTHORIZATION OF AGENT

I hereby authorize <u>see LOA and rant of Easement</u> to act as my representative and to bind me in all matters concerning this application.

see LOA and rant of Easement

Owner

Date

MAIL DIRECTION

Address is same as page 1

To facilitate proper handling of this application, please indicate the names and mailing addresses of individuals to whom you wish correspondence and/or staff reports mailed <u>if different from those identified on Page 1 of the application form</u>.

Name	Name	Name	
Mailing Address	Mailing Address	Mailing Address	

# **Indemnification And Hold Harmless**

ORDINANCE NO. 3780, adopted by the Board of Supervisors on June 4, 1991, requires applicants for discretionary land use approvals, to sign the following Indemnification Agreement. Failure to sign this agreement will result in the application being considered incomplete and withheld from further processing.

# Indemnification Agreement

As part of this application, applicant agrees to defend, indemnify, release and hold harmless the County of Mendocino, its agents, officers, attorneys, employees, boards and commissions, as more particularly set forth in Mendocino County Code Section 1.04.120, from any claim, action or proceeding brought against any of the foregoing individuals or entities, the purpose of which is to attack, set aside, void or annul the approval of this application or adoption of the environmental document which accompanies it. The indemnification shall include, but not be limited to, damages, costs, expenses, attorney fees or expert witness fees that may be asserted by any person or entity, including the applicant, arising out of or in connection with the approval of this application, whether or not there is concurrent, passive or active negligence on the part of the County, its agents, officers, attorneys, employees, boards and commissions.

7/6/22

Date

Adam Bruns-Trukhin

Applicant



#### COUNTY OF MENDOCINO JULA DEPARTMENT OF PLANNING & BUILDING SVCS.

860 North Bush Street • Uklah, California 95482 120 West Fir Street • Fort Bragg, California 95437

# ACKNOWLEDGEMENT OF DEPOSIT/HOURLY FEE

By signing below, the applicant acknowledges that the staff at Planning and Building Services has discussed the potential for collection of a deposit fee for the projects listed below (as adopted by the Board of Supervisors Resolution No.'s 11-072, 16-150, 18-122 and 19-170)

- 1. Division of Land Project
- 2. General Plan Project
- 3. Coastal Project
- 4. Zoning Project
- 5. Administrative Project
- 6. Cannabis Project
- 7. Private Road Naming

Once an application has been submitted and the processing costs approach 80% of the application fee, additional staff processing time will be billed at \$90.00/hour. Staff will notify the applicant/owner that a deposit equal to 50% of the initial filing fee is required for further processing, and more than one deposit may be required depending on the complexity of the project and the staff time necessary to complete application processing.

I acknowledge that I was advised of the deposit fee for continued processing after the initial application fee has been expended.

Adam Bruns-Trukhin

Applicant Signature

7/6/22

Date

Mendocino County

AUG 03 2022

Planning & Building Services

OFFICE USE ONLY:

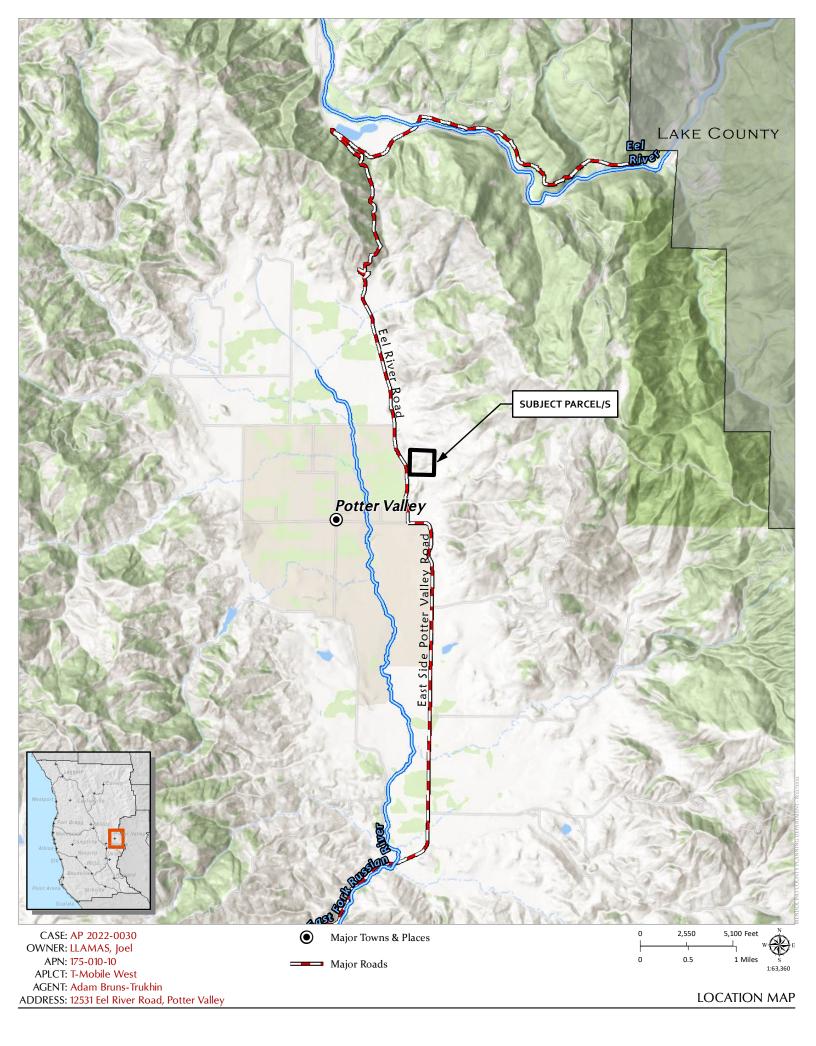
Project or Permit Number

S:\0.APPLICATIONS (Master File)\Original Word Documents\Cost Recovery Form 052521.Docx



AGENT: Adam Bruns-Trukhin ADDRESS: 12531 Eel River Road, Potter Valley

AERIAL IMAGERY



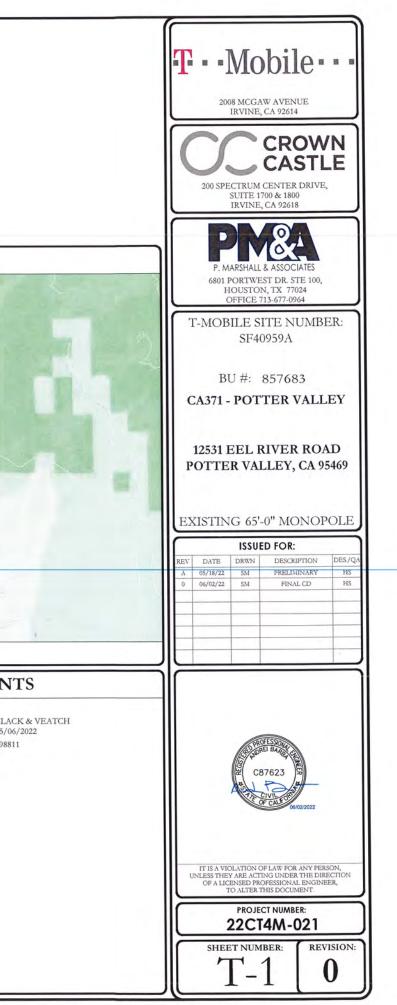
# T-Mobile--

T-MOBILE SITE NUMBER: SF40959A T-MOBILE SITE NAME: CA371 - P T-MOBILE PROJECT: MICROW

### SF40959A CA371 - POTTER VALLEY MICROWAVE UPGRADE

BUSINESS UNIT #: SITE ADDRESS: COUNTY: SITE TYPE: TOWER HEIGHT: 857683 12331 EEL RIVER ROAD POTTER VALLEY, CA 95469 MENDOCINO MONOPOLE 65'-0''

