

INCORPORATED COUNTY OF LOS ALAMOS ORDINANCE NO. 739

AN ORDINANCE NOVATING AND AUTHORIZING A FIRST AMENDMENT OF A LEASE WITH AT&T MOBILITY, LLC, FOR REPLACEMENT OF EXISTING ANTENNA COLLOCATION AND FACILITIES AT 280 NORTH MESA ROAD, LOS ALAMOS, ON THE NORTH MESA WATER TOWER

WHEREAS, the Incorporated County of Los Alamos ("County") entered into a Lease for Antenna Collocation and Facilities Site ("Lease") with Commnet Wireless, LLC, ("Commnet") on August 11, 2021, for the placement and use of certain wireless telecommunication equipment on the North Mesa Water Tower ("Water Tower"); and

WHEREAS, the leased space is located at 280 North Mesa Road, Los Alamos, New Mexico 87544 ("Property") and includes both ground equipment and certain antennas on County's Water Tower; and

WHEREAS, the original Lease with Commnet did not have an internal County tracking number designation, and has been assigned the number AGR26-823, with a first amendment designation of AGR26-823-A1, attached hereto as Exhibit A; and

WHEREAS, AT&T Mobility LLC, ("AT&T") became a successor in interest of the 2021 Lease with Commnet; and

WHEREAS, on December 17, 2024, County received a request from AT&T to modify the existing antenna equipment and ground lease on the Water Tower and Property; and

WHEREAS, County has worked with AT&T since that time to identify current ground and antenna equipment including the proposed additions and/or equipment replacements and reviewed and approved an AT&T produced structural analysis and engineered site plan; and

WHEREAS, the Department of Public Utilities ("DPU") and other affected departments have reviewed the proposed plans and specifications as provided by AT&T and find that the proposed amendment is appropriate for the further improvement of wireless telecommunication services within the County.

BE IT ORDAINED BY THE GOVERNING BODY OF THE INCORPORATED COUNTY OF LOS ALAMOS:

Section 1. The County Council finds novation and amendment of the Lease is appropriate and will improve wireless telecommunication services in the County.

Section 2. The Utilities Manager is hereby authorized to take all action necessary to carry out the amendment of the Lease with AT&T.

Section 3. Severability. Should any section, paragraph, clause or provision of this Ordinance, for any reason, be held to be invalid or unenforceable, the invalidity or unenforceability of such section, paragraph, clause or provision shall not affect any of the remaining provisions of this Ordinance.

Section 4. Effective Date. This Ordinance shall become effective thirty (30) days after publication of notice of its adoption.

Section 5. Repealer. All other ordinances or resolutions, or parts thereof, inconsistent herewith are hereby repealed only to the extent of such inconsistency. This repealer shall not be construed to revive any ordinance or resolution, or part thereof, heretofore repealed.

PASSED AND ADOPTED this 4th day of November 2025.

INCORPORATED COUNTY OF LOS ALAMOS

**Theresa Cull,
Council Chair**

ATTEST:

**Michael D. Redondo,
Los Alamos County Clerk**

**FIRST AMENDMENT AND NOVATION OF A LEASE FOR ANTENNA
COLLOCATION AND FACILITIES SITE,
WITH AT&T MOBILITY LLC, FOR REPLACEMENT OF EXISTING ANTENNA AT
280 NORTH MESA ROAD, LOS ALAMOS, ON THE BARRANCA NORTH MESA
WATER TOWER**

This First Amendment and Novation of a *Lease for Antenna Collocation and Facilities Site* (this "*First Amendment*") is entered into as of the date last signed below (the "new Effective Date") and is by and between the **Incorporated County of Los Alamos**, an incorporated county of the State of New Mexico (the "County" or "Landlord"), and novate **AT&T Mobility LLC**, ("AT&T"), a Delaware limited liability company ("Tenant"), successor in interest to Commnet Wireless, LLC, ("Exiting Tenant" or "Commnet") a Delaware limited liability company, collectively (the "Parties").

WHEREAS, the Landlord, in its proprietary capacity, owns and controls that certain real property commonly known as the North Mesa Water Tank located at 280 North Mesa Road, Los Alamos, New Mexico 87544 (the "Property"); and

WHEREAS, the Property's primary use is for the installation and operation of a County owned water tank tower, the ("Facility"); and

WHEREAS, the Parties' original Lease Agreement was not assigned a County agreement number, yet the contract has now been assigned the County internal tracking number AGR26-823, and with this Amendment is numbered AGR26-823-A1; and

WHEREAS, the County Council is authorized to lease real property and utility facilities under County Code 14-31(6) and NMSA 1978, Section 3-54-1, (A); and

WHEREAS, Landlord and Commnet entered into that certain *Lease for Antenna Collocation and Facilities Site* dated August 11, 2021 (the "Lease"), which is incorporated herein by reference for all purposes, pursuant to which Commnet had the right to install, operate, and maintain its wireless communication equipment at the Facility; and

WHEREAS, the Department of Public Utilities ("DPU") and other affected departments have reviewed the proposed plans and specifications as provided by AT&T and find that the amended facility changes are appropriate for the further improvement of wireless telecommunication services within the County; and

WHEREAS, The Parties desire that the Lease be amended and assumed through a novation of the Lease from the Exiting Tenant to the Tenant; and

WHEREAS, Exiting Tenant desires to assign and transfer the Lease to Tenant, and Tenant wishes to accept the assignment, transfer, and assumption of all the rights, interests, covenants, obligations, and liabilities of Exiting Tenant described in the Lease, under the terms and conditions of this Novation; and

WHEREAS, the first five (5) year term of the Lease expires on August 11, 2026, and remains unmodified by this *First Amendment* except as explicitly described herein; and

WHEREAS, Landlord and Tenant desire to amend and supplement the Lease to allow for the construction/installation of additional/updated equipment to be installed at the Facility on the terms and conditions in this *First Amendment*; and

WHEREAS, the additional/updated equipment being added to the Facility doubles the number of existing attachment points on the Facility, and the Landlord and Tenant agree to increase the annual rent, beginning on June 1, 2026, or at the start of the installation/construction of the additional/updated equipment, whichever occurs first; and

WHEREAS, each reference to Exhibit B and Exhibit C in the Lease are amended to read “Exhibit B-1” and “Exhibit C-1”, respectively, to reflect that former Exhibit B and Exhibit C are replaced in their entirety by amendment herein, with Exhibit B-1 and Exhibit C-1, respectively, attached hereto; and

WHEREAS, the Council of the Incorporated County of Los Alamos (“County Council”) finds that a Novation of the Lease from the Exiting Tenant to the Tenant is in the best interest of County; and

WHEREAS, the County Council approved this *First Amendment and Novation of a Lease for Antenna Collocation and Facilities Site* at a public meeting held on September 30, 2025.

NOW, THEREFORE, for good, valuable, and sufficient consideration, Landlord, Exiting Tenant and Tenant acknowledge, agree, and stipulate as follows:

1. Full Force and Effect. All terms and conditions set forth in the Lease shall continue in full force and effect unless specifically modified or supplemented herein.
2. As of the new Effective Date, Tenant assumes all assets and liabilities, the equity interests, contractual obligations, and terms and conditions of Exiting Tenant, including the Lease.
3. Tenant shall be bound by all obligations and terms and conditions created by the Lease between Exiting Tenant and County.
4. Tenant shall be bound by and perform all duties, obligations, and work required by the Lease in strict accordance with the terms and conditions of the Lease.
5. Tenant shall assume all past and future duties, obligations, liabilities created under the Lease by the Exiting Tenant as if the Tenant were the Exiting Tenant when the Lease was originally entered.
6. Exiting Tenant confirms the transfer of all Lease assets and liabilities to Tenant and waives any claim or right that it may have against County with respect to the Lease.
7. The Parties agree that all payments previously made to Landlord by Exiting Tenant, and all other previous actions taken by Exiting Tenant under the Lease, shall be considered to have discharged those parts of the Exiting Tenant’s obligations under the Lease.

8. A one-time administrative review fee in the amount of FIFTEEN THOUSAND DOLLARS (\$15,000.00) is appropriate for this Amendment and shall be paid within sixty (60) days of the last signatory's endorsement.

9. The annual rent shall be increased to TWENTY-ONE THOUSAND AND NO/100 DOLLARS (\$21,000.00), paid monthly, *i.e.*, ONE THOUSAND SEVEN HUNDRED FIFTY AND NO/100 DOLLARS (\$1,750.00), beginning June 1, 2026, or at the start of the installation/construction of the additional/updated equipment, whichever occurs first, and subject to the same annual escalation thereafter, as the original term of 3% annual increase on the anniversary date of the increase herein.

10. The title page is amended by replacing "COMMNET WIRELESS, LLC", as Exiting Tenant" with "AT&T MOBILITY LLC", as Tenant.

11. The Table of Contents is amended such that "EXHIBIT B. PREMISES" is amended to "EXHIBIT B-1. PREMISES" and "EXHIBIT C. OTHER COMMUNICATION USES" is amended to "EXHIBIT C-1. OTHER COMMUNICATION USES".

12. Replace in its entirety EXHIBIT B PREMISES document, Registered Architect #004076 Sealed drawing dated December 31, 2021, with the attached EXHIBIT B-1 PREMISES, Licensed Professional Engineer #15496 Sealed Drawing dated November 21, 2024.

13. Delete in its entirety EXHIBIT C OTHER COMMUNICATION USES document, CO-LOCATION INTERFERENCE ANALYSIS REPORT, dated August 30, 2020, and replace it with the attached EXHIBIT C-1 OTHER COMMUNICATION USES, "Appurtenance Mount Analysis Report" by B+T GRP dated November 1, 2024, and the "Water Tower- Structural Analysis Report" by B+T GRP dated November 14, 2024.

14. Only the following numbered subsections of the Lease are hereby amended, primarily to replace "Exhibit B" and "Exhibit C" with "Exhibit B-1" and "Exhibit C-1", respectively, and to update the new Tenant's contact information.

1.1.5. Other Communication Uses: Those uses described on the attached Exhibit "C-1", incorporated herein by reference.

1.1.6. Permitted Use: Tenant shall use the Premises only for the purpose of installing, maintaining, repairing, replacing, removing and operating certain communications equipment, which equipment is more particularly described in the attached Exhibit "B-1" ("Tenant's Equipment") and uses incidental thereto to provide communications services, and for no other purpose.

1.1.7. Premises: The portion of the Land and the Facility hereby leased to Tenant, as shown on the attached Exhibit "B-1", incorporated herein by reference, containing approximately two hundred forty-seven (247) square feet and space on the Facility at the seventy-five (75) foot above ground level.

1.1.8 Rent: Payment of Lease fees shall commence on the Effective Date. For the primary Term, Tenant shall pay annual rental in the amount of TWENTY-ONE THOUSAND AND 00/100

DOLLARS (\$21,000.00) (hereafter “Rent” or “Lease Payment”) in advance, to Landlord’s Address stated below.

1.1.10. Tenant's Address: For notices under this Lease, the Tenant’s address is:

AT&T Mobility LLC
ATTN: TAG – LA
Re: Cell Site# NML02662A
Cell Site Name: North Mesa Water Tank
Fixed Asset #: 15066552
1025 Lenox Park Blvd NE
3rd Floor
Atlanta, GA 30319

With a Copy To:

New Cingular Wireless PCS, LLC
Attn: Legal Department
Re: Cell Site# NML02662A
Cell Site Name: North Mesa Water Tank
Fixed Asset #: 15066552
208 S. Akard Street
Dallas, Texas, 75202-4206

2.1. Landlord, in consideration of the Rent and other charges to be paid and the other covenants and agreements to be performed by Tenant, hereby leases to Tenant, and Tenant hereby takes from Landlord, the Premises commencing on the Effective Date and ending on the last day of the Lease Term unless sooner terminated as herein provided. Tenant acknowledges and agrees that Tenant’s use of space on the Facility at the seventy-five (75) foot elevation is exclusive. Tenant may install and maintain transmission and utility wires, cables, conduits and pipes on the Facilities necessary to carry out the Permitted Use, provided that Tenant obtains Landlord’s prior written consent of the specific location of all such installations, such consent not to be unreasonably withheld.

5.6. Tenant shall not cause electrical interference to Landlord or to any other tenant or user who is occupying or using a portion of the Land or the Facility as of the date Tenant proposes to lease the Premises from Landlord. At Landlord’s request, Tenant shall perform an intermod and interference study at the Facility and perform an interference evaluation. Tenant acknowledges that the Other Communication Uses as provided in **Exhibit “C-1”**, will not, if properly and lawfully operated, interfere with Tenant’s use, and that Tenant’s use will not interfere with the Other Communication Uses.

7.1 Except as contemplated in **Exhibit “B-1”**, Tenant shall not make or permit to be made any alterations, additions or improvements to the Premises or paint, install lighting or decorations, or install any signs, window or door lettering or advertising media of any type on or about the Premises without the prior written consent of Landlord, which shall not be unreasonably conditioned, withheld or delayed.

15. A new section 18.16 is added as follows:

Incorporated County of Los Alamos
AGR26-823-A1

18.6 Unmanned Aircraft System. Landlord grants Tenant, and any Unmanned Aircraft System (“UAS”) operator acting on Tenant’s behalf, express permission to use a UAS to fly over the applicable Property and Premises in connection with Tenant’s installation, construction, monitoring, site audits, inspections, maintenance, repair, modification, or alteration activities at the Property, and to use audio and video navigation and recording in connection with the use of the UAS.

16. A new section 18.17 is added as follows:

18.7 Severability. Should any section, paragraph, clause or provision of this amended Lease, for any reason, be held to be invalid or unenforceable, the invalidity or unenforceability of such section, paragraph, clause or provision shall not affect any of the remaining provisions of this amended Lease.

17. The signature page is replaced in its entirety, and the **List of Exhibits:** is amended as follows:

Exhibit A – Land

Exhibit B-1 – Premises

Exhibit C-1 – Other Communication Uses (This exhibit describes the communications uses existing at the Facility as of the Effective Date and other anticipated communications frequencies and uses with which Tenant’s Equipment must not interfere.)

IN WITNESS WHEREOF, the parties have duly executed this *First Amendment and Novation of a Lease for Antenna Collocation and Facilities Site* on the latter date of the signatures below.

ATTEST:

Michael D. Redondo,
Los Alamos County Clerk

Approved as to form:

J. Alvin Leaphart,
County Attorney

LANDLORD:
INCORPORATED COUNTY OF LOS
ALAMOS

By: _____
PHILO S. SHELTON, III, P.E. Date
UTILITIES MANAGER

TENANT:

AT&T MOBILITY LLC
A Delaware limited liability company

Its: Manager

By: _____
Print Name: _____
Date: _____

Exhibit B-1



AT&T



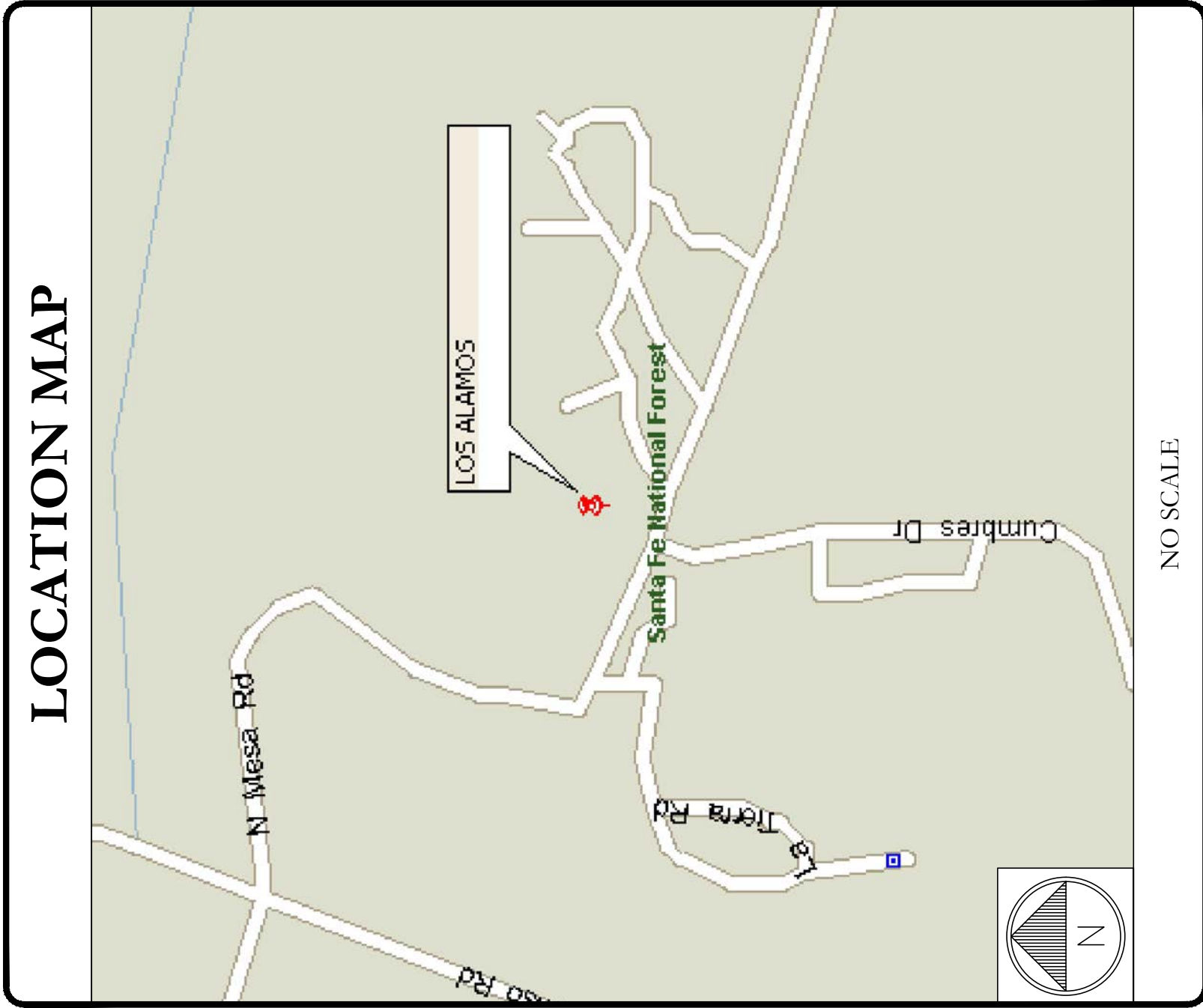
AT&T SITE NUMBER: NML02662A
AT&T SITE NAME: LOS ALAMOS
AT&T FA CODE: 15066552
AT&T PROJECT: LTE 1C RRH SWAP