SITE INFORMATION			DRAWING INDEX	LOCATION MAP					
CROWN CASTLE USA INC.	CA371 - POTTER VALLEY	SHEET #	SHEET DESCRIPTION						
SITE NAME:		T-1	TITLE SHEET						
SITE ADDRESS:	12531 EEL RIVER ROAD POTTER VALLEY, CA 95469	T-2	GENERAL NOTES						
COUNTY:	MENDOCINO	C-1.1	OVERALL SITE PLAN						
MAP/PARCEL #:	17501010	C-1.2	FINAL EQUIPMENT PLAN						
AREA OF CONSTRUCTION:	EXISTING	C-2.1	TOWER ELEVATIONS	Haskins Excavating 👩					
LATITUDE:	39.331361 -123.098111	C-2.2	TOWER ELEVATIONS	and Timber 🗸					
LONGITUDE: LAT/LONG TYPE:	NAD83	C-3	EXISTING & NEW MICROWAVE PLANS						
GROUND ELEVATION:	1080'	C-4	FINAL EQUIP. SCHEDULE & MW CABLE SPECS						
CURRENT ZONING:	RESIDENTIAL	C-5	COMMSCOPE VHLPX4-11W/A MICROWAVE SPECS						
JURISDICTION:	COUNTY OF MENDOCINO, CA	C-5.1	CERAGON FIBEAIR IP-20A_RFU-D SPECS						
OCCUPANCY CLASSIFICATION TYPE OF CONSTRUCTION:	IIB	G-1	GROUNDING DETAILS						
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION				SITE ID: SF40959A LAT: 39,331361				
PROPERTY OWNER:	LLAMAS JOEL 300 GOLD GULCH RD UKIAH, CA 95482	-		Potter Va	Hopper's Corner Store				
TOWER OWNER:	CROWN CASTLE USA INC. 200 SPECTRUM CENTER DRIVE, STE 1700 & 1800 IRVINE, CA 92618				iey.				
CARRIER/APPLICANT:	T-MOBILE 2008 MCGAW AVENUE		RAWINGS CONTAINED HEREIN ARE FORMATTED FOR 22X34. TOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND						
	IRVINE, CA 92614	CONDIT	IONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH						
ELECTRIC PROVIDER:	PACIFIC GAS & ELECTRIC	ENGINEER	THE WORK OR BE RESPONSIBLE FOR SAME.		Pomo				
	. (800)4745.50000 County								
TELCO PROVIDER:			CALL CALIFORNIA ONE CALL	*					
	AUG 03 2022		CALL CALIFORNIA ONE CALL (800) 227-2600 CALL 3 WORKING DAYS		[240]				
	NOO 03 2022		BEFORE YOU DIG!		NO SCALE				
PPRO	DECT HEAStrices	PR	OJECT DESCRIPTION	APPLICABLE CODI	ES/REFERENCE DOCUMEN				
A&E FIRM: P. MARSHALL & ASSOCIATES, LLC 6801 PORTWEST DR, SUITE 100 HOUSTON, TX 77024 (713) 677-0964		BROADB. EXISTING TOWER S	POSE OF THIS PROJECT IS TO ENHANCE AND CONNECTIVITY AND CAPACITY TO THE G ELIGIBLE WIRELESS FACILITY. COPE OF WORK: VE (1) MICROWAVE & (1) ODU	ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFOR TO THESE CODES:	N DATED: 05/0				
CROWN CASTLE USA INC.			VE (1) 1/2" MICROWAVE CABLE LL (1) MICROWAVE & (2) ODU'S	CODE TYPE         CODE           BUILDING         2019 CALIFORNIA BUILDING CODE (CBC)/2018 IB	c				
DISTRICT CONTACTS:			LL (2) 21/64" POWER CABLES	MECHANICAL 2019 CALIFORNIA MECHANICAL CODE (CMC)/20	8 UMC				
200 SPECTRUN	A CENTER DRIVE, SUITE 1700 & 1800	• INSTA	LL (2) 7/32" FIBER CABLES	ELECTRICAL 2019 CALIFORNIA ELECTRICAL CODE (CEC)/2017 FIRE 2019 CALIFORNIA FIRE CODE	NEC				
IRVINE, CA 92	2618	GROUNE	SCOPE OF WORK:	FIRE 2019 CALIFORNIA FIRE CODE					
MEGAN LEN (949) 344-7797	CEK - PROJECT MANAGER	• NO GI	ROUND SCOPE REQUIRED						
(		11							
TED CONGEI (925) 701-7197	R - CONSTRUCTION MANAGER								
				SITE ACCESS: PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT TH & CROWN CONSTRUCTION MANAGER.	e crown noc at (800) 788-7011				
				ELECTRICAL NOTES: POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGE IS TO BE SHOWN REFERENCE PURPOSES ONLY. T-MOBILE IS SOLELY RESPON POWER DESIGN.					



#### CROWN CASTLE USA INC. SITE ACTIVITY REQUIREMENTS:

- NOTICE TO PROCEED- NO WORK SHALL COMMENCE PRIOR TO CROWN CASTLE USA INC. WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE CROWN CASTLE USA INC. NOC AT 800-788-7011 & THE CROWN CASTLE USA INC. CONSTRUCTION MANAGER.
- INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF HE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE THE CUMBING FACILITION THE STRUCTURE. THIS SHALL INCLUE BOT ROT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH HAY BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH HAAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE, ANY COMPROMISED SAFETY CLUMB, INCLUDING EXISTING CONDITIONS MUST BE FAGEDE OUT AND REPORTED TO YOUR CROWN COSTLE USA INC. POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURDICLIONAL FERMITS STALL BE OFFINIED. THE INCLUSS, BUT B NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, ELOOD ZONE, ENVIRONMENTAL, AND ZONNIG, AFTER ONSTITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT TIMITED TO: RECLINA PLANS, NADOING PLANS, ISLUMBING PLANS, AND BESCUE PLANS SHALL BE THE RESPONSIBILE POR THE REPORTS LOTING TO THE SECURION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE BIOUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED, ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND CROWN CASTLE USA INC. STANDARD CED-STD-10253, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFED ENGINEER FOR CLASS M CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURES (S) NA ACCORDANCE WITH ANSI/TA-322 (LATEST EDITION). ALL SIE WORK TO COMPLY WITH QAS-STD-10063 TINSTALLATION STANDARD SER OR CONSTRUCTION ACTIVITIES ON CROWN ALL SIE WORK TO COMPLY WITH QAS-STD-10063 TINSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON CROWN
- CASTLE USA INC. TOWER SITE," CED-STD-10294 "STANDARD FOR INSTALLATION OF MOUNTS AND APPURTENANCES," AND LATES FRSION OF ANSI/TIA-1019-A-2012 "STANDARD FOR INSTALLATION, AUTERATION, AND MAINTENANCE OF ANTENNA RTING STRUCTURES AND ANTENNAS.
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY CROWN CASTLE USA INC. PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S MMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTLITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING FIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL PIERS AROUND VERY MERCHANNEL COMMONSTRATE OF A CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND INCLUDE BUI NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND PROJECT SPECIFICATIONS. LATEST
- 11 APPROVED REVISION.
- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL DEBRIS, AND TRASH AT THE COMPLETION 12. THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE 13. WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF CONTRACTOR, TOWER OWNER, CROWN CASTLEUSA INC. AND/OR LOCAL UTILITIES.
- CANLE DA INC., AND/OR IOCAL UTILITIES. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS. 14:
- 15. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE 17 CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES. IF REQUIRED DURING CONSTRUCTION. SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT
- CONTROL THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES, AND AGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER
- DAMAGED FARLS MALL DE REFARED AT ON THAT ON THE CALL OF AN OWNER OF A DAMAGED FARLS AND OTHER 20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAVAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM STEE ON A DAILY 21. 22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND, FROZEN MATERIALS, SNOW OR ICE SHALL NOT

#### GENERAL NOTES

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY: CONTRACTOR: GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION CARRIER: T-MOBILE
  - IOWER OWNER: CROWN CASTLE USA INC.
- TOWER OWNER: CROWN CASTLE USA INC. HIESE DRAWINGS HAVE BEEN REPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALIES. IT IS ASSUMED THAT THE WORK DEPICTEM PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPOPUE WHO HAVE A WORKING KNOWLEDE OF THE APPLICABLE CODE RDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT I
- STANDARDS AND ERQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE JEVILCITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BS CUELTY RESPONSIBLE FOR THE CONSTRUCTION MEANS. METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. CONTRACTOR SHALL BS CUELTY RESPONSIBLE FOR THE CONSTRUCTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE BUT NOT BE LUMITED TO, BRACKING, FORMWORK, SHORING, FIC. SITE VISTS BY THE ENGINEE OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE TEMS AND IS FOR STRUCTURAL OSSERVATION OF THE ENSINEED STRUCTURE ONLY NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TRYCAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION BRANCES SHALL IS FURS WORK ON THE PROJECT AND/OR AS PROVIDED FOR IN THE DETAILS ARE SHOWN, CONSTRUCTION BRANCES COULD BE WILE MAND FOR STRUCTURE AND/OR AS AND SPECIAL DETAILS. THE CONSTRUCTION SHALL GONTOR TO SHALL CONFORM TO SMALL REVOULD BE AND TRYCAL DETAILS. DETAILS ARE SHOWN, CONSTRUCTION BRANCES COULD BE WILE MAND FOR STRUCTURE AND/OR AS PROVIDED FOR IN THE DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SMALL REVORE ON THE PROJECT AND TRYCALTORS. SHOULD BE AND TRYCALTORS AND TRYCALTORS THE DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SMALL REVORE ON THE PROJECT AND TRYCALTORS. SHOWNES DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SMALL REVORE ON THE PROJECT AND TRYCALTORS. THE DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SMALL REVORE DETAILS AND TRYCALTIONS. THE CONTRUCTIONS THE DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SMALL REVORE DETAILS AND TRYCALTIONS. THE CREATE STRUCTURE CAULY
- NTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER,
- CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD. SUBSTAINLAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILTO OF THE CONTRACTOR TO FLOV THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS FROR TO FABRICATION OR CUTITING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IN THE IS TO BE SOLE RESPONSIBILE. PRORE TO THE SUBMISSION OF BLOS, THE BIDDING CONTRACTOR SHOLLY VISIT HE CLEASTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTHED AS SOON AS POSSIBLE. PRORE TO THE SUBMISSION OF BLOS, THE BIDDING CONTRACTOR SHALLY VISIT THE CLASTRUCTION DRAWINGS. ANY DISCREPANCY FOUND INCLUE TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND INCLUE TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND
- - SHALL BE BROUGHT TO THE ATTENTION OF CROWN CASTLE. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES. REGULATIONS AND ORDINANCES, CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS NND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK, ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AN
- WITH ALL APPLICABLE MORE PALAND UNLITE COMPANY SECURATIONS AND OCCUPANISATION CONSTRUCTORS AND LABOR NECESSARY TO APPLICABLE REGULATIONS. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLIONS AS INDICATED ON THE BRAWINGS. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS
- SPECIFICALLY STATED OTHERWISE. IF THE SPECIFIC EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND CROWN CASTLE PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION AND IS TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO
- AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES, ANY DAMAGED PART 12. HALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASTLE USA INC
- SINALL DE KEYANEU AL CONTRACTOR'S EXPENSE TO THE SATISFACTION OF CROWN CASILE DATA. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS. 13.
- 14.

#### CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND
- ALL CONCRETE WORK SHALL BE IN ACCORDANCE MIT HE ACISAL, ACISAL AC
- CONCRETE SHALL NOT EXCEED 90<sup>rd</sup> AT TIME OF PLACEMENT. CONCRETE SHALL NOT EXCEED 10 REELE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERS SVERER). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM

ON 3ECO ADDREAMD JOEDS CALORIS 40 10

- #4 BARS AND SMALLER ..... #5 BARS AND LARGER ....
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS: CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH..... CONCRETE EXPOSED TO EARTH OR WEATHER:

1-1/2"

- #6 BARS AND LARGER.
- IS BARS AND WALLER. NCRETE NOT EXPOSED TO EARTH OR WEATHER: SLAB AND WALLS. 3/4" ACCORDANCE WITH ACI 301 SECTION 4.2.4.

#### GREENFIELD GROUNDING NOTES:

BE PLACED IN ANY FILL OR EMBANKMENT

- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GESS) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND BIJ FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT
- OF 5 OHMS OR LESS. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND RAVIDE TESTING RESULTS. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DECONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS, METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DECONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS, METAL CONDUIT AND TRAY SHALL BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH CREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BIS
- EQUIPMENT. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WRES. #6 STRANDED COPPER OR LARGER FOR INDOOR BTS: #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITED. ALL EXTERIOR GROUND CONDUCTORS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITED. ALL EXTERIOR GROUND CONDUCTORS SHALL NOT BE EDOUBLED UP OR STACKED BACK TO BACK CONNECTIONS. ALL EXTERIOR GROUND CONDUCTORS SHALL NOT BE USED CORE GROUNDING CONDUCTOR SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED. ALL STERIOR GROUND CONDUCTORS SHALL BELOWDICTOR SHALL BE A VOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED. EXONUBLING HELD ESTADED AND CONNECTIONS BELOW CRAPPE

- USE OF \$P\$ ENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WITH 413'S BENDS CAN BE ADEQUATELY SUPPORTED. EXOTHERMIC WEIDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS SHOUL GRADE. ALL GROUND CONNECTIONS ABOVE GRADE [INTERIOR AND EXTERIOR] SHALL BE FORMED USING HGH PRESS CRIMPS. COMPRESSION GROUND CONNECTIONS ABOVE GRADE [INTERIOR AND EXTERNOR] SHALL BE FORMED USING HGH PRESS CRIMPS. ICE BRIDGE BONDING CONNECTIONS SHALL BE AND THE CONNECTIONS. ICE BRIDGE BONDING CONNECTIONS SHALL BE CONTREMCALLY BONDED OR BOILED TO THE BRIDGE AND THE TOWER GROUND BAR. ALL EXTERNOVED ANTIOXIDANT COALITINGS (i.e. CONDUCTIVE GLU PRASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS. ALL EXTERNOVED ANTIOXIDANT COALITINGS (i.e. CONDUCTIVE GLU PRASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS. ALL EXTERNOVED ANTIOXIDANT COALITINGS (i.e. CONDUCTIVE GLU PRASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS. ALL EXTERNOVED ANTIOXIDANT COALITIES (I.E. CONDUCTIVE GLU PRASTERIAL. ALL EXTERNOVES FLECTRICAL AND AN ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RESISTANT MATTERNAL. BOND ALL METALLIC OBJECTS WITHIN 61 OF MAIN GROUND RESISTANT MATTERNAL. BOND ALL METALLIC OS LECTRICAL AND FOR MAIN STARES SOLD TINNED COPPER GROUND CONDUCTOR. MIL EXTERNOVES USED FOR THE FACILITY GROUNDING ROTECTION STISTAMS SHALL NO THE ROUID RING, IN ACCORDANCE WITH THE NEC. GROUND CONDUCTORS. WITH IT IS REQUIRED TO BE HOUSED IN THEO COPPER GROUND CONDUCTOR. MULL SOR FLOORS. WITH IT OF MAIN GROUND RROUND RROUTED CONDUCTIONS IN ALL SUPPORT CLIPS OR SLEEVES GROUND CONDUCTORS. WITH IT OF MAIN GROUND ROUND RROUTED TO THE CROUND RING THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR. SUCH AS METALLIC CONDUITS. METAL SUPPORT CLIPS OR SLEEVES GROUND CONDUCTORS. WITH IT IS REQUIRED TO CONDUCTION SHALL BE BONDED TO EACUL CONDUITIONS, NON-METALLIC CONDUIT SHALL SUPPORT CLIPS OR SLEEVES GROUND CONDUCTORS. WITH IT IS REQUIRED TO DER CONDUCTION SHALL BE ONDED TO EACUL CO STHAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT
- 21. (FERROUS OR NONFERROUS METAL PIPING ONLY).