SITE ADDRESS:

COUNTY:
SITE TYPE:
TOWER HEIGHT:

280 NORTH MESA ROAD
LOS ALAMOS, NM 87544
LOS ALAMOS
WATER TANK
165' -2"

SITE INFORMATION	
AT&T SITE NAME:	LOS ALAMOS
SITE ADDRESS:	280 NORTH MESA ROAD LOS ALAMOS, NM 87544
COUNTY:	LOS ALAMOS
MAP/PARCEL #:	1034113252403
AREA OF CONSTRUCTION:	EXISTING
LATITUDE:	35.896638°
LONGITUDE:	-106.295055°
LAT/LONG TYPE:	NAD83
GROUND ELEVATION:	7347'
CURRENT ZONING:	OS-PP
JURISDICTION:	LOS ALAMOS COUNTY
OCCUPANCY CLASSIFICATION:	U
TYPE OF CONSTRUCTION:	IIB
A.D.A. COMPLIANCE:	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
PROPERTY OWNER:	LOS ALAMOS COUNTY PO BOX 30 LOS ALAMOS, NM 87544
TOWER OWNER:	INCORPORATED COUNTY OF LOS ALAMOS
CARRIER/APPLICANT:	AT&T TOWER ASSET GROUP 6000 LAS COLINAS BLVD, FLOOR 1 IRVING, TX 75039
ELECTRIC PROVIDER:	LOS ALAMOS COUNTY UTILITIES (505) 662-8130
TELCO PROVIDER:	N/A



AT&T SITE NUMBER: NML02662A
AT&T SITE NAME: LOS ALAMOS
280 NORTH MESA ROAD LOS ALAMOS, NM 87544
EXISTING 165' -2" WATER TANK

ISSUED FOR:					
REV	DATE	DRAWN	DESCRIPTION	DWG./QA	
A	10/29/24	CP	PRELIMINARY REVIEW	YX	
0	11/4/24	CLS	CONSTRUCTION	YX	
1	11/21/24	AB	CONSTRUCTION	YX	

PROJECT TEAM	
A&E FIRM:	B+T GROUP 1717 S. BOULDER AVE. TULSA, OK 74119 JANNA SIMMONS JSIMMONS@BTGRP.COM
JACOBS CONTACT:	7150 STANDARD DRIVE HANOVER, MD 21076 JEREMY FULLER JEREMY.FULLER@JACOBS.COM
	JOHN TISHUCK - SITE ACQ. SPECIALIST JOHN.TISHUCK@SMARTLINKGROUP.COM (480) 262-6316 10 CHURCH CIRCLE, ANNAPOLIS, MD 21401 WWW.SMARTLINKGROUP.COM

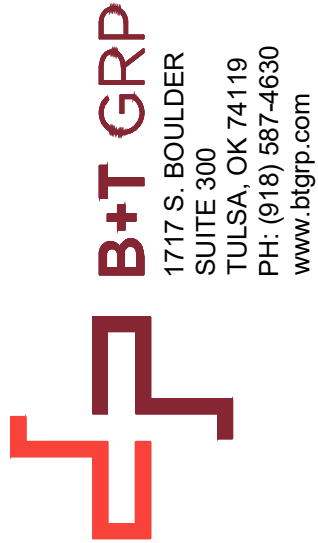
PROJECT DESCRIPTION	
THIS PROJECT WILL BE COMPRISED OF: CHANGES ON THE EXISTING AT&T ANTENNA ARRAY: • REMOVE (6) EXISTING SECTOR FRAME MOUNTING BRACKETS - (2) PER SECTOR • REPLACE (6) EXISTING RRHs WITH (6) NEW RRHs - (2) PER SECTOR • RELOCATE (3) EXISTING ANTENNAS - (1) PER SECTOR • RELOCATE (1) EXISTING DC9 SQUID • INSTALL (3) NEW RRHs - (1) PER SECTOR • INSTALL (3) NEW ANTENNAS W/ INTEGRATED RRHs - (1) PER SECTOR • INSTALL (3) NEW ANTENNAS - (1) PER SECTOR • INSTALL (6) NEW 2" STD. x 10'-0" RRH/SURGE MOUNT PIPES WITH U-BOLT - (2) PER SECTOR • INSTALL (1) SITEPRO1 - SP1 RCM911 CHIMNEY MOUNT KIT W/ (6) (2) PER SECTOR) X-B965 PIPES • INSTALL (3) SITEPRO1 - VFEA10-SD-S-NLB SECTOR FRAMES W/ (9) (3-PER SECTOR) 2.5" STD. x 10'-0" ANTENNA MOUNT PIPES • INSTALL (2) NEW DC9 SQUIDS • INSTALL (2) NEW 24-PAIR FIBER TRUNKS , (3) NEW 6AWG DC TRUNKS AND (3) 4" CONDUITS • INSTALL (1) NEW HOISTING GRIP ANCHOR KIT • PAINT TO MATCH AND APPLY COLOR MATCH 3M FILM FOR ANTENNAS	
CHANGES IN THE EXISTING AT&T EQUIPMENT ENCLOSURE AREA: • REMOVE ALL EXISTING NOKIA BASEBAND EQUIPMENT • INSTALL (1) 6672 BBU • INSTALL (1) NEW 6610 SITE CONTROLLER • INSTALL (1) DC12-25E • INSTALL (3) 4" CONDUITS BETWEEN THE WUC AND AT&T'S WATER TANK DOG HOUSE	

APPLICABLE CODES & REFERENCE DOCUMENTS	
ALL WORK SHALL BE PERFORMED AND MATERIALS 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:	
CODE TYPE BUILDING MECHANICAL ELECTRICAL	CODE 2021 NEW MEXICO COMMERCIAL BUILDING CODE/2021 IBC 2021 NEW MEXICO MECHANICAL CODE/2021 IMC 2020 NEW MEXICO ELECTRICAL CODE/2021 NEC
REFERENCE DOCUMENTS: STRUCTURAL ANALYSIS: BY OTHERS DATED: - MOUNT ANALYSIS: B+T GRP DATED: 11/1/24	

B&T ENGINEERING, INC.

IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: T-1	REVISION: 1
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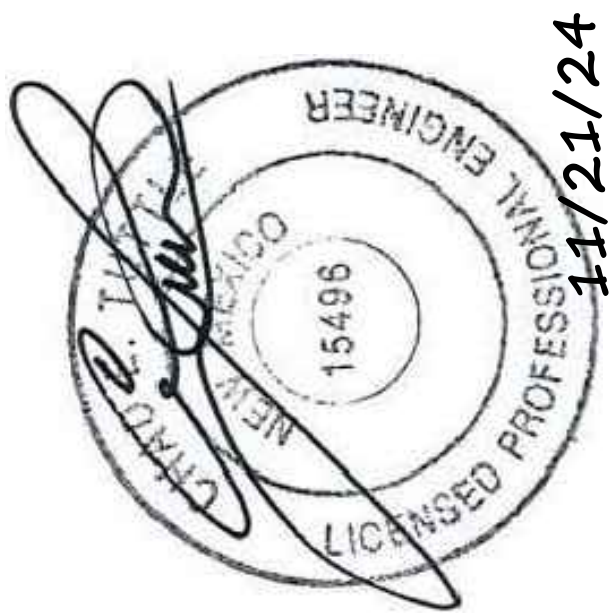
AT&T SITE NUMBER:
NML02662A

AT&T SITE NAME:
LOS ALAMOS

280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

EXISTING
165'-2" WATER TANK

ISSUED FOR:					
REV	DATE	DRAWN	DESCRIPTION	DES./QA	
A	10/29/24	CP	PRELIMINARY REVIEW	YX	
0	11/4/24	CLS	CONSTRUCTION	YX	
1	11/21/24	AB	CONSTRUCTION	YX	

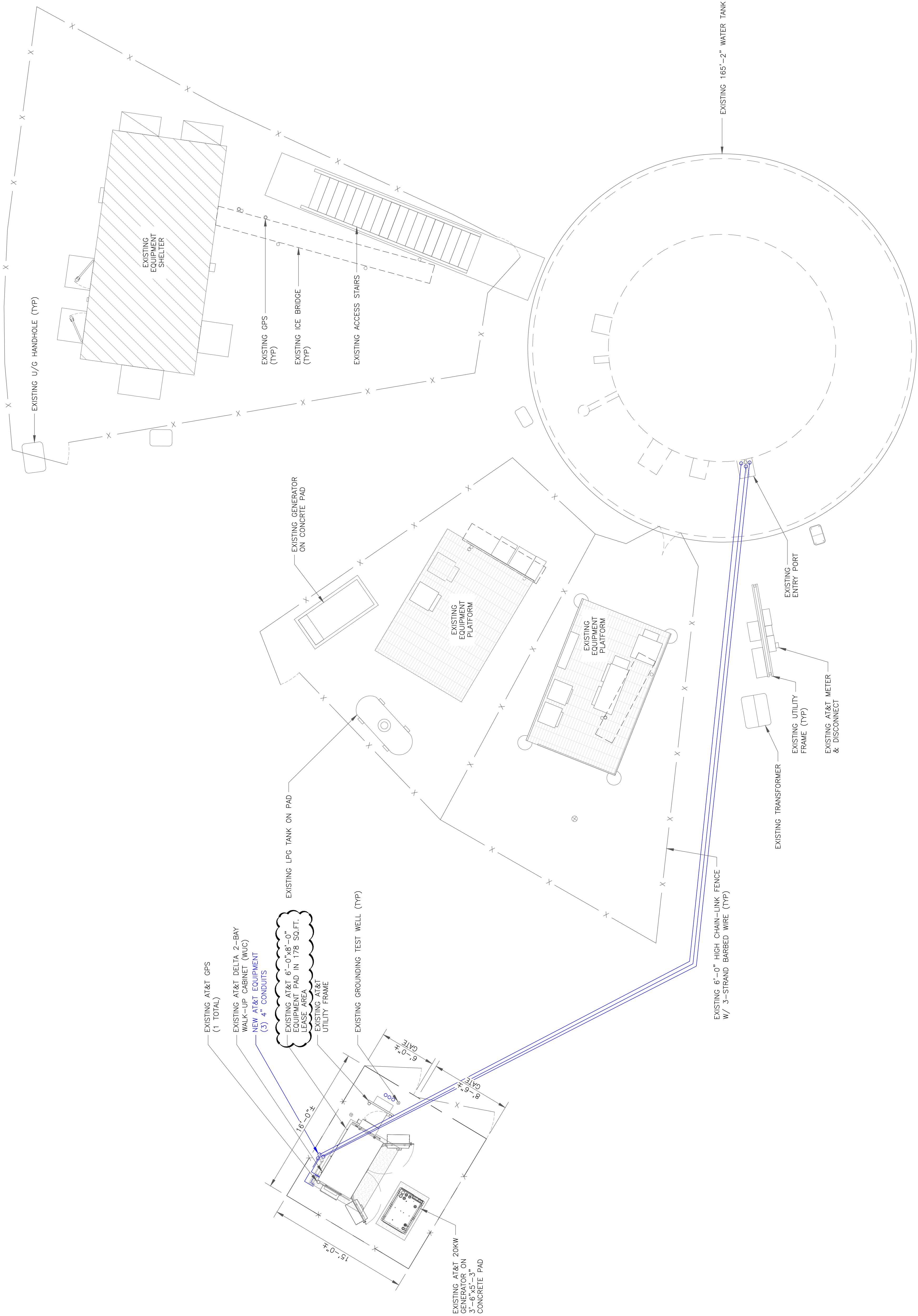


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SHEET NUMBER: **C-1**

REVISION: **1**



1

SITE PLAN

1

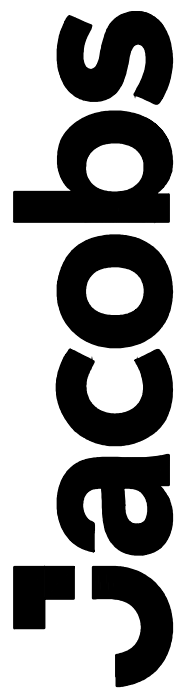
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3/32"=1'-0" (11x17)

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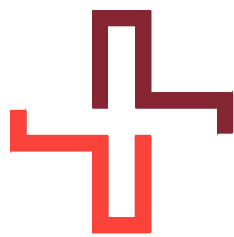
Exhibit B-1 to AGR26-823-A1



6000 LAS COLINAS BLVD, FLOOR 1
IRVING, TX 75039



7150 STANDARD DRIVE
HANOVER, MD 21076
PHONE: (410) 712-4174



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.bgrp.com

AT&T SITE NUMBER:
NML02662A

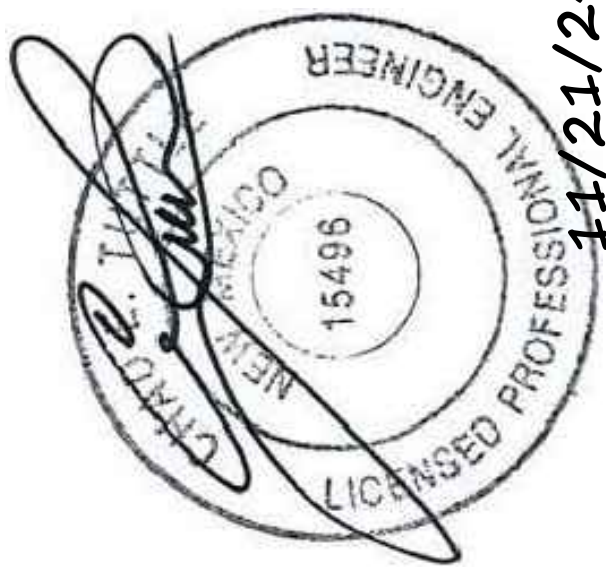
AT&T SITE NAME:
LOS ALAMOS

280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

EXISTING
165'-2" WATER TANK

ISSUED FOR:

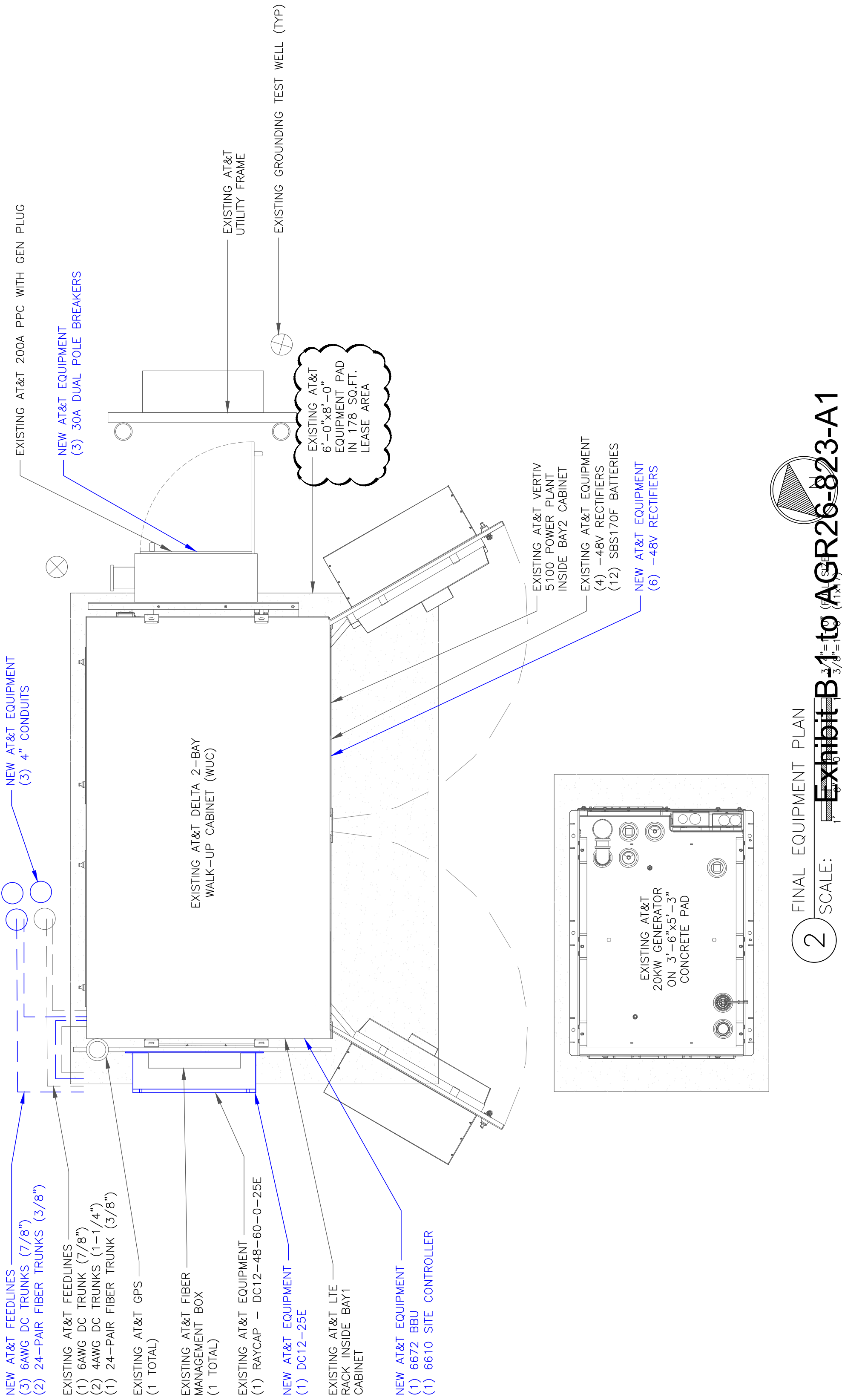
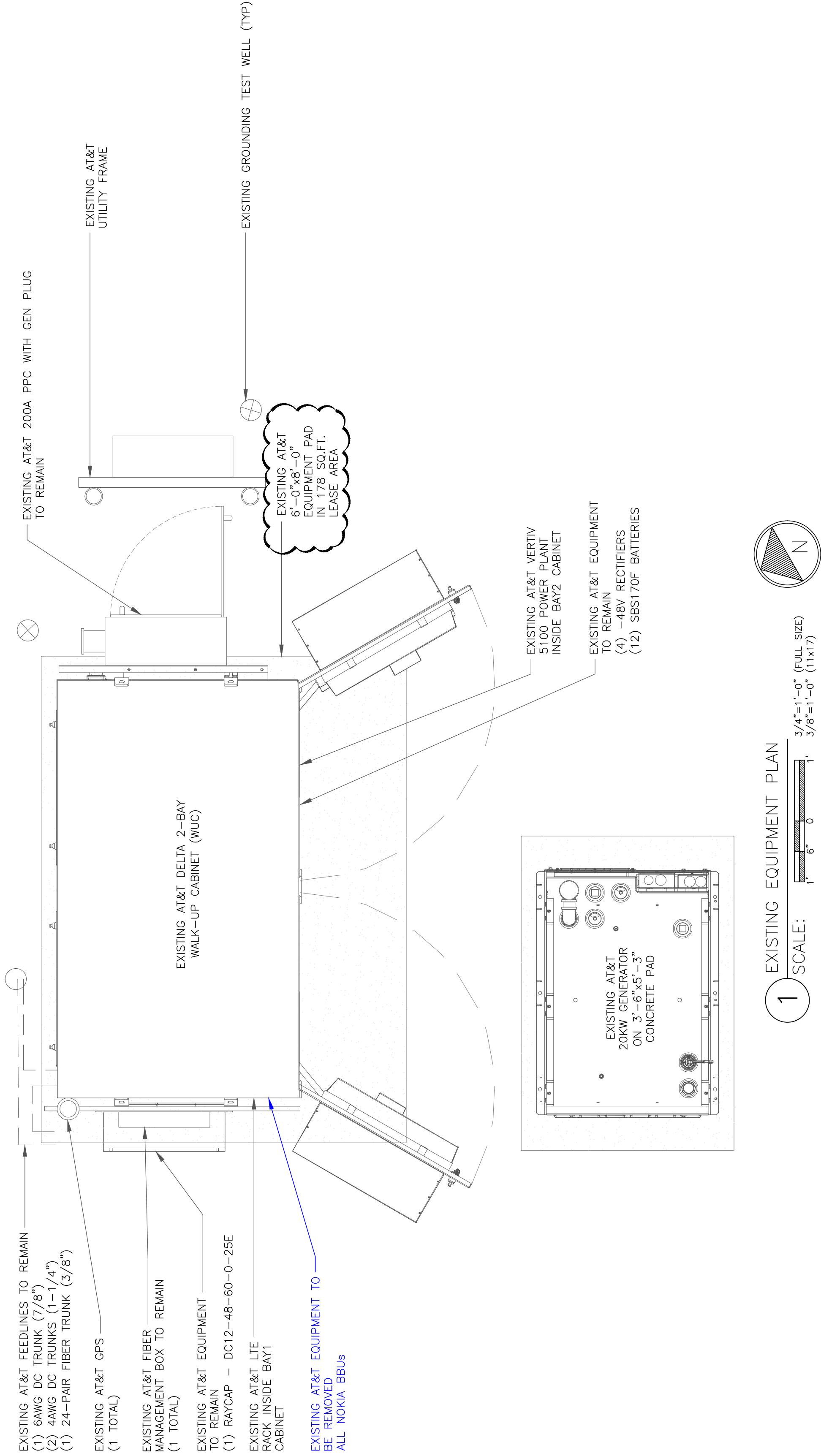
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0	11/4/24	CLS	CONSTRUCTION	YX
1	11/21/24	AB	CONSTRUCTION	YX



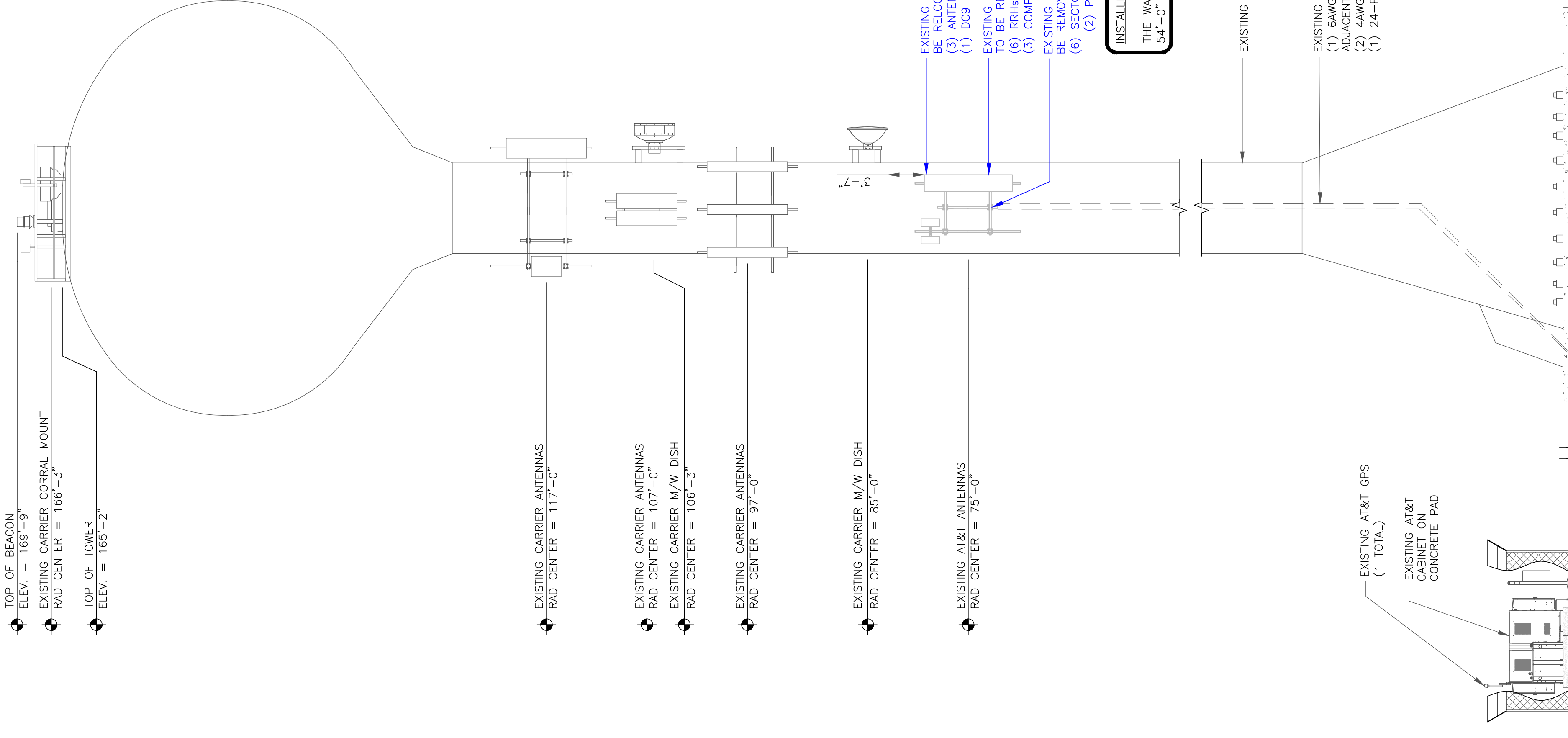
B&T ENGINEERING, INC.

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SHEET NUMBER: C-2
REVISION: 1

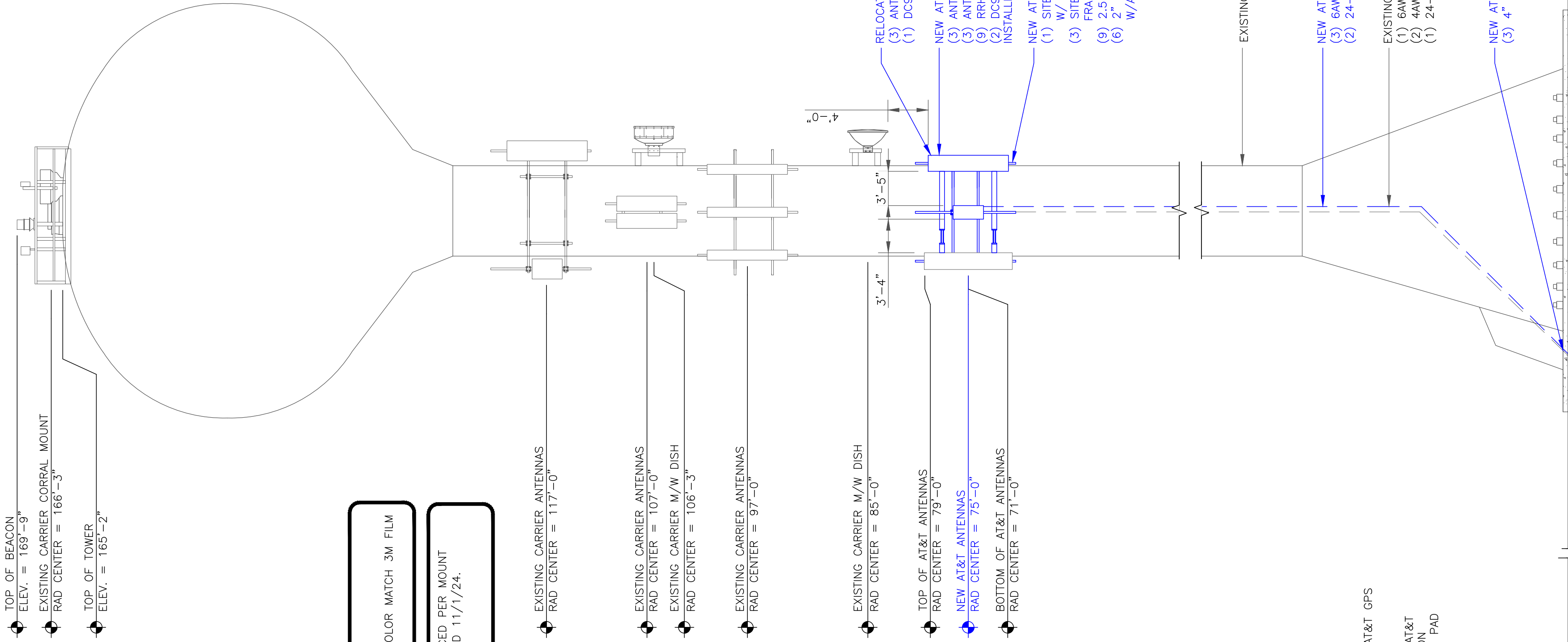


TOP OF BEACON
ELEV. = 169'-9"
EXISTING CARRIER CORRAL MOUNT
RAD CENTER = 166'-3"
TOP OF TOWER
ELEV. = 165'-2"



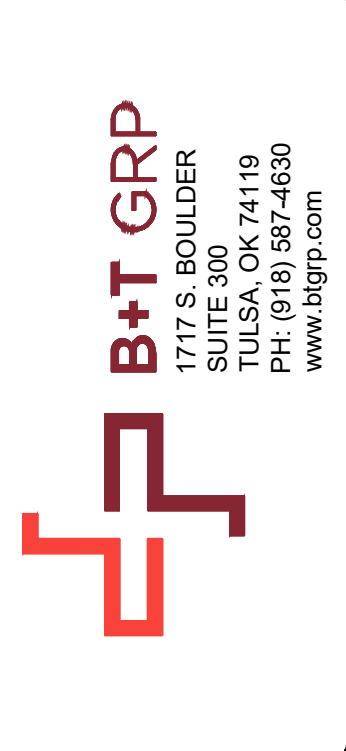
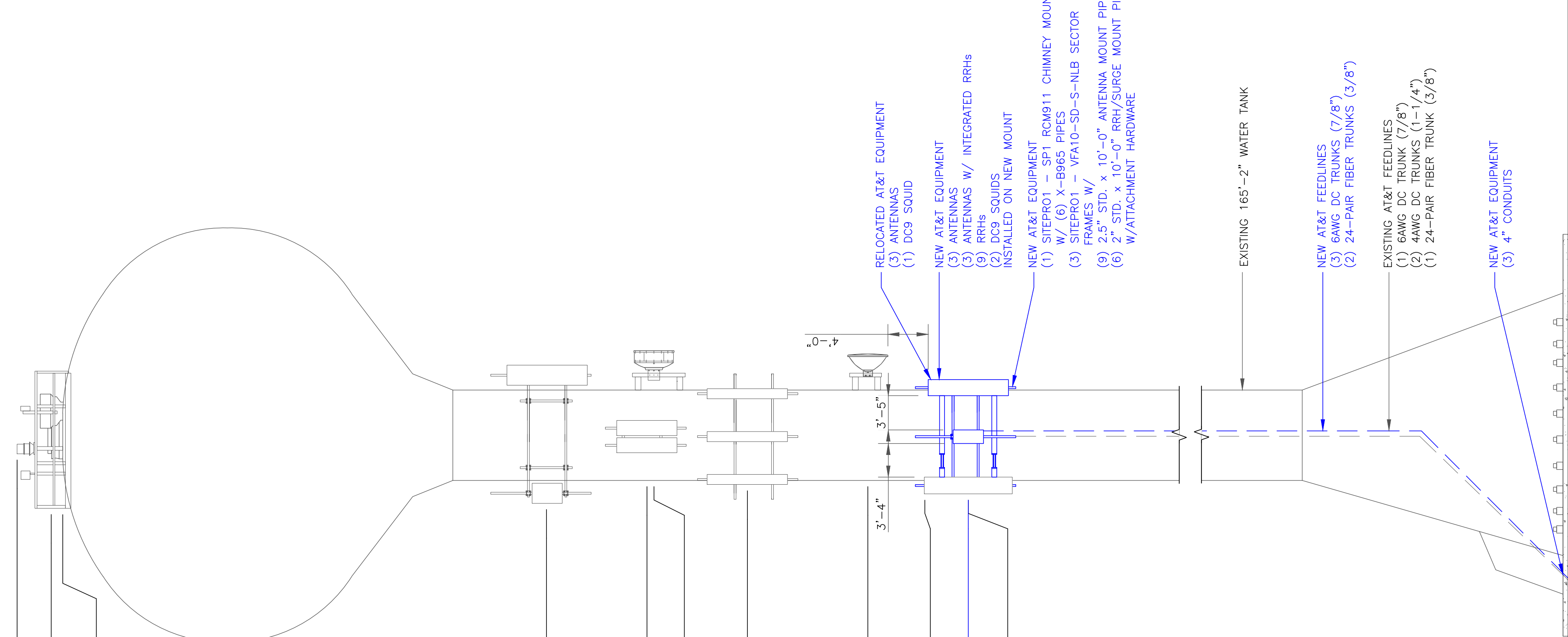
1 EXISTING ELEVATION
SCALE: 1/8"=1'-0" (FULL SIZE)
1/16"=1'-0" (11x17)

EXISTING MOUNT TO BE REMOVED AND REPLACED
PER MOUNT ANALYSIS BY B+T GRP DATED 11/1/24.