#### ELECTRICAL INSTALLATION NOTES

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL STATE, AND LOCAL CODES/ORDINANCES
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE FILMINATED
- 3. RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC WRING, KACEWAY AND SUPPOK METHODS AND MATERING SHALL COMPLECTION THIN THE REQUIRED BY THE NEC. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
- 4.2.
- METHOD SHALL CONFORM WITH NEC AND OSHA. METHOD SHALL CONFORM WITH NEC AND USHA... ALL ELECTRICAL COMPORENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE

- THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE. COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL).
- ALL POWER AND GROUNDING CONNECTIONS STILL BE UNTIL BE UNT
- LOCATIONS. LOCATIONS. ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/905 AND ALL APPROVED ABOVE ORADE PVC CONDUIT. LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS
- NEEDED CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NO
- CCEPTABLE CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NE
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
- SPECMATE WIREWAY). SLOTIED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL). CONDUIDS HALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERIORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES [La. CONDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITED. CLOSEY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROVIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIREVOLUTIO ROUTE AND/IND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANNER. PARALLEL AND PERFENDECULAR TO STRUCTURE WALL AND CELLING INES. ALL CONDUIT SHALL BE INSTALLED FINANCES IN DIREVICIONS. ENDS OF CONDUID SSTALL BE FLOREDRARY CAPPED FLUSH TO INSIST GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUIDS SHALL BE RIGDITY CLAMPED TO BOXES BY GALVANEE FLUSH TO INSIST GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUIDS SHALL BE RIGDITY CLAMPED TO BOXES BY GALVANEE
- MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL SHALL MEET OR

- APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
- LAMICOID LABEL ON THE METER CENTER TO SHOW "T-MOBILE" ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.

CON	DUCTOR COL	OR CODE			
SYSTEM	CONDUCTOR	COLOR			
	A PHASE	BLACK			
	B PHASE	RED			
120/240V, 1Ø	NEUTRAL	WHITE			
	GROUND	GREEN			
	A PHASE	BLACK			
	B PHASE	RED			
120/208V, 3Ø	C PHASE	BLUE			
	NEUTRAL	WHITE			
	GROUND	GREEN			
	A PHASE	BROWN			
	B PHASE	ORANGE OR PURPLE			
277/480V, 3Ø	C PHASE	YELLOW			
	NEUTRAL	GREY			
	GROUND	GREEN			
no voituer	POS (+)	RED**			
DC VOLTAGE	NEG (-)	BLACK**			

A	PWAL
C	WHITE
	PINK
	RED
	YELLOW
	ORANGE
	BLUE
1	PURPLE

#### ABBREVIATIONS:

- ANTENN
- EXISTING FACILITY INTERFACE FRAME
- GEN GPS GENERATOR GLOBAL POSITIONING SYSTEM
- GLOBAL SYSTEM FOR MOBILE
- GSM LTE MGB LONG TERM EVOLUTION MASTER GROUND BAR
- MW MICROWAVE
- (N) NEC (P) PP NATIONAL ELECTRIC CODE
- PROPOSED POWER PLANT
- QTY QUANTITY RECT RECTIFIER