2 FINAL ELEVATION
SCALE: 1/8"=1'-0" (FULL SIZE)
1/16"=1'-0" (11x17)

TOP OF BEACON
ELEV. = 169'-9"
EXISTING CARRIER CORRAL MOUNT
RAD CENTER = 166'-3"
TOP OF TOWER
ELEV. = 165'-2"



AT&T SITE NUMBER:
NML02662A

AT&T SITE NAME:
LOS ALAMOS

280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

EXISTING
165'-2" WATER TANK

ISSUED FOR:				
REV	DATE	DRAWN	DESCRIPTION	DES./QA
A	10/29/24	CP	PRELIMINARY REVIEW	YX
0	11/4/24	CLS	CONSTRUCTION	YX
1	11/21/24	AB	CONSTRUCTION	YX



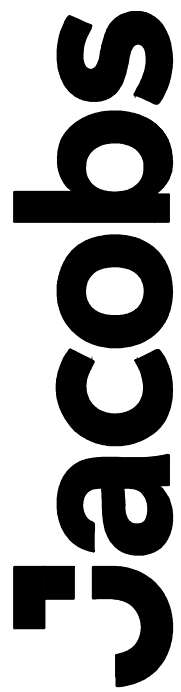
B&T ENGINEERING, INC.

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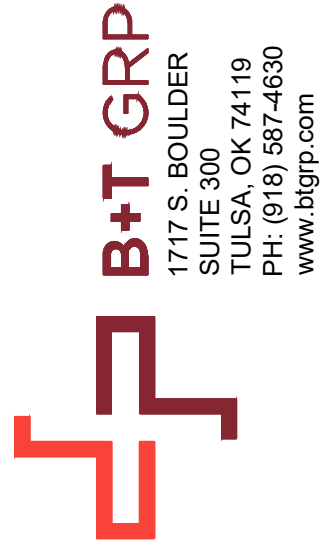
SHEET NUMBER:
C-3

REVISION:
1

EXISTING MOUNT TO BE REPLACED PER MOUNT ANALYSIS BY B+T GROUP DATED 11/1/24.



7150 STANDARD DRIVE
HANOVER, MD 21076
PHONE: (410) 712-4174



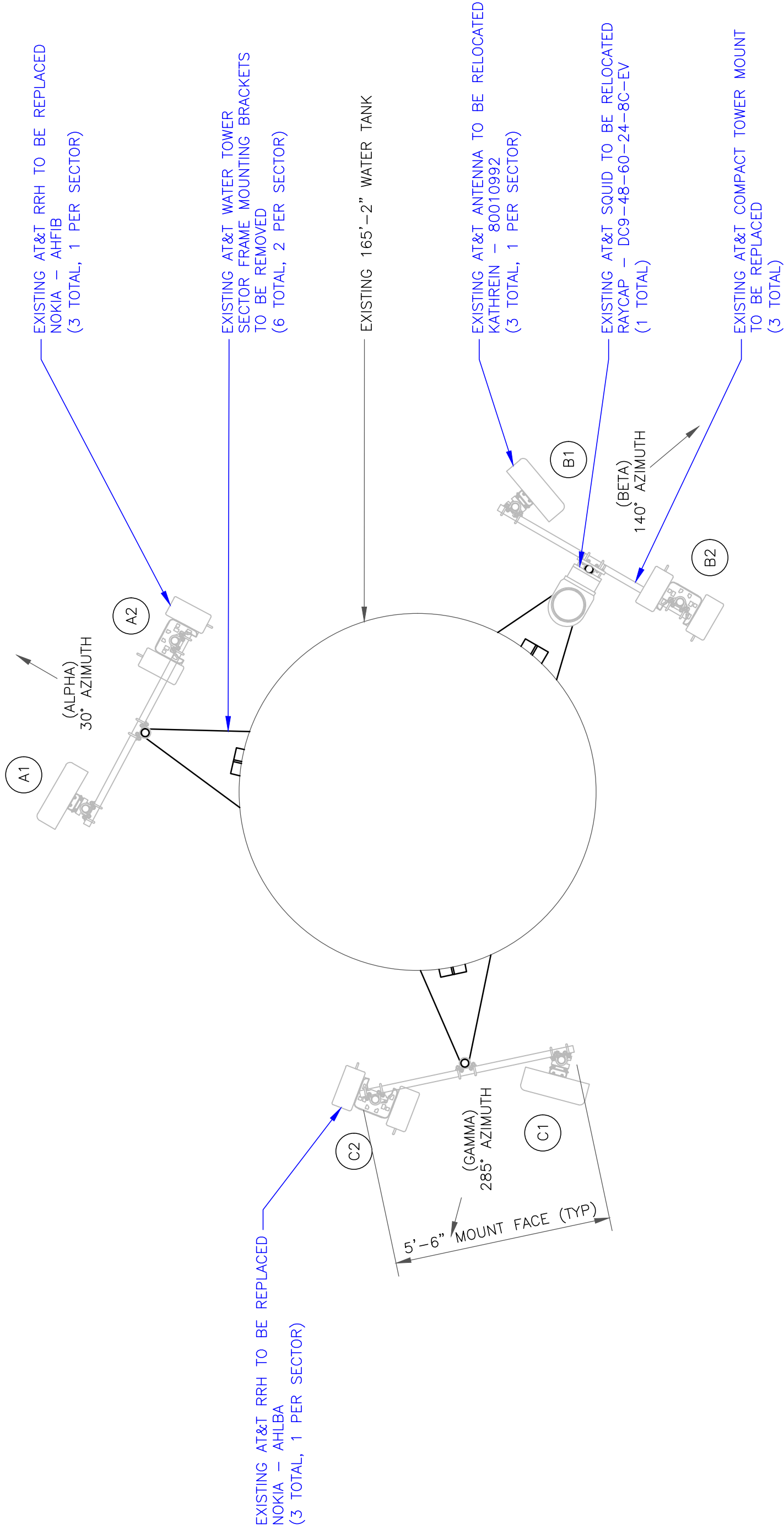
AT&T SITE NUMBER:
NML02662A

AT&T SITE NAME:
LOS ALAMOS

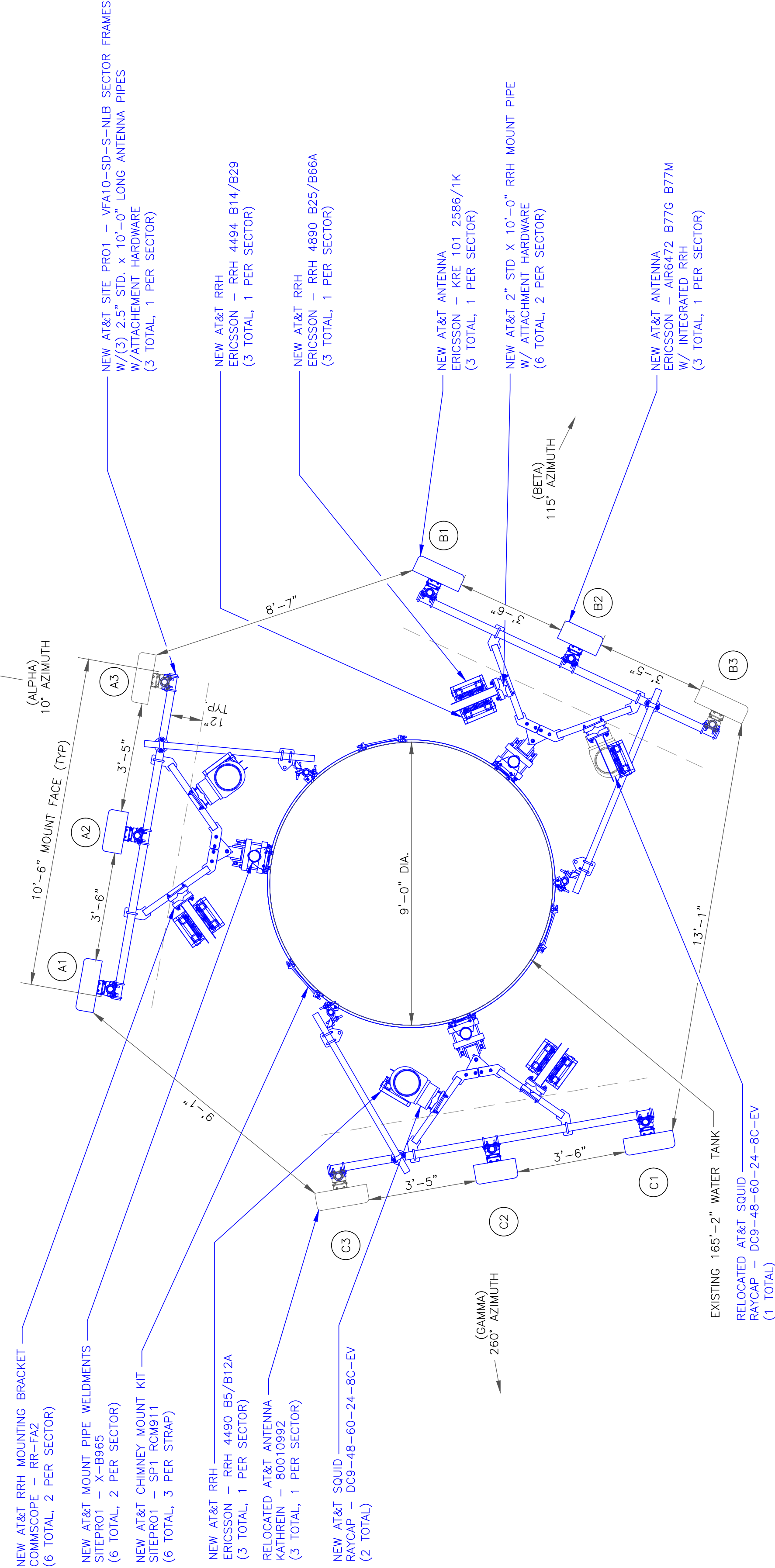
280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

EXISTING
165'-2" WATER TANK

INSTALLER NOTE:
PAINT TO MATCH AND APPLY COLOR MATCH 3M FILM FOR ANTENNAS



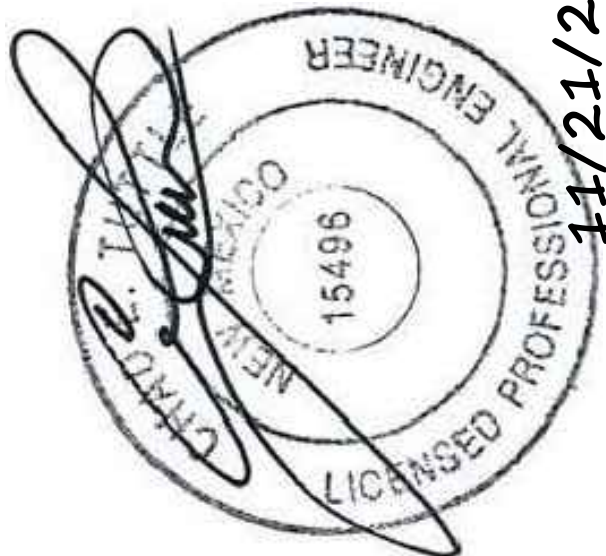
1 EXISTING ANTENNA PLAN
SCALE: 1" = 10'-0" (FULL SIZE)
3/16"=1'-0" (11x17)



2 FINAL ANTENNA PLAN
SCALE: 1" = 10'-0" (FULL SIZE)
3/16"=1'-0" (11x17)

ISSUED FOR:

REV	DATE	DRAWN	DESCRIPTION	DWG/QA
A	10/29/24	CP	PRELIMINARY REVIEW	YX
0	11/4/24	CLS	CONSTRUCTION	YX
1	11/21/24	AB	CONSTRUCTION	YX



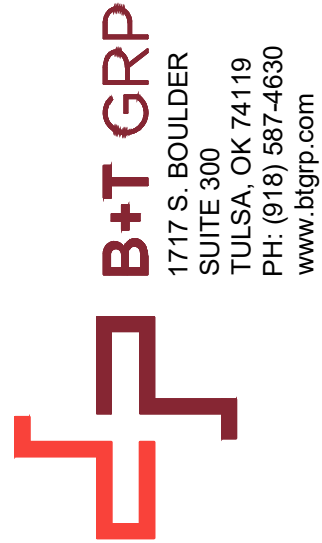
B&T ENGINEERING, INC.

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SHEET NUMBER: C-4
REVISION: 1

DISCLAIMER:
THE FINAL AC PANEL SCHEDULE IS BASED ON EXISTING CONDITIONS IN SITE WALK PHOTOS. FINAL PLAN TO BE VERIFIED BY CERTIFIED ELECTRICIAN.

NOTE:
THE POWER DESIGN FOR ANY AC ELECTRICAL POWER CHANGES IS TO BE PERFORMED BY OTHERS AND IS SHOWN HERE FOR REFERENCE PURPOSES ONLY. AT&T IS SOLELY RESPONSIBLE FOR THE ELECTRICAL POWER DESIGN.



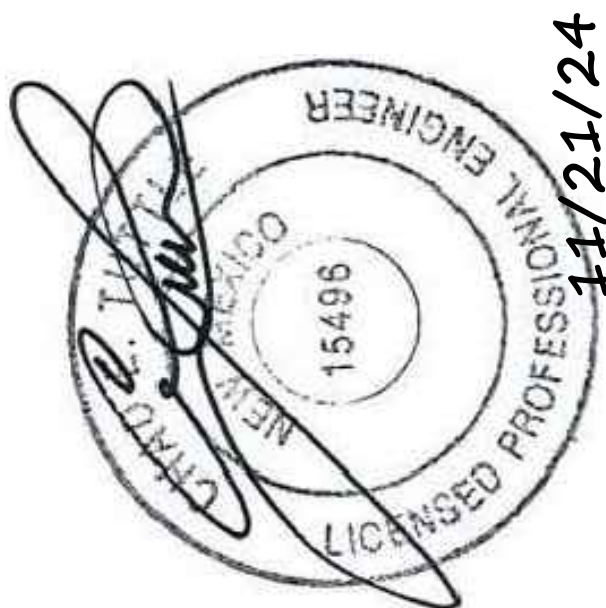
AT&T SITE NUMBER:
NML02662A

AT&T SITE NAME:
LOS ALAMOS

280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

EXISTING
165'-2" WATER TANK

REV	DATE	DRAWN	DESCRIPTION	DES./QA
A	10/29/24	CP	PRELIMINARY REVIEW	YX
0	11/4/24	CLS	CONSTRUCTION	YX
1	11/21/24	AB	CONSTRUCTION	YX



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SHEET NUMBER:
E-1

REVISION:
1

PANEL 'DISTRIBUTION PANEL' SCHEDULE													Square D #00
120/240V, 1 PHASE, 3W													200A MAIN BKR
200A BUS													
DESCRIPTION		MAIN BREAKER RATING (A) :					200		SYSTEM VOLTAGE (V) :				240
	VA	c/nc	BKR	POSN	L1	L2	POSN	BKR	c/nc	VA	DESCRIPTION		
Rectifier	2150	c	30	1	2150					2			
	2150	c		3		2150				4			
Rectifier	2150	c	30	5	2150					6			
	2150	c		7		2150				8			
Rectifier	2150	c	30	9	2150					10			
	2150	c		11		2150				12			
Rectifier	2150	c	30	13	2150					14			
	2150	c		15		2150				16			
Rectifier	1075	c	30	17	1075					18			
	1075	c		19		1075				20			
Blank				21	0					22			
Blank				23		0				24			
Blank				25	0					26			
WUC GFCI	240	nc	20	27		240				28			
PTLC Receptacles	180	nc	20	29	180					30			
				31		0				32			
				33	0					34			
				35		0				36			
				37	0					38			
				39		0				40			
				41	0					42			
PHASE TOTALS (VA): 9855 9915													
CURRENT PER PHASE (A): 102 103													Amperes/phase cannot exceed main breaker rating
PANEL TOTAL (VA): 19770													Legend: c = continuous, nc = non-continuous
PANEL CAPACITY (kVA): 48.0													CONNECTED LOAD (kVA): 19.8
PANEL LOADING (100% non-cont. load) (kVA): 0.4													
PANEL LOADING (125% continuous load) (kVA): 24.2													
PANEL LOADING (TOTAL) (kVA): 24.6													
SPARE CAPACITY (kVA): 23.4													

PANEL 'DISTRIBUTION PANEL' SCHEDULE													Square D #QO
120/240V, 1 PHASE, 3W													200A MAIN BKR
200A BUS													
DESCRIPTION		MAIN BREAKER RATING (A) :					200		SYSTEM VOLTAGE (V) :				240
	VA	c/nc	BKR	POSN	L1	L2	POSN	BKR	c/nc	VA	DESCRIPTION		
Rectifier	2150	c	30	1	2150		2						
	2150	c		3		2150	4						
Rectifier	2150	c	30	5	2150		6						
	2150	c		7		2150	8						
Blank				9	0		10						
Blank				11		0	12						
Blank				13	0		14						
Blank				15		0	16						
Blank				17	0		18						
Blank				19		0	20						
Blank				21	0		22						
Blank				23		0	24						
Blank				25	0		26						
WUC GFCI	240	nc	20	27		240	28						
PTLC Receptacles	180	nc	20	29	180		30						
				31		0	32						
				33	0		34						
				35		0	36						
				37	0		38						
				39		0	40						
				41	0		42						
PHASE TOTALS (VA):					4480	4540							
CURRENT PER PHASE (A):					46	47	Amperes/phase cannot exceed main breaker rating						
PANEL TOTAL (VA):					9020	Legend: c = continuous, nc = non-continuous							
PANEL CAPACITY (kVA):					48.0	CONNECTED LOAD (kVA): 9.0							
PANEL LOADING (100% non-cont. load) (kVA):					0.4								
PANEL LOADING (125% continuous load) (kVA):					10.8								
PANEL LOADING (TOTAL) (kVA):					11.2								
SPARE CAPACITY (kVA):					36.8								

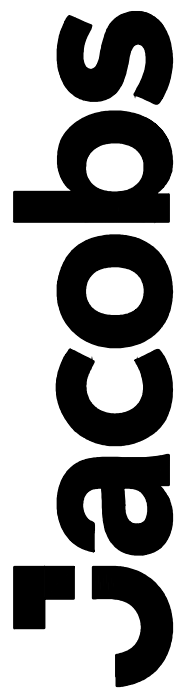
1 EXISTING AC PANEL SCHEDULE
SCALE: N.T.S.

Exhibit B-1 to AGR26-823-A1

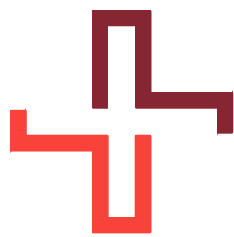
2 FINAL AC PANEL SCHEDULE
SCALE: N.T.S.



6000 LAS COLINAS BLVD, FLOOR 1
IRVING, TX 75039



7150 STANDARD DRIVE
HANOVER, MD 21076
PHONE: (410) 712-4174



1777 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.bgrp.com

AT&T SITE NUMBER:
NML02662A

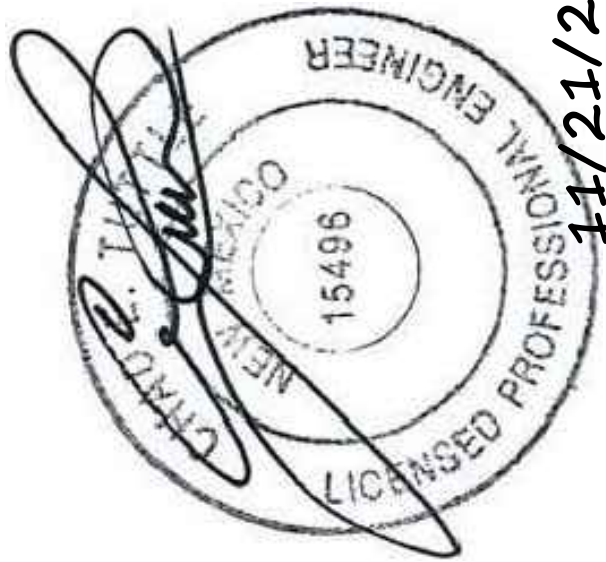
AT&T SITE NAME:
LOS ALAMOS

280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

EXISTING
165'-2" WATER TANK

ISSUED FOR:

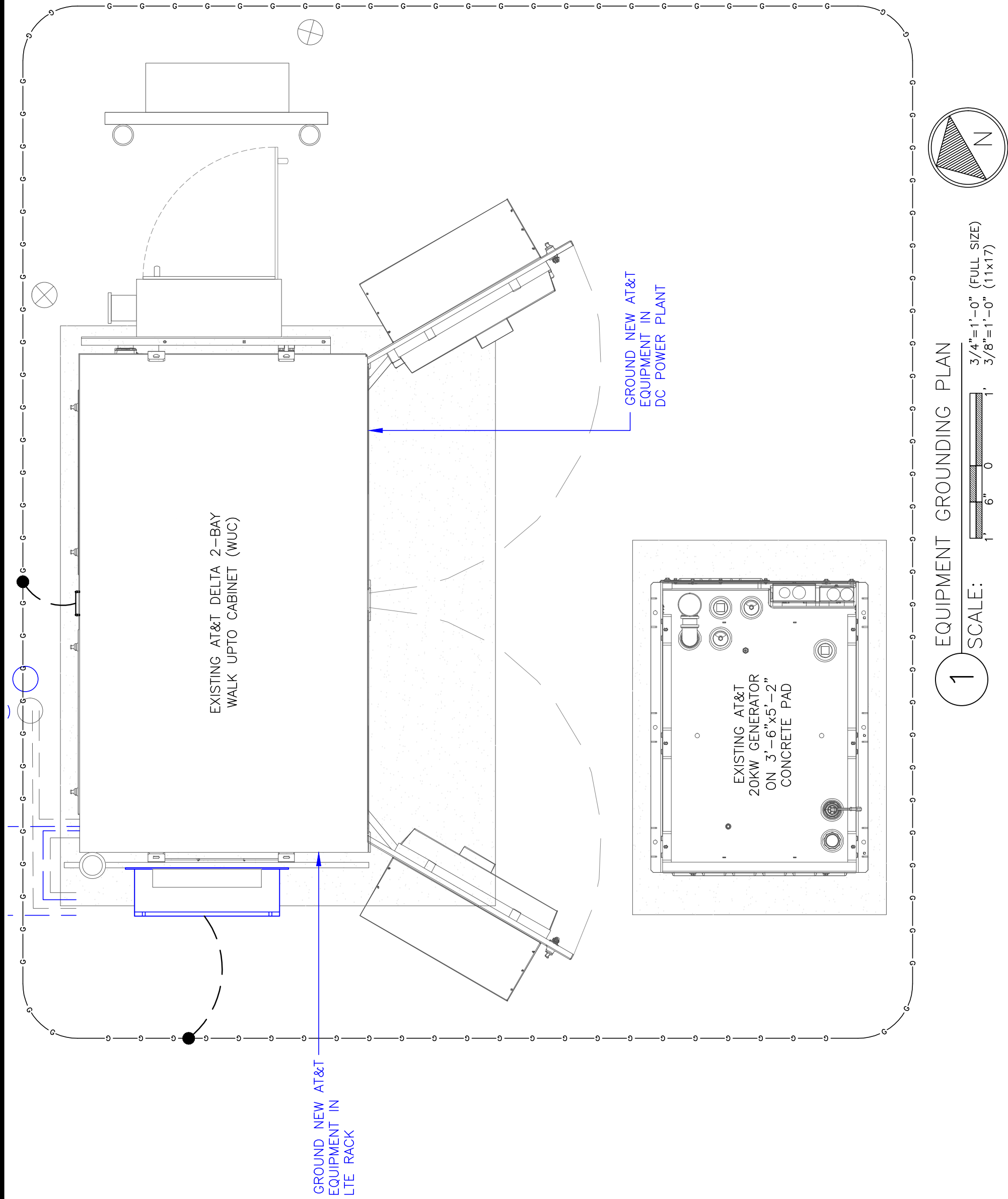
REV	DATE	DRAWN	DESCRIPTION	DES./QA
A	10/29/24	CP	PRELIMINARY REVIEW	YX
0	11/4/24	CLS	CONSTRUCTION	YX
1	11/21/24	AB	CONSTRUCTION	YX



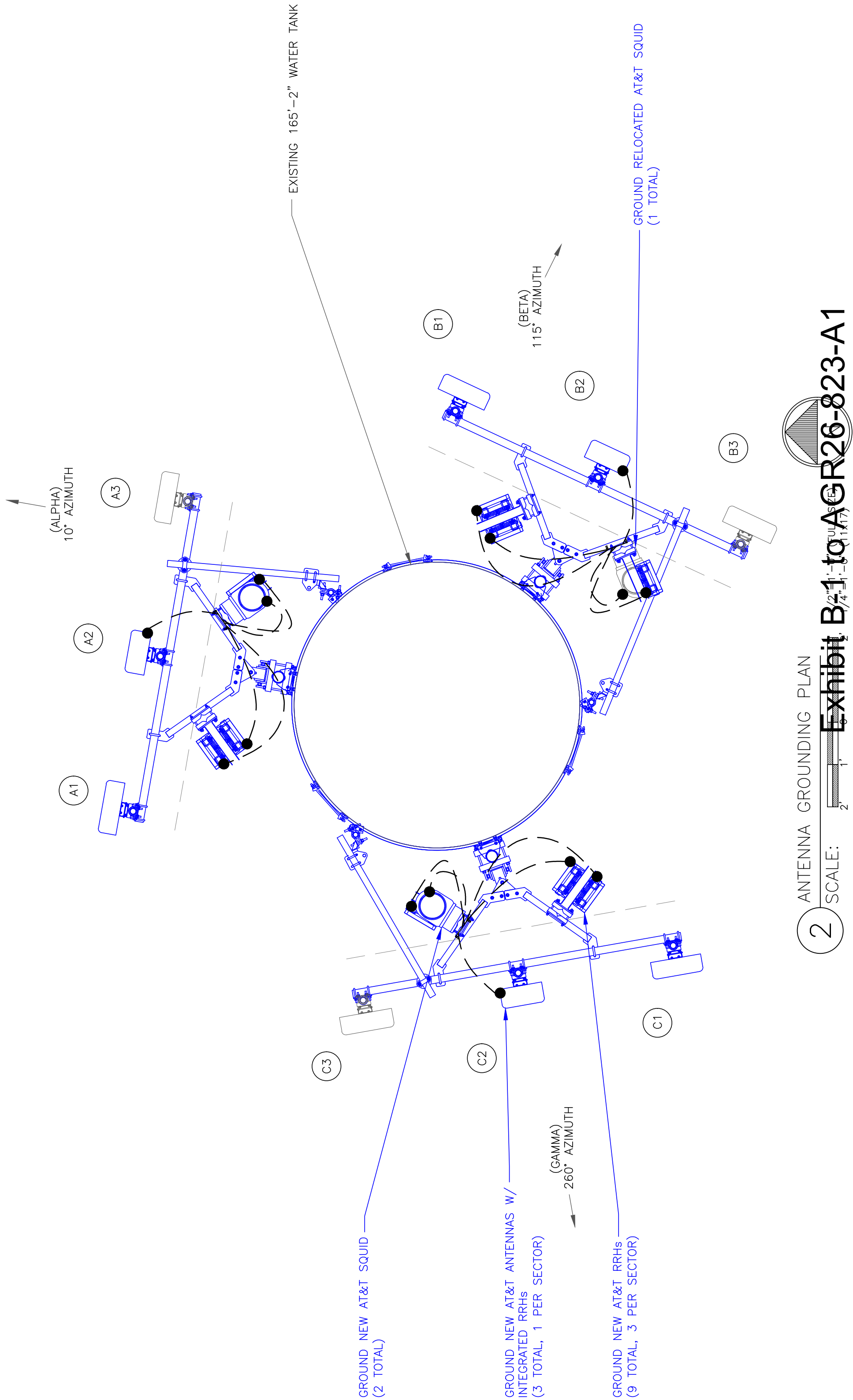
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SHEET NUMBER: **E-2** REVISION: **1**



INSTALLER NOTE:
PAINT TO MATCH AND APPLY COLOR MATCH 3M FILM FOR ANTENNAS





AT&T SITE NUMBER:
NML02662A

AT&T SITE NAME:
LOS ALAMOS

280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

EXISTING
165'-2" WATER TANK

ISSUED FOR:				
REV	DATE	DRWN	DESCRIPTION	DES./QA
A	10/29/24	CP	PRELIMINARY REVIEW	YX
0	11/4/24	CLS	CONSTRUCTION	YX
1	11/21/24	AB	CONSTRUCTION	YX



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SHEET NUMBER: **T-1B** REVISION: **1**



AT&T

NML02662A - PART "B"

STANDARD DETAIL, NOTES, SCHEMATICS AND DIAGRAMS

DRAWING INDEX	
SHEET #	SHEET DESCRIPTION
T-1B	TITLE SHEET
T-2B	GENERAL NOTES
D-1B	EQUIPMENT DETAILS
D-2B	EQUIPMENT DETAILS
D-3B	EQUIPMENT DETAILS
D-4B	EQUIPMENT DETAILS
G-1B	GROUNDING DETAILS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR FULL SIZE. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



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CALL 3 WORKING DAYS
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Exhibit B-1 to AGR26-823-A1

APPLICABLE CODES & REFERENCE DOCUMENTS

ALL WORK SHALL BE PERFORMED AND MATERIALS 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:

CODE TYPE	CODE
BUILDING	2021 NEW MEXICO COMMERCIAL BUILDING CODE/2021 IBC
MECHANICAL	2021 NEW MEXICO MECHANICAL CODE/2021 IMC
ELECTRICAL	2020 NEW MEXICO ELECTRICAL CODE/2021 NEC

GENERAL REQUIREMENTS:

- THE WORK TO BE DONE UNDER THIS PROJECT INCLUDES PROVIDING ALL EQUIPMENT, MATERIALS, LABOR AND SERVICES, AND PERFORMING ALL OPERATIONS FOR COMPLETE AND OPERATING SYSTEMS. ANY WORK NOT SPECIFICALLY COVERED BUT NECESSARY TO COMPLETE THIS INSTALLATION, SHALL BE PROVIDED. ALL EQUIPMENT AND WIRING TO BE NEW AND PROVIDED UNDER THIS CONTRACT UNLESS OTHERWISE NOTED.
- ENTIRE INSTALLATION, INCLUDING MATERIALS, EQUIPMENT AND WORKMANSHIP, SHALL CONFORM TO THE 2005 EDITION OF THE NATIONAL ELECTRIC CODE (NEC) AS WELL AS ALL APPLICABLE LAWS AND REGULATIONS AND REGULATORY BODIES HAVING JURISDICTION OVER THIS WORK.
- THE TERM "FURNISH" SHALL MEAN TO OBTAIN AND SUPPLY TO THE JOB SITE. THE TERM "INSTALL" SHALL MEAN TO FIX IN POSITION AND CONNECT FOR USE. THE TERM "PROVIDE" SHALL MEAN TO FURNISH AND INSTALL. THE TERM "CONTRACTOR" SHALL MEAN ELECTRICAL CONTRACTOR.
- ONLY WRITTEN CHANGES AND/OR MODIFICATIONS APPROVED BY THE ENGINEER, CONSULTING ENGINEER OR OWNER'S REPRESENTATIVE WILL BE RECOGNIZED.
- THE ELECTRICAL CONTRACTOR SHALL SUBMIT, FOR THE ENGINEER'S APPROVAL, DETAILED SHOP DRAWINGS OF ALL EQUIPMENT SPECIFIED.
- CONTRACTOR SHALL COORDINATE WITH SPECIFICATIONS PROVIDED BY OTHER TRADES.
- PROVIDE OPERATING AND MAINTENANCE MANUALS, PER SPECIFICATIONS, AND GIVE INSTRUCTIONS TO USER FOR ALL EQUIPMENT AND SYSTEMS PROVIDED UNDER THIS CONTRACT AFTER ALL ARE CLEANED AND OPERATING.
- ALL WORK PREMISES FREE FROM RUBBISH. REMOVE ALL ELECTRICAL RUBBISH FROM SITE.
- ALL WORK SHALL BE INSTALLED CONCEALED UNLESS OTHERWISE NOTED.
- THE WORK SHALL INCLUDE ALL PANELS, DEVICES, FEEDERS AND BRANCH CIRCUIT WIRING AS REQUIRED FOR THE DISTRIBUTION SYSTEM INDICATED AND CALLED FOR ON THE DRAWINGS, REQUIRED BY SPECIFICATIONS AND AS NECESSARY FOR COMPLETE FUNCTIONAL SYSTEMS PRESENTED AND INTENDED.
- THE CONTRACTOR SHALL FURNISH ALL MATERIAL, LABOR, TOOLS, EQUIPMENT, CONSUMABLES AND SERVICES REQUIRED FOR OBTAINING, DELIVERY, INSTALLATION, CONNECTION, DISCONNECTION, REMOVAL, RELOCATION, REPAIR, REPLACEMENT, TESTING AND COMMISSIONING OF ALL EQUIPMENT AND DEVICES INCLUDED IN OR NECESSARY FOR THE WORK, AS APPLICABLE. THIS INCLUDES SCAFFOLDING, LADDERS, RIGGING, HOISTING, ETC.
- ELECTRICAL WORK SHALL INCLUDE ALL REQUIRED CUTTING, PATCHING AND THE FULL RESTORATION OF WALL AND FLOOR STRUCTURE AND SURFACES. ALL EQUIPMENT, WALLS, FLOORS, ETC., DISTURBED OR DAMAGED DURING CONSTRUCTION SHALL BE REPAIRED TO THE SATISFACTION OF THE OWNER, AT THE CONTRACTORS EXPENSE.
- BEFORE SUBMITTING HIS BID, THE CONTRACTOR SHALL FULLY ACQUAINT HIMSELF/HERSELF WITH THE JOB CONDITIONS AND DIFFICULTIES THAT WILL PERTAIN TO THE EXECUTION OF THIS WORK. SUBMISSION OF A PROPOSAL WILL BE CONSTRUED AS EVIDENCE THAT SUCH AN EXAMINATION HAS BEEN MADE. LATER CLAIMS WILL NOT BE RECOGNIZED FOR EXTRA LABOR, EQUIPMENT OR MATERIALS REQUIRED BECAUSE OF DIFFICULTIES ENCOUNTERED, WHICH COULD HAVE BEEN FORESEEN HAD SUCH AN EXAMINATION BEEN MADE.
- THE CONTRACTOR SHALL CONFIRM THE LOCATION OF ALL UTILITIES. THE CONTRACTOR IS RESPONSIBLE FOR REPAIRING ANY DAMAGE TO EXISTING UTILITIES.
- UPON COMPLETION OF THE ELECTRICAL WORK, THE CONTRACTOR SHALL TEST THE COMPLETE ELECTRICAL SYSTEM FOR SHORTS, GROUNDS, AND PROPER OPERATION, IN THE PRESENCE OF THE OWNER'S REPRESENTATIVE.
- UPON COMPLETION OF WORK, THE CONTRACTOR SHALL CLEAN AND ADJUST ALL EQUIPMENT AND LIGHTING AND TEST SYSTEMS TO THE SATISFACTION OF OWNER AND ENGINEER. RESULTS SHALL BE SUBMITTED TO THE ENGINEER FOR APPROVAL.
- THE CONTRACTOR SHALL FIELD VERIFY DIMENSIONS OF FINISHED CONSTRUCTION PRIOR TO FABRICATION AND INSTALLATION OF FIXTURES AND EQUIPMENT.
- EXACT ROUTING OF CONDUITS AND "MC" CABLES SHALL BE DETERMINED IN THE FIELD.
- IF THE OWNER AND/OR HIS REPRESENTATIVE CONSIDERS ANY WORK TO BE INFERIOR, THE RESPECTIVE CONTRACTOR SHALL REPLACE SAME WITH CONTRACT STANDARD WORK WITHOUT ADDITIONAL CHARGE. ALL WORK SHALL BE DONE IN A NEAT, WORKMANLIKE MANNER, LEFT CLEAN AND FREE FROM DEFECTS, AND COMPLETELY OPERABLE.
- THE CONTRACTOR SHALL PROVIDE ALL MATERIALS AS SHOWN ON THE DRAWINGS AND/OR AS SPECIFIED. ALL MATERIALS SHALL BE NEW, AND BEAR THE UL LABEL. ALL WORK SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF ONE (1) YEAR FROM THE DATE OF ACCEPTANCE BY THE OWNER.
- DRAWINGS ARE TO BE CONSIDERED DIAGRAMMATIC, AND SHALL BE FOLLOWED AS CLOSELY AS CONDITIONS ALLOW TO COMPLETE THE INTERIOR OF THE CONTRACT. THE DRAWINGS AND SPECIFICATIONS COMPLEMENT ONE ANOTHER, AND THE CONSTRUCTION OF THE WORK SHALL BE GOVERNED BY THE SPECIFICATIONS, AND VICE VERSA, IS TO BE INCLUDED IN THE SCOPE OF WORK.
- ALL EQUIPMENT CONNECTIONS SHALL BE INSTALLED PER APPLICABLE SEISMIC REQUIREMENTS.
- ENGINEER WILL MAKE A FINAL INSPECTION WITH THE OWNER AND CONTRACTOR AND WILL NOTIFY THE CONTRACTOR IN WRITING OF ALL PARTICULARS IN WHICH THIS INSPECTION REVEALS THAT THE WORK IS INCOMPLETE OR DEFECTIVE. THE CONTRACTOR SHALL IMMEDIATELY TAKE SUCH MEASURES AS ARE NECESSARY TO COMPLETE SUCH WORK OR REMEDY SUCH DEFICIENCIES.
- THE CONTRACTOR SHALL PERFORM ALL EXCAVATION, TRENCHING AND BACKFILL REQUIRED FOR ELECTRICAL WORK. BACKFILL SHALL BE SUITABLE MATERIAL PROPERLY COMPACTED TO 95% DENSITY IN EACH LAYER OF SIX (6) INCH DEPTH. CONDUIT SHALL BE MINIMUM 36" BELOW FINISHED GRADE.

RACEWAYS:

- ALL CONDUIT SHALL BE MINIMUM SIZE OF 3/4" FOR POWER CIRCUITS AND CONTROL CIRCUITS EXCEPT WHERE ALL CONDUIT SHALL BE MINIMUM SIZE OF 3/4" FOR POWER CIRCUITS AND CONTROL CIRCUITS EXCEPT WHERE FLEXIBLE CONDUIT IS CALLED FOR ON PROJECT DOCUMENTS. ALL EXTERIOR EXPOSED CONDUIT SHALL BE GRC (GALVANIZED RIGID METAL CONDUIT). ALL UNDERGROUND, IN SLAB OR UNDER SLAB SHALL BE RNC (RIGID NONMETALLIC CONDUIT). CHANGE TO RIGID METALLIC CONDUIT OR INTERMEDIATE METALLIC CONDUIT BEFORE EXITING OUT OF CONCRETE OR PENETRATING A WALL, FLOOR OR ROOF. EMT IS ALLOWED IN INTERIOR DRY LOCATIONS WHERE NOT SUBJECT TO DAMAGE.
- ALL FLEXIBLE CONDUIT IN WET OR DRY AREAS SHALL BE LIQUID TIGHT CONDUIT. NONMETALLIC FLEXIBLE ALL FLEXIBLE CONDUIT IN WET OR DRY AREAS SHALL BE LIQUID TIGHT CONDUIT. NONMETALLIC FLEXIBLE CONDUIT IS SPECIFICALLY PROHIBITED.
- CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO BUILDING LINES. SHALL BE NEATLY RACKED AND CONDUIT SHALL BE RUN AT RIGHT ANGLES AND PARALLEL TO BUILDING LINES. SHALL BE NEATLY RACKED AND SECURELY FASTENED. JUNCTION BOXES SHALL BE PROVIDED WHERE REQUIRED TO FACILITATE INSTALLATION OF WIRES.
- ALL CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN ALL CONDUIT AND ELECTRICAL EQUIPMENT SHALL BE SUPPORTED FROM THE BUILDING STRUCTURE IN AN APPROVED MANNER.
- ALL EMPTY RACEWAYS SHALL BE FURNISHED WITH A 200 LB. TEST NYLON DRAG LINE. ALL EMPTY RACEWAYS SHALL BE FURNISHED WITH A 200 LB. TEST NYLON DRAG LINE.
- ARRANGEMENT OF CONDUIT AND EQUIPMENT SHALL BE AS INDICATED. UNLESS MODIFICATION IS REQUIRED TO AVOID INTERFERENCES.
- ALL RACEWAY AND WIRING SHALL BE CONCEALED IN FINISHED AREAS. RACEWAY IN MECHANICAL ROOMS, ALL RACEWAY AND WIRING SHALL BE CONCEALED IN FINISHED AREAS. RACEWAY IN MECHANICAL ROOMS, BASEMENTS AND CRAWL SPACES MAY BE SURFACE MOUNTED.
- FOR CONDUITS CROSSING EXPANSION JOINTS, PROVIDE EXPANSION FITTINGS FOR SIZES 1" AND LARGER. PROVIDE SECTIONS OF FLEXIBLE CONDUIT WITH GROUNDING JUMPEES FOR SIZES 1" AND SMALLER.
- THE CONTRACTOR SHALL SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS WITH APPROVED THE CONTRACTOR SHALL SEAL ALL PENETRATIONS THROUGH FIRE RATED WALLS AND FLOORS WITH APPROVED FIRE RATED SEALANT. ALL PENETRATIONS THROUGH ALL WALLS AND FLOORS SHALL BE SEALED. FOR ALL SLAB PENETRATIONS THE METHOD, DEPTHS AND LOCATIONS SHALL BE PRE-APPROVED BY THE BUILDING ENGINEER PRIOR TO THE START OF WORK.
- THE CONTRACTOR SHALL INSTALL DETECTABLE UNDERGROUND TAPES FOR THE PROTECTION, LOCATION AND IDENTIFICATION OF UNDERGROUND CONDUIT INSTALLATION.
- EXACT ROUTING OF CONDUITS AND CABLES SHALL BE DETERMINED IN FIELD. EXACT ROUTING OF CONDUITS AND CABLES SHALL BE DETERMINED IN FIELD.
- ALL PENETRATIONS THROUGH FLOORS SHALL BE FIRE STOPPED AND SEALED WITH APPROVED SEALANT. ALL PENETRATIONS THROUGH FLOORS SHALL BE FIRE STOPPED AND SEALED WITH APPROVED SEALANT.
- ELECTRICAL RACEWAY CONNECTIONS TO VIBRATING EQUIPMENT AND MACHINERY SUCH AS MOTORS, ELECTRICAL EQUIPMENT, OR OTHER MECHANICAL EQUIPMENT AND MACHINERY SUCH AS MOTORS, TRANSFORMERS, ETC., SHALL BE MADE WITH FLEXIBLE LIQUID TIGHT METALLIC CONDUIT.
- SECURE ALL SUPPORTS TO BUILDING STRUCTURE UTILIZING TOGGLE BOLTS IN HOLLOW MASONRY, EXPANSION SHIELDS OR INSERTS IN CONCRETE AND BRICK. MACHINE SCREWS IN METAL. BEAM CLAMPS IN FRAMEWORK AND WOOD SCREWS IN WOOD. NAILS, RAWL PLUGS AND WOOD PLUGS ARE NOT PERMITTED. WHERE REQUIRED BY STRUCTURE, PROVIDE THRU BOLTS AND FISH PLATES. SUPPORT RACEWAY RISERS AT EACH FLOOR LEVEL. RUN EXPOSED RACEWAYS PARALLEL WITH OR AT RIGHT ANGLES TO BUILDING LINES.
- DO NOT RUN RACEWAYS CLOSER THAN 6 INCHES WHEN PARALLEL TO HOT WATER OR STEAM PIPES. WHEN CROSSING WATER OR STEAM PIPES CROSS A MINIMUM OF 3 INCHES ABOVE IF CROSSING BELOW IS UNAVOIDABLE. PROVIDE DRIP SHIELDS EXTENDING 6 INCHES BEYOND THE WATER OR STEAMPIPE. BOXES INSTALLED IN PROXIMITY TO WATER OR STEAM PIPE SHALL BE RATED NEMA 4X.

GROUNDING:

- PROVIDE A COMPLETE EQUIPMENT GROUND SYSTEM FOR THE ELECTRICAL SYSTEM AS REQUIRED BY ARTICLE 250, OF THE NEC, AND AS SPECIFIED HEREIN.
- ALL BRANCH CIRCUITS FOR POWER WIRING SHALL CONTAIN A COPPER GROUND WIRE. NO FLEXIBLE METAL CONDUIT OF ANY KIND OR LENGTH SHALL BE USED AS THE EQUIPMENT GROUNDING CONDUCTOR.

WIRING:

- ALL WIRE SHALL BE COPPER WITH TYPE THHN/THWN 600 VOLT INSULATION, MINIMUM #12 AWG FOR POWER AND LIGHTING CIRCUITS AND #16 AWG FOR CONTROL CIRCUITS.
- UNDER NO CIRCUMSTANCES SHALL FEEDERS BE SPLICED. UNDER NO CIRCUMSTANCES SHALL FEEDERS BE SPLICED.
- ALL COMPUTER CIRCUITS SHALL HAVE SEPARATE NEUTRAL CONDUCTORS. ALL OTHER CIRCUITS MAY SHARE GROUND AND NEUTRAL CONDUCTORS.
- WHERE EQUIPMENT, LIGHTING FIXTURES AND WIRING DEVICES ARE SHOWN WITH CIRCUIT NUMBERS ONLY, THE MINIMUM BRANCH CIRCUITTING REQUIREMENTS SHALL BE AS FOLLOWS:
 - BRANCH CIRCUIT BREAKERS (120 VOLT) – 1P, 20A
 - HOMERUNS TO PANEL BOARDS SHALL CONTAIN NO MORE THAN THREE CIRCUITS.
- CONTRACTOR SHALL INCREASE SIZE OF CIRCUIT WIRING/CONDUCTORS TO COMPENSATE FOR VOLTAGE DROP.
- WIRE SIZES SHALL BE INCREASED TO COMPENSATE FOR VOLTAGE DROP AS FOLLOWS:
 - 120V AND 208V CIRCUITS LONGER THAN 80' SHALL UTILIZE MIN. #10 AWG.
 - 208V CIRCUITS LONGER THAN 150' SHALL UTILIZE MIN. #10 AWG.

ANTENNA MOUNTING NOTES:

- DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.
- ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE", UNLESS NOTED OTHERWISE.
- DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
- ALL UNUSED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50-OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.
- PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/-5% AS DEFINED BY THE RFDS. REFER TO ND-00246.
- JUMPEES FROM THE TMA5 MUST TERMINATE TO OPPOSITE POLARIZATION'S IN EACH SECTOR.
- CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AT&T.

TORQUE REQUIREMENTS:

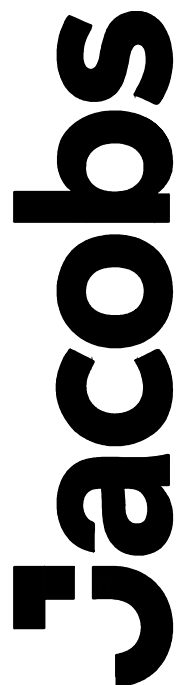
- ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
- ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
 - RF CONNECTION BOTH SIDES OF THE CONNECTOR.
 - GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.
- ALL 8M ANTENNA HARDWARE SHALL BE TIGHTENED TO 9 LB-FT (12 NM).
- ALL 12M ANTENNA HARDWARE SHALL BE TIGHTENED TO 43 LB-FT (58 NM).
- ALL GROUNDING HARDWARE SHALL BE TIGHTENED UNTIL THE LOCK WASHER COLLAPSES AND THE GROUNDING HARDWARE IS NO LONGER LOOSE.
- ALL DIN TYPE CONNECTIONS SHALL BE TIGHTENED TO 18-22 LB-FT (24.4 – 29.8 NM).
- ALL N TYPE CONNECTIONS SHALL BE TIGHTENED TO 15-20 LB-IN (1.7 – 2.3 NM).

FIBER & POWER CABLE MOUNTING NOTES:

- THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INNERDUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN THE 600 VOLT CABLES AND THE INNERDUCT IN ORDER TO SEGREGATE CABLE TYPES. OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.
- THE TYPE TC-ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET, AN EXCEPTION; WHERE TYPE TC-ER CABLES ARE INSTALLED IN SUCH A MANNER THAT THEY ARE SECURED AT INTERVALS OF 10 FEET. THE DISTANCE BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING. NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.
- WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC-ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

ADDITIONAL NOTES:

- IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ANTENNA, TMA5, DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS.
- CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
- ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE-HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED.
- IF REQUIRED TO PAINT ANTENNAS AND/OR COAX:
 - TEMPERATURE SHALL BE ABOVE 50° F.
 - PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD.
 - FOR REGULATED TOWERS, FM/FCC APPROVED PAINT IS REQUIRED.
 - DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL NUMBERS.