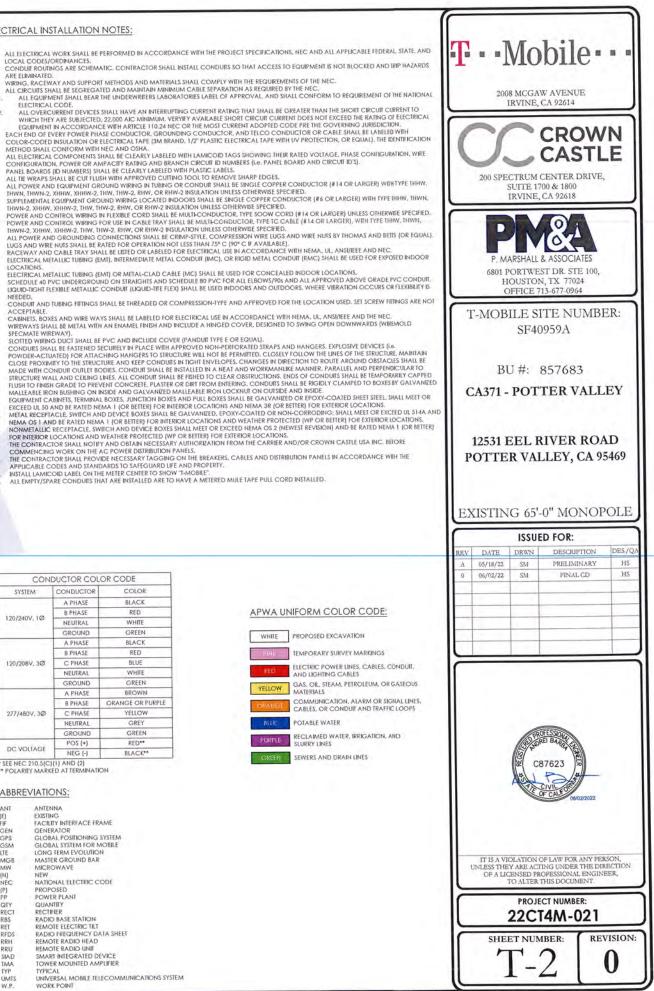
UMTS

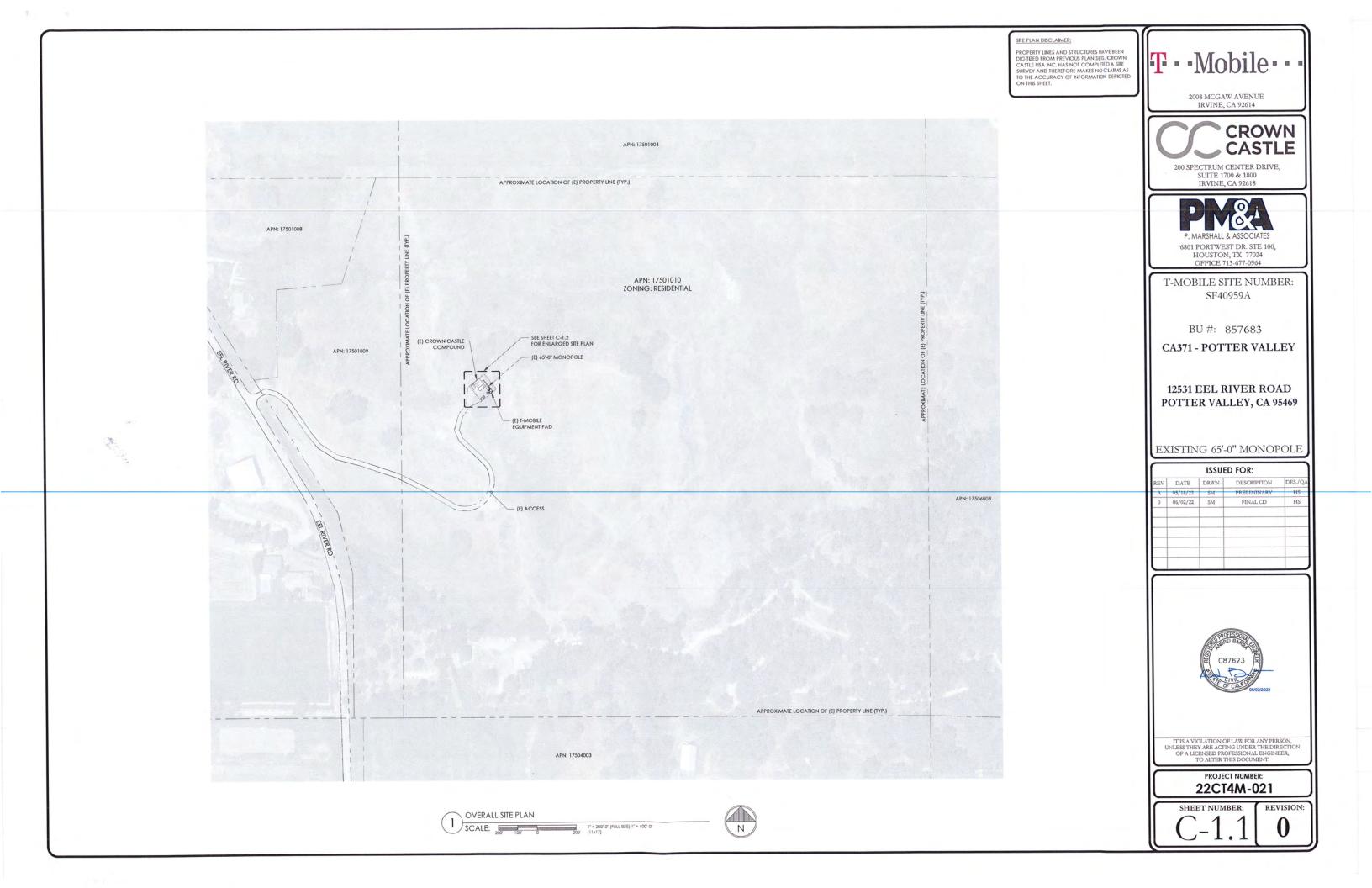
- RADIO BASE STATION RBS RET REMOTE ELECTRIC TILT
- RED RADIO FREQUENCY DATA SHEET RRH

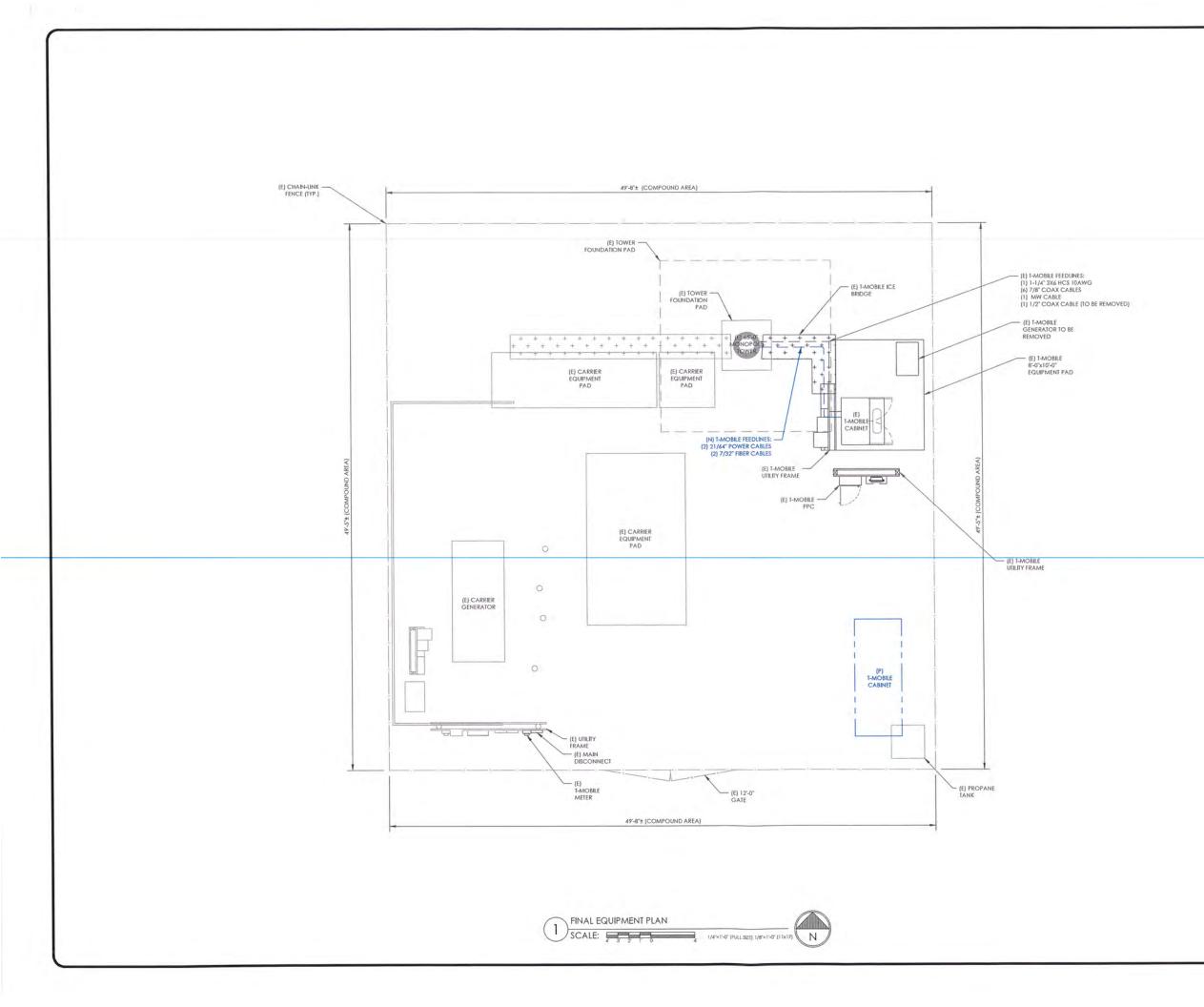
WORK POINT

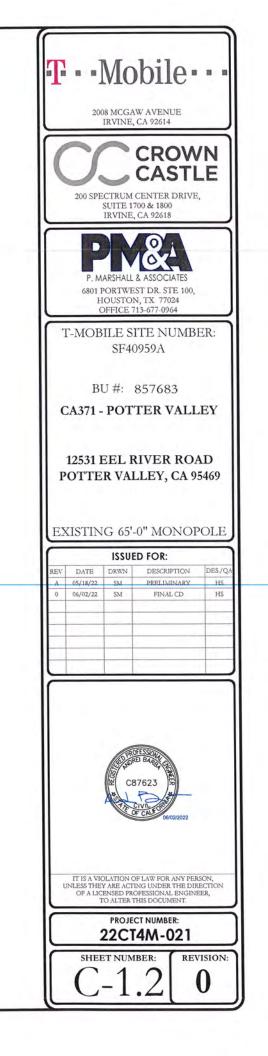
REMOTE RADIO HEAD REMOTE RADIO UNIT SMART INTEGRATED DEVICE TOWER MOUNTED AMPLIFIER

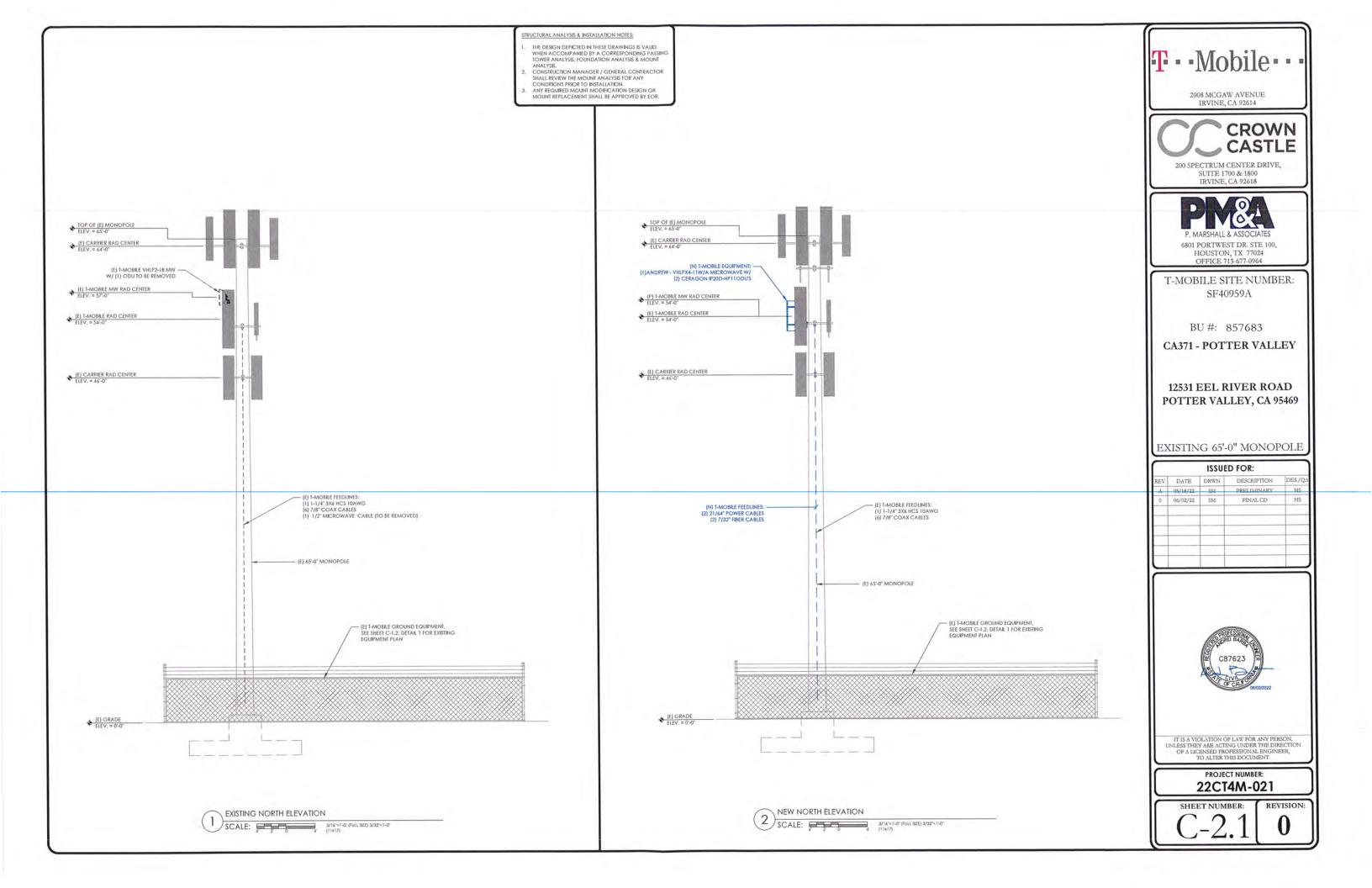
TYPICAL UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM

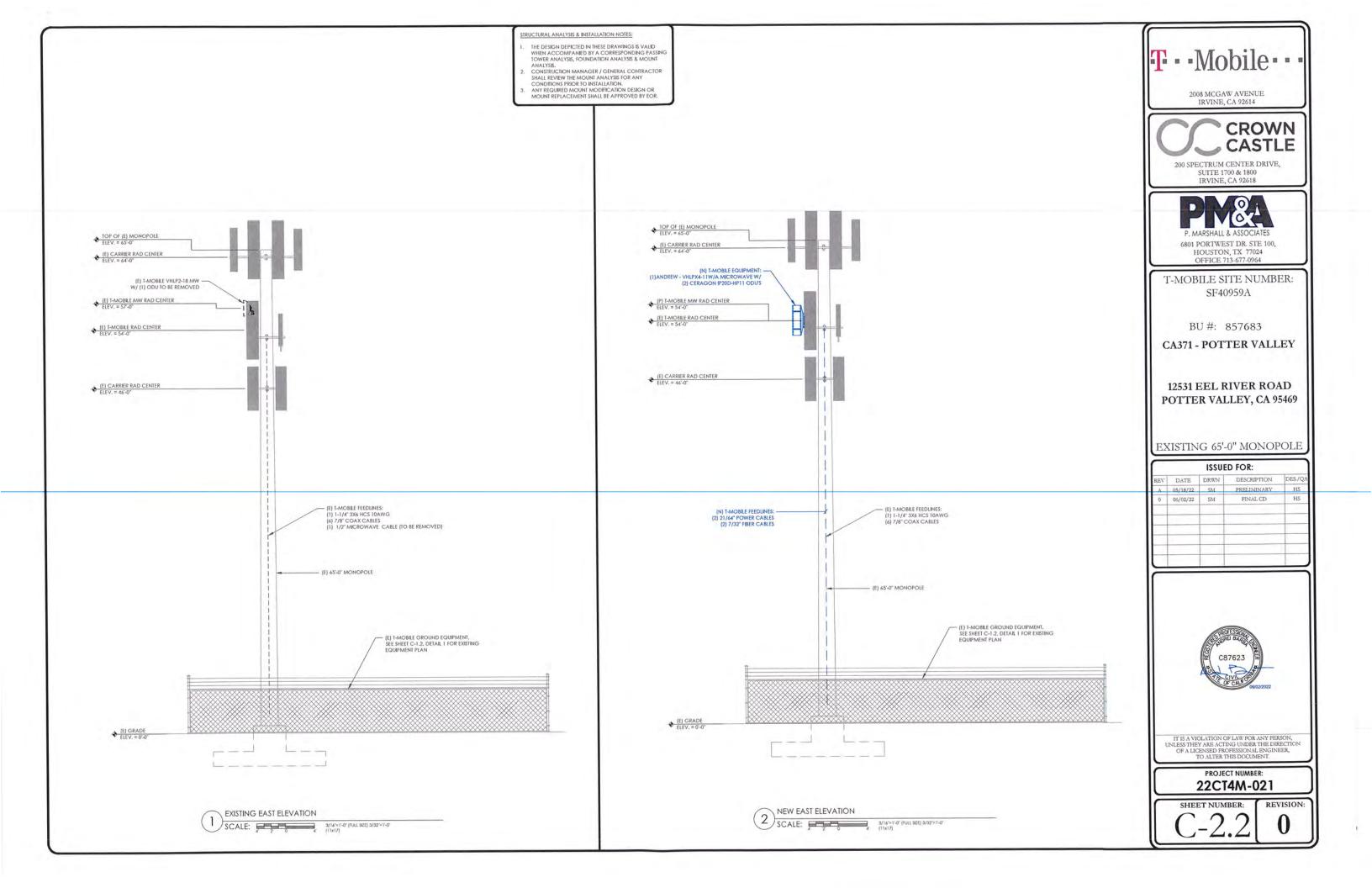


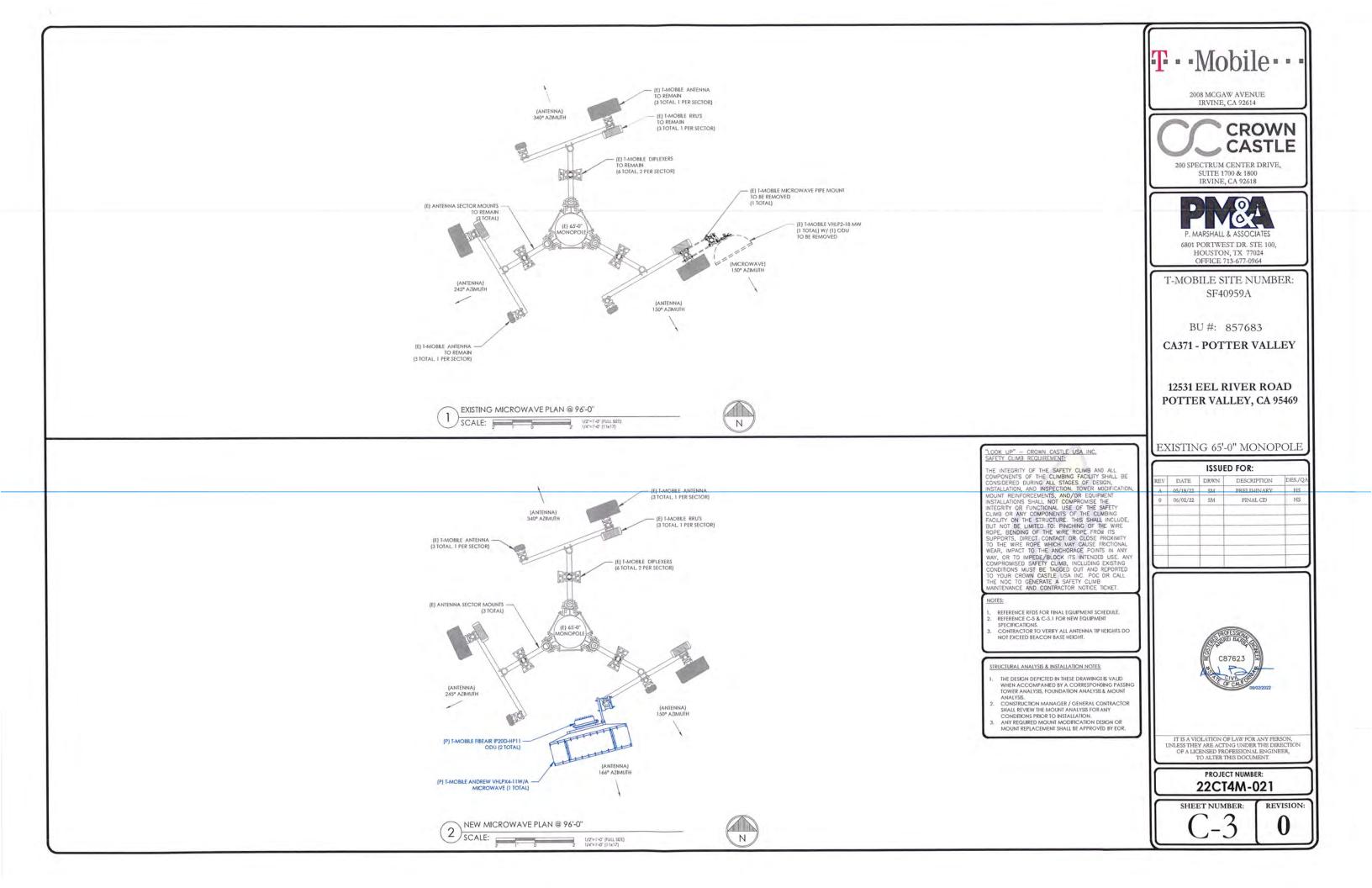




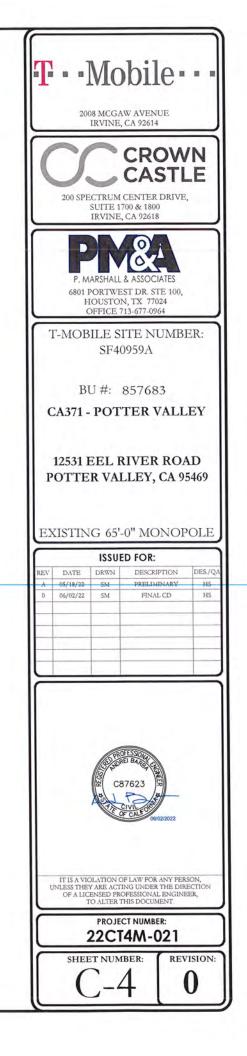








						FINAL EQI	JIPMEN	r schedu	LE				
MICROWA	VE			-		(VERIFY W		RENT RFC	os)	 		2 (N) POWER CABLES 21/6	
1	MW	(N) ANDREW VHLPX4-11W/A	166°	54'	2	(N) CERAGON FIBEAIR IP20D-HP11			· ·	 -	÷	2 (N) FIBER CABLES 7/3:	
NOTES: (E) - EXISTIN (N) - NEW	G												
							EQUIPMEN E: NOT TO	IT SCHEDULE SCALE	_				



# VHLPX4-11W/A



Product Classification

General Specifications

**Product Type** 

**Product Brand** 

Antenna Type

Polarization

Side Struts, Included

Side Struts, Optional

Dimensions

Diameter, nominal

1.2 m | 4 ft ValuLine® High Performance Low Profile Antenna, dualpolarized, 10.125–11.700 GHz

VHLPX - ValuLine® High Performance Low Profile Antenna, dual-

Microwave antenna

ValuLine®

polarized

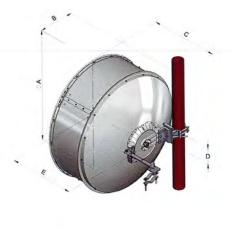
1 inboard

1.2 m | 4 ft

Dual 1 inboard

# VHLPX4-11W/A

Antenna Dimensions and Mounting Information



 Dimensions in inches (mm)

 Antenna size, ft (m)
 A
 B
 C
 D
 E

 4 (1.2)
 50.8 (1291)
 16 (407)
 30.2 (767)
 7.2 (183)
 29.5 (748)

## **Electrical Specifications**

Operating Frequency Band	10.125 - 11.700 GHz	
Gain, Low Band	40.2 dBi	
Gain, Mid Band	40.7 dBi	
Gain, Top Band	41 dBi	
Boresite Cross Polarization Discrimination (XPD)	30 dB	
Front-to-Back Ratio	66 dB	
Beamwidth, Horizontal	1.6 °	
Beamwidth, Vertical	1.6 °	
Return Loss	17.7 dB	