7150 STANDARD DRIVE
HANOVER, MD 21076
PHONE: (410) 712-4174



AT&T SITE NUMBER:
NML02662A

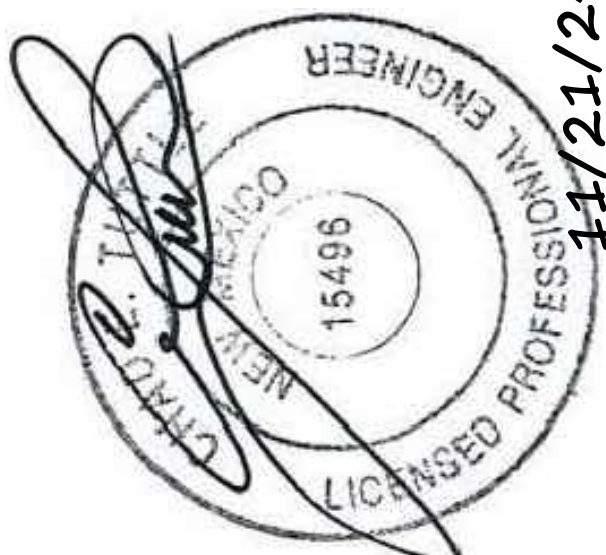
AT&T SITE NAME:
LOS ALAMOS

280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

EXISTING
165'-2" WATER TANK

ISSUED FOR:

REV	DATE	DRAWN	DESCRIPTION	DES./QA
A	10/29/24	CP	PRELIMINARY REVIEW	YX
0	11/4/24	CLS	CONSTRUCTION	YX
1	11/21/24	AB	CONSTRUCTION	YX



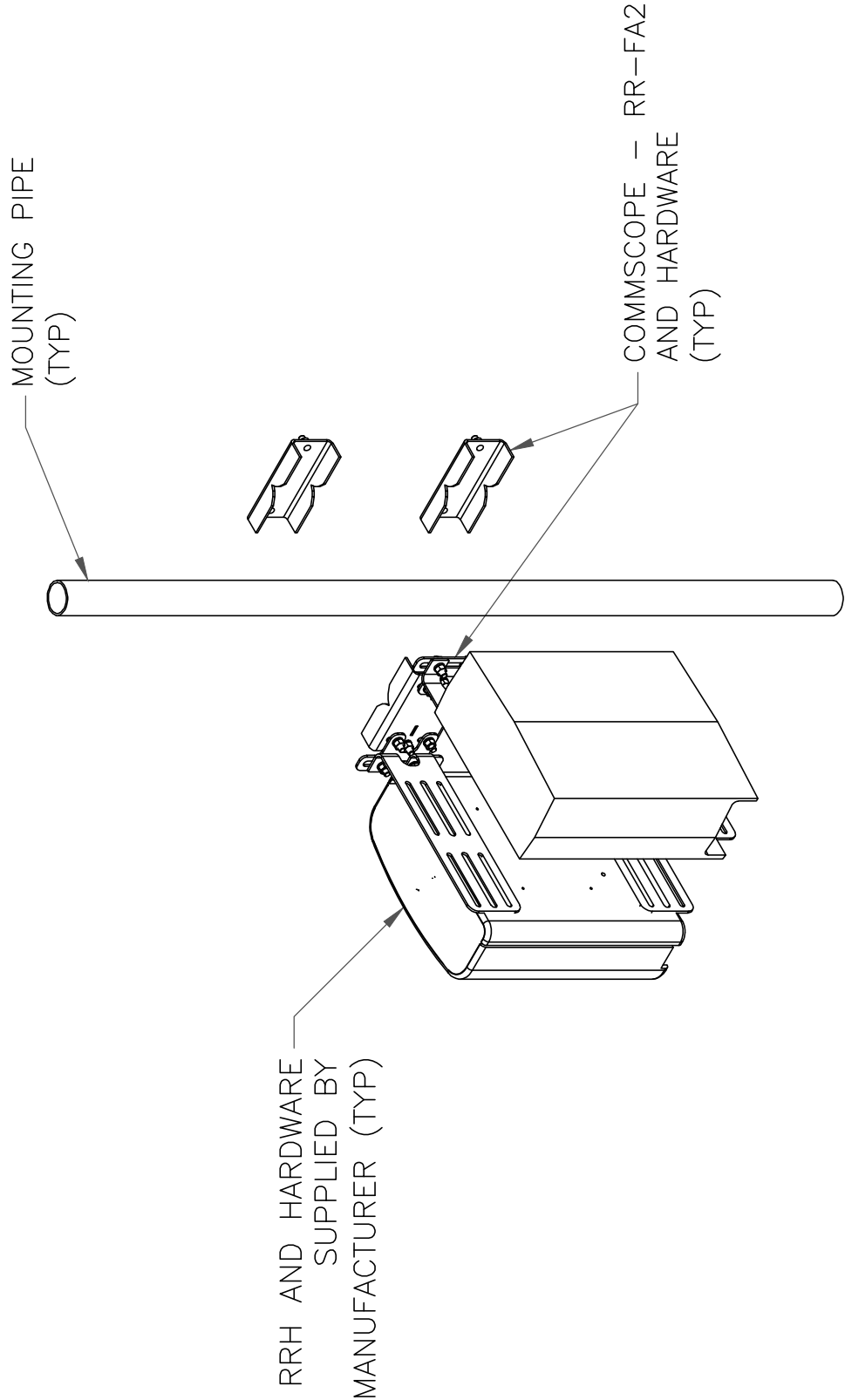
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SHEET NUMBER: T-2B
REVISION: 1

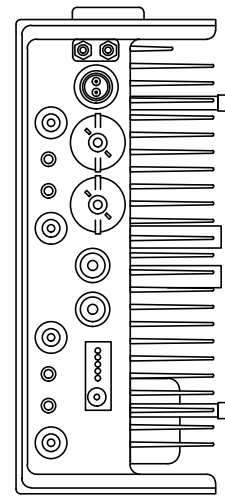
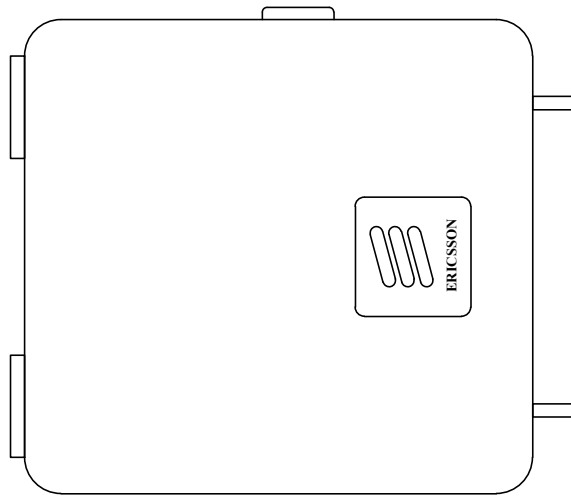
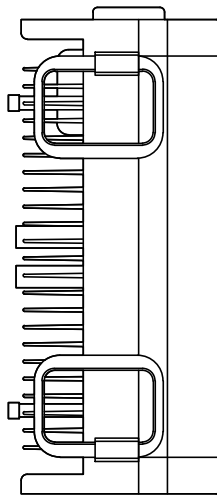
INSTALLER NOTES:

- 1. COMPLY WITH MANUFACTURERS' INSTRUCTIONS TO ENSURE THAT ALL RRHS RECEIVE ELECTRICAL POWER WITHIN 24 HOURS OF BEING REMOVED FROM THE MANUFACTURER'S PACKAGING.
- 2. DO NOT OPEN RRH PACKAGES IN THE RAIN.
- 3. ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



1 DUAL RRH MOUNTING DETAIL

SCALE: NOT TO SCALE



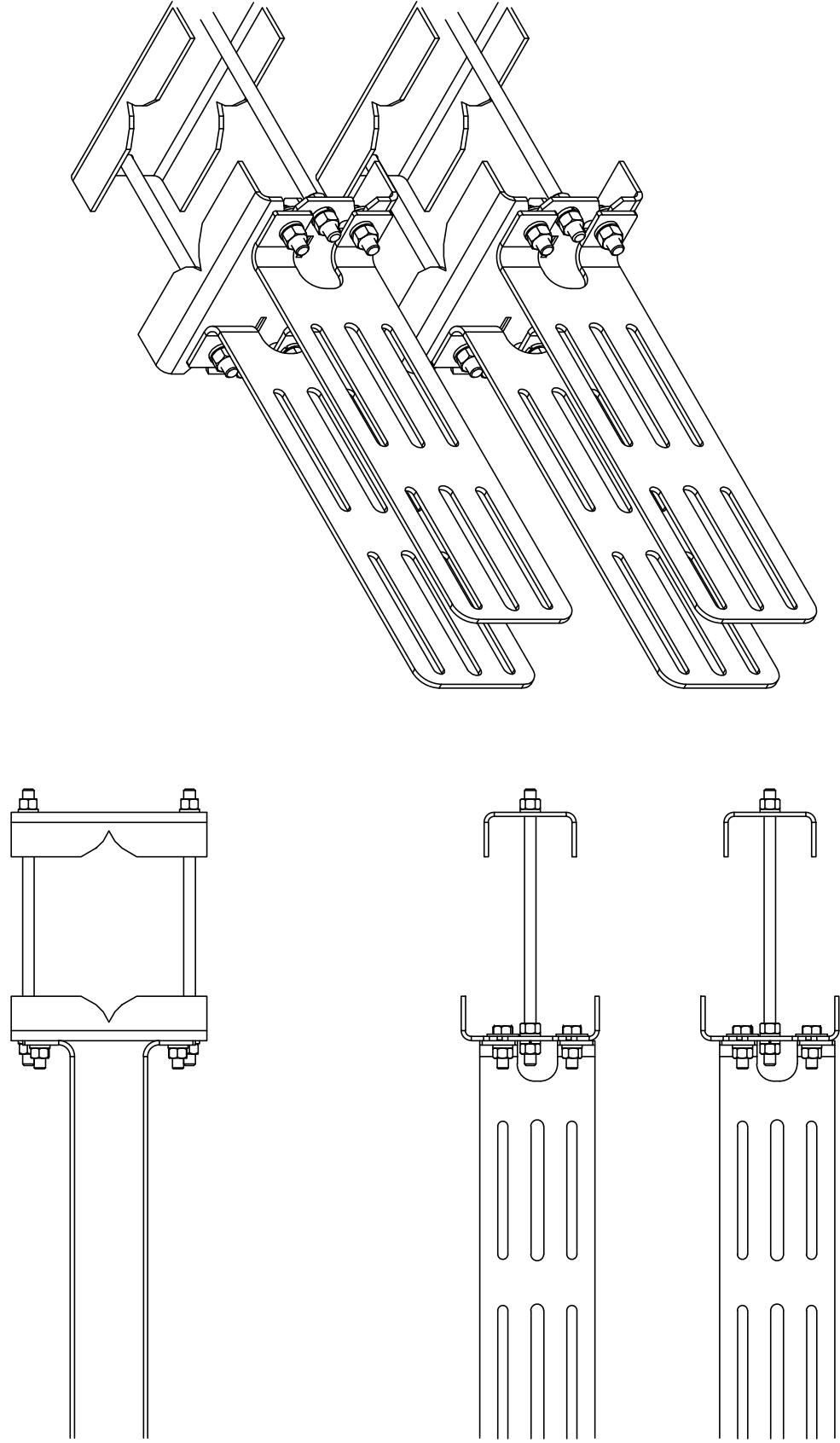
ERICSSON - RADIO 4494, B14/29
WEIGHT: 57.32 LBS
SIZE (HxWxD): 17.48x15.11x5.62 IN.

3 RADIO SPECIFICATIONS

SCALE: NOT TO SCALE

MOUNTING NOTES:

REFER TO PRODUCT SPECS FOR BOLT SIZE & PIPE DIAMETER TOLERANCES. THE PART NO. RR-FA2 IS REQUIRED FOR (2) RRHS. OR APPROVED EQUAL

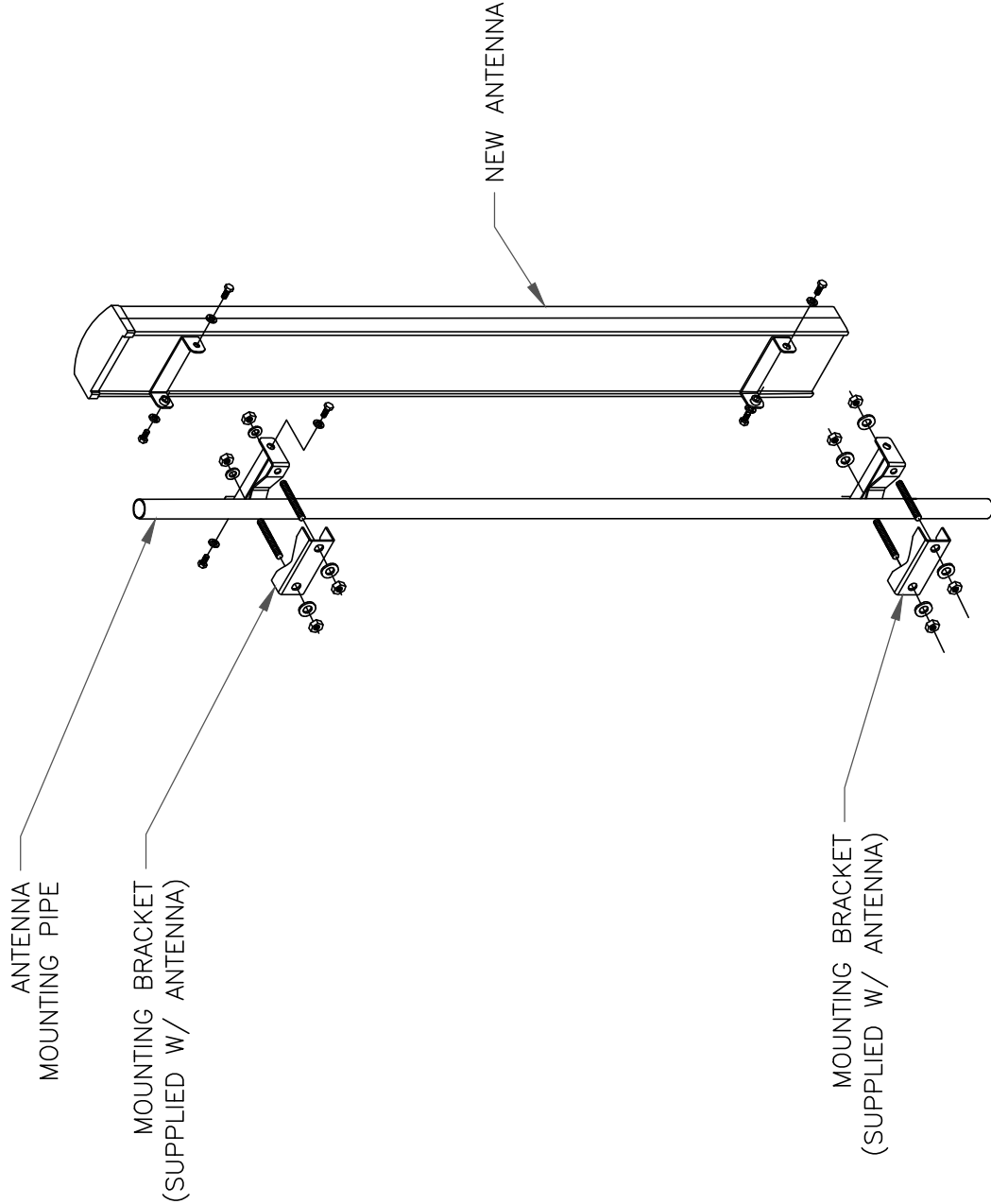


2 DUAL RADIO MOUNT

SCALE: NOT TO SCALE

INSTALLER NOTE:

ALL PIPES, BRACKETS, AND MISCELLANEOUS HARDWARE TO BE GALVANIZED UNLESS NOTED OTHERWISE.