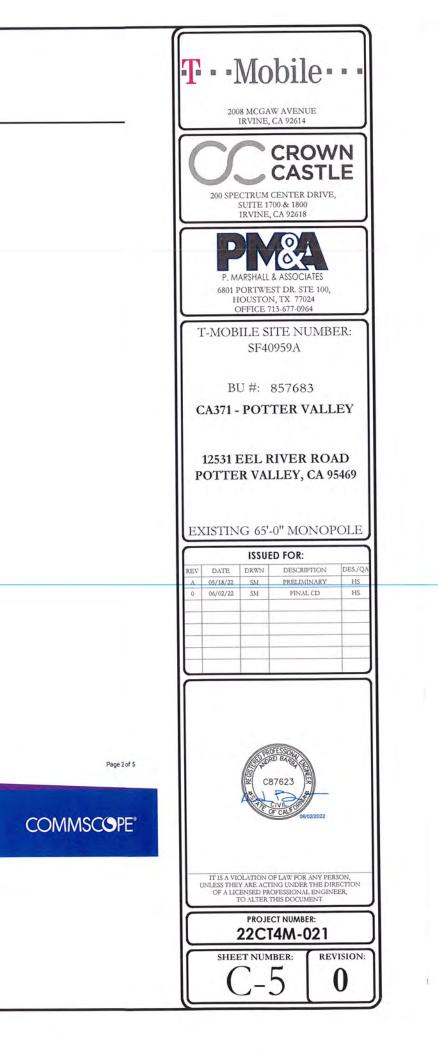
Page 1 of 5

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ANDREW VHLPX4-11W MICROWAVE SPECS 1) SCALE: NOT TO SCALE



Installation Guide for RFU-D-HP

## **RFU-D-HP Interfaces**

The following figures show the RFU-D-HP TX and RX interfaces.

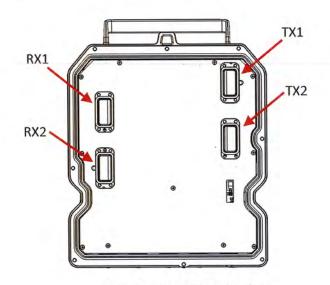


Figure 1: RFU-D-HP Radio Interfaces

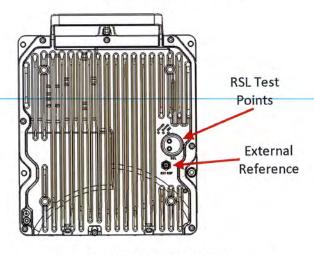
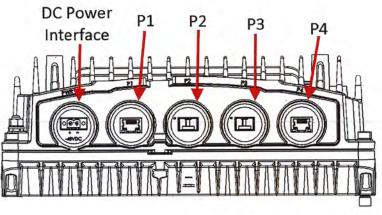
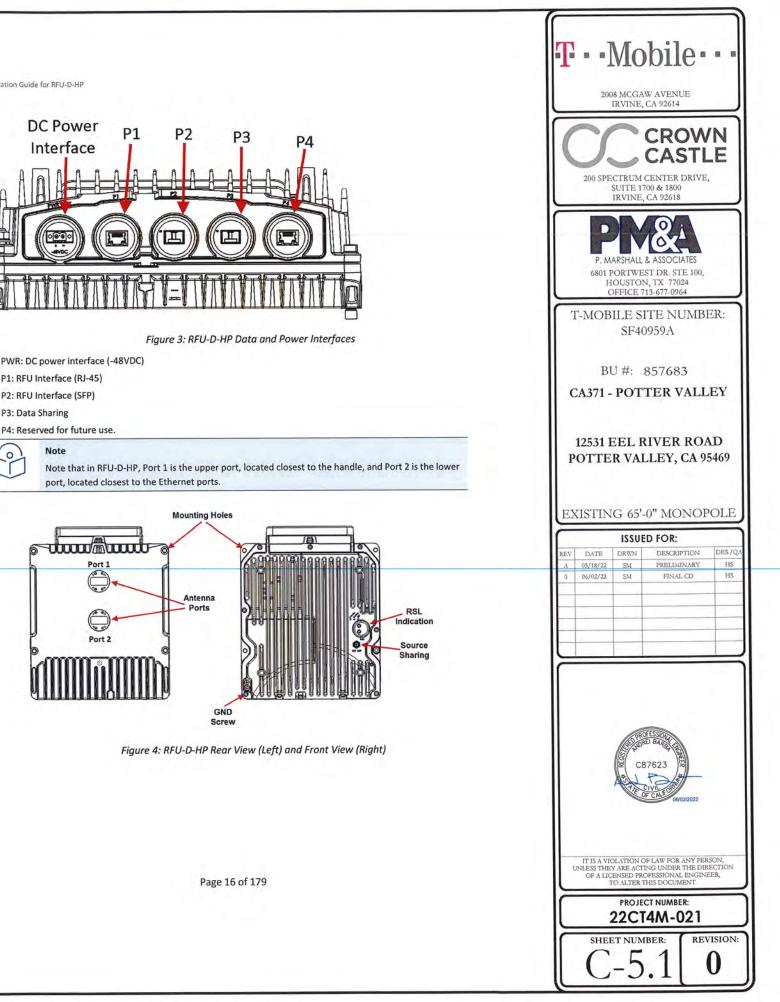


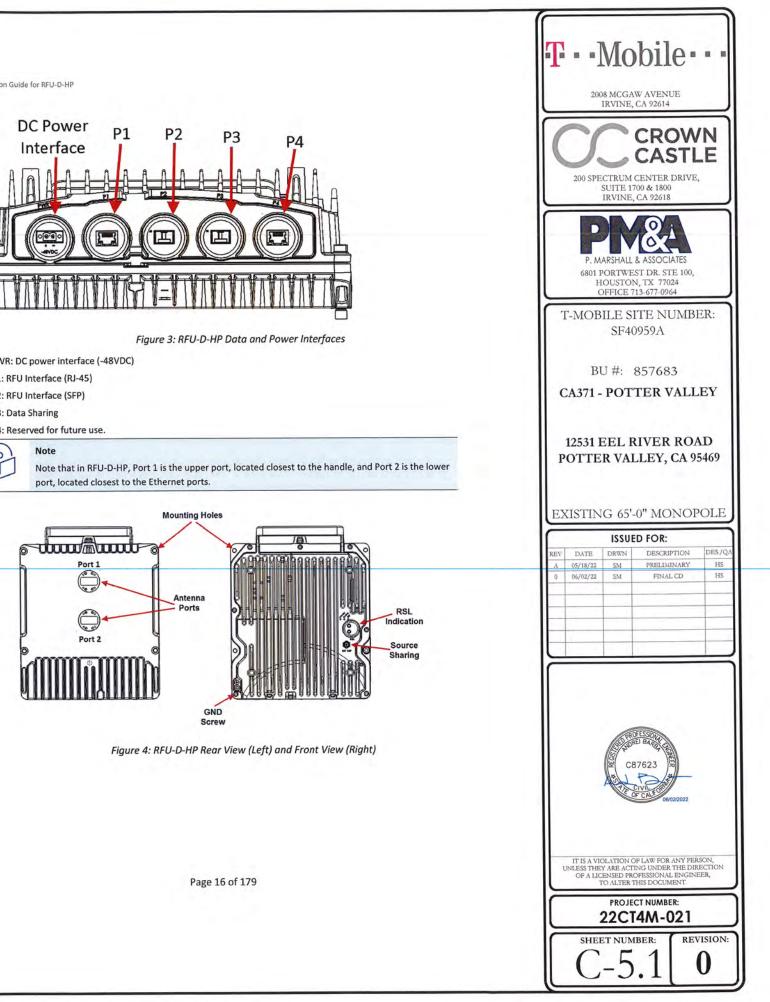
Figure 2: RFU-D-HP Front Side Interfaces

Installation Guide for RFU-D-HP



- PWR: DC power interface (-48VDC)
- P1: RFU Interface (RJ-45)
- P2: RFU Interface (SFP)
- P3: Data Sharing
- P4: Reserved for future use.





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