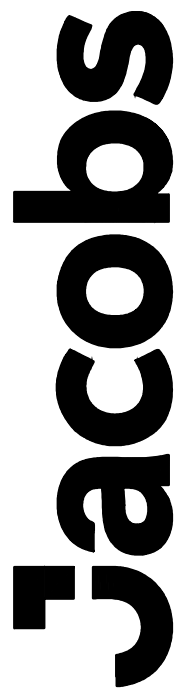
4 ANTENNA MOUNTING DETAIL

SCALE: NOT TO SCALE

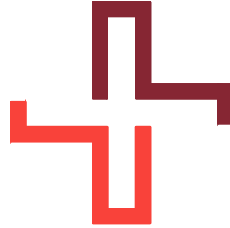
Exhibit B-1 to AGR26-823-A1



6000 LAS COLINAS BLVD, FLOOR 1
IRVING, TX 75039



7150 STANDARD DRIVE
HANOVER, MD 21076
PHONE: (410) 712-4174



1717 S. BOULDER
SUITE 300
TULSA, OK 74119
PH: (918) 587-4630
www.bgrp.com

AT&T SITE NUMBER:
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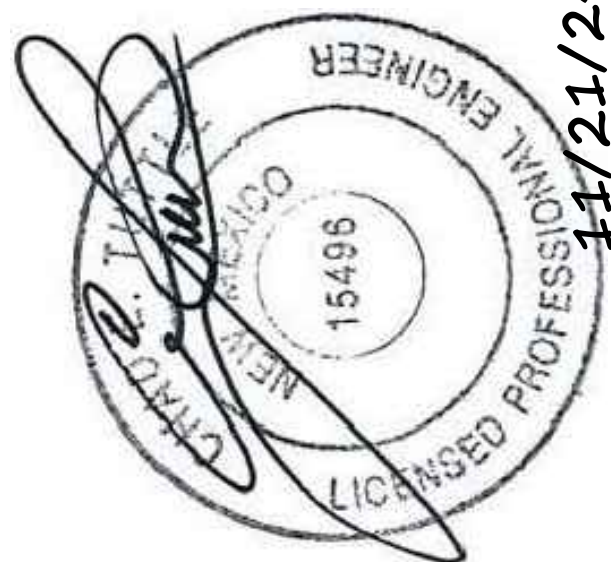
AT&T SITE NAME:
LOS ALAMOS

280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

EXISTING
165'-2" WATER TANK

ISSUED FOR:

REV	DATE	DRAWN	DESCRIPTION	DES./QA
A	10/29/24	CP	PRELIMINARY REVIEW	YX
0	11/4/24	CLS	CONSTRUCTION	YX
1	11/21/24	AB	CONSTRUCTION	YX



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SHEET NUMBER: D-1B

REVISION: 1

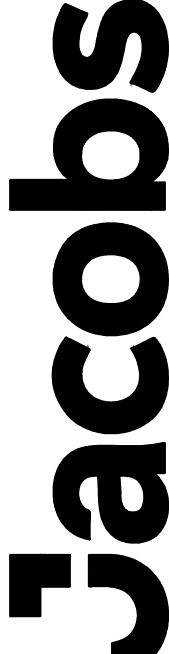
5 SQUID MOUNTING DETAIL

SCALE: NOT TO SCALE



AT&T

6000 LAS COLINAS BLVD, FLOOR 1
IRVING, TX 75039



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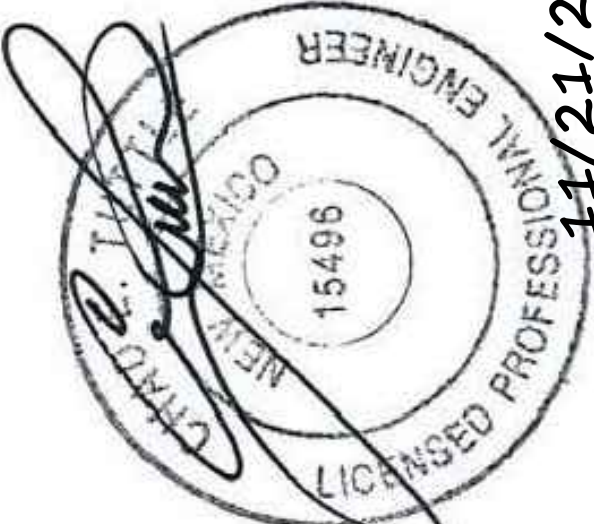
AT&T SITE NUMBER:
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AT&T SITE NAME:
LOS ALAMOS

280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

EXISTING
165'-2" WATER TANK

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A	10/29/24	CP	PRELIMINARY REVIEW	YX
0	11/4/24	CLS	CONSTRUCTION	YX
1	11/21/24	AB	CONSTRUCTION	YX

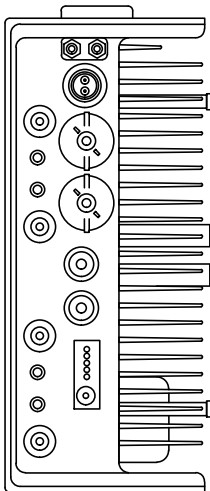
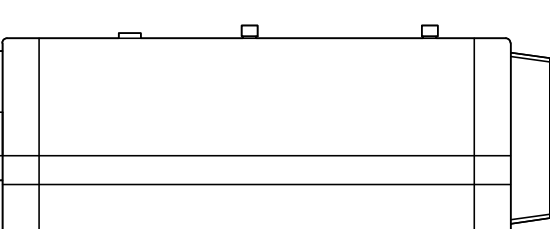
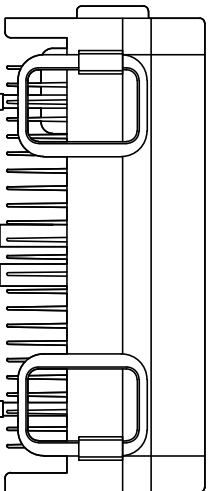


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SHEET NUMBER:
D-2B

REVISION:
1



ERICSSON – RADIO 4490 B5/B12A
WEIGHT: 65.0 LBS
SIZE (HxWxD): 20.6x15.6x7.0 IN.

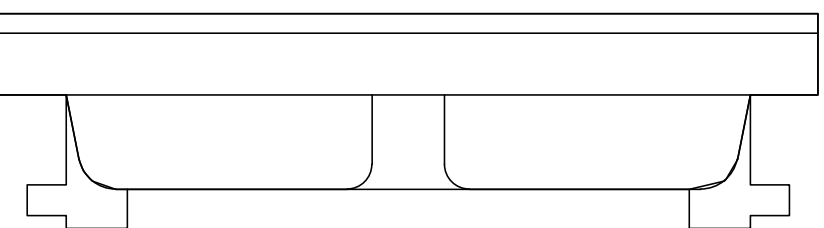
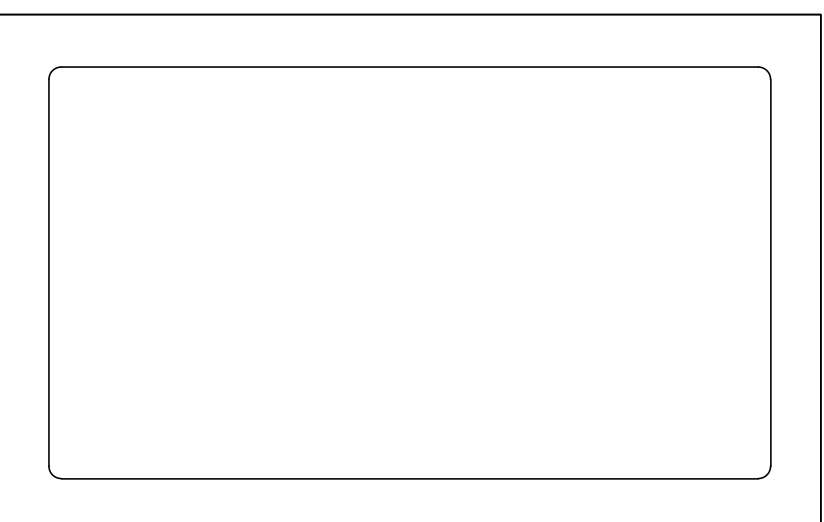
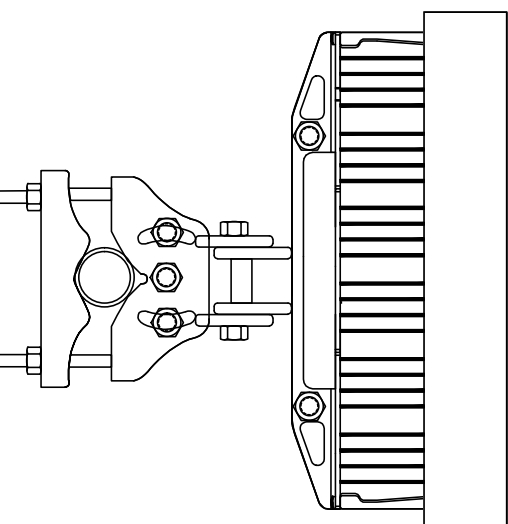
3 RADIO SPECIFICATIONS
SCALE: NOT TO SCALE



CONTROLLER 6610:
MANUFACTURER: ERICSSON
MODEL NO: CONTROLLER 6610
DIMENSIONS (HxWxD): 1.6"x5.5"x1.26"
WEIGHT: 0.28LBS

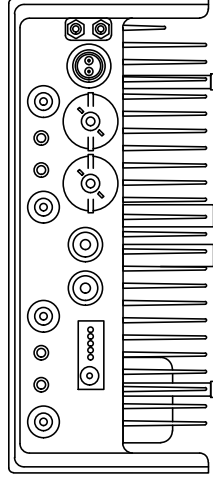
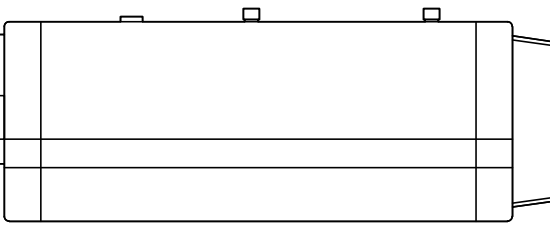
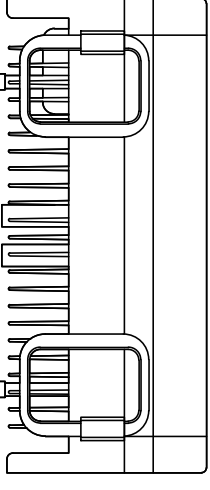


6610 CONTROLLER
SCALE: NOT TO SCALE



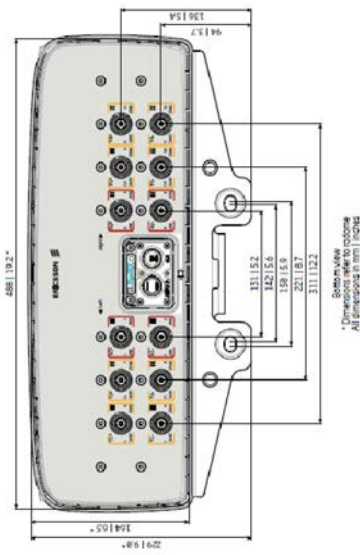
VERTIV – R48–2000e3 eSURE RECTIFIER
(REQ. 15930)
WEIGHT: 2.49 LBS
SIZE (HxWxD): 1.61x3.33x9.94 IN.

5 –48V VERTIV RECTIFIER
SCALE: NOT TO SCALE



ERICSSON – RADIO 4890 B25/B66A
WEIGHT: 67.24 LBS
SIZE (HxWxD): 20.59x15.66x7.04 IN.

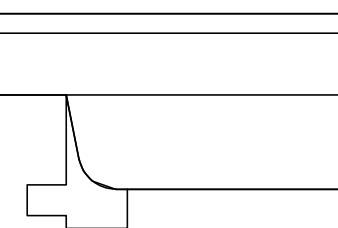
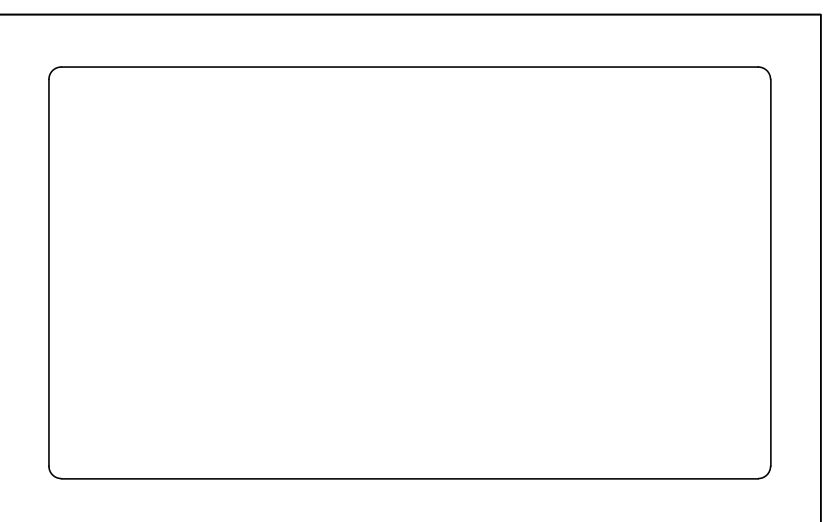
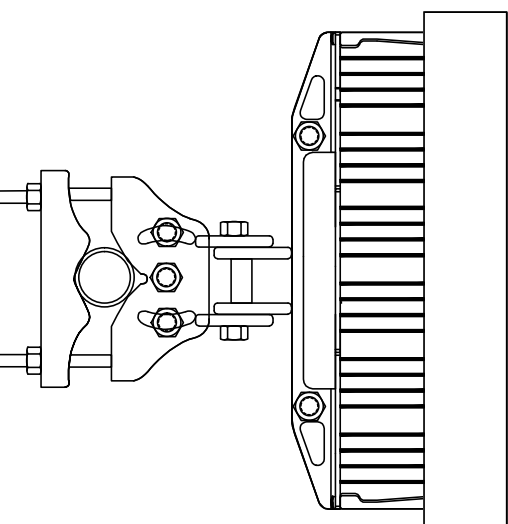
4 RADIO SPECIFICATIONS
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)

MANUFACTURER	MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
ERICSSON	KRE 101 2586/1K	95.9"	19.2"	6.5"	80 LBS

1 ANTENNA SPECIFICATIONS
SCALE: NOT TO SCALE



ANTENNA DIMENSIONS (INCHES)

MANUFACTURER	MODEL	HEIGHT	WIDTH	DEPTH	WEIGHT
ERICSSON	AIR6472 B77G B77M	36.42"	16.14"	7.48"	92.61 LBS

2 ANTENNA SPECIFICATIONS
SCALE: NOT TO SCALE



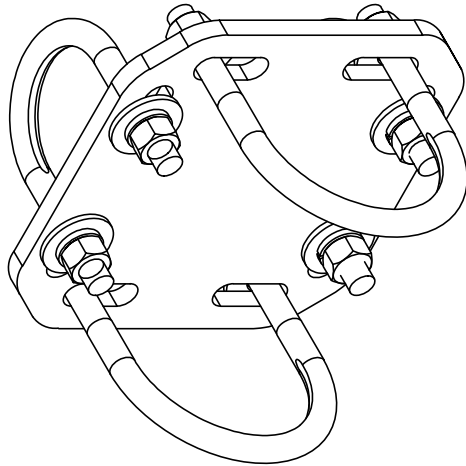
SITEPR01 - X-B065
WEIGHT: 60.48 LBS
SIZE (HxWxD): 60"x4" SCH. 40 PIPE

1 PIPE MOUNT WELDMENT
SCALE: NOT TO SCALE

4 NOT USED
SCALE: NOT TO SCALE



PRODUCT	PLATE (QTY 1)	U-BOLT #1	QTY	U-BOLT #2	QTY
XP-2020	XP001	GUB-4240	4	-	-
XP-2025	XP001	GUB-4240	2	GUB-4352	2
XP-2030	XP001	GUB-4240	2	GUB-4355	2
XP-2035	XP002	GUB52440	2	GUB-53560	2
XP-2040	XP002	GUB52440	2	GUB-5456	2
XP-2525	XP001	GUB-4352	4	-	-
XP-2530	XP001	GUB-4352	2	GUB-4355	2
XP-2540	XP002	GUB-53045	2	GUB-5456	2
XP-3030	XP001	GUB-4355	4	-	-
XP-3040	XP002	GUB-53560	2	GUB-5456	2
XP-4040	XP002	GUB-5456	4	-	-



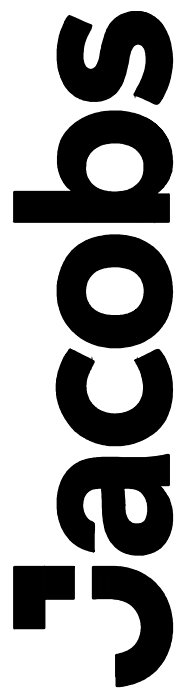
2 COMMSCOPE - XP-2020 & XP-2025
SCALE: NOT TO SCALE

5 NOT USED
SCALE: NOT TO SCALE

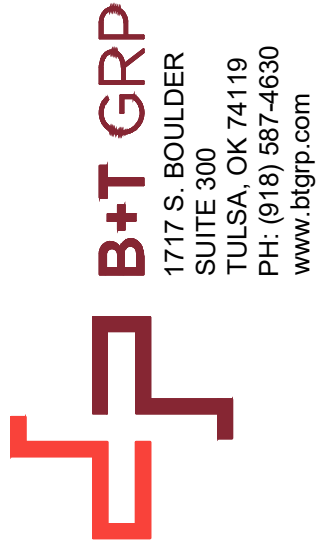
Exhibit B-1 to AGR26-823-A1

3 NOT USED
SCALE: NOT TO SCALE

6 NOT USED
SCALE: NOT TO SCALE



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AT&T SITE NUMBER:
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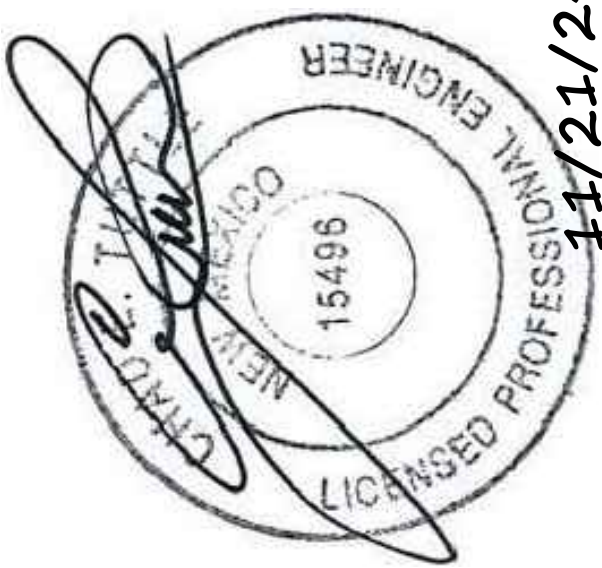
AT&T SITE NAME:
LOS ALAMOS

280 NORTH MESA ROAD
LOS ALAMOS, NM 87544

EXISTING
165'-2" WATER TANK

ISSUED FOR:

REV	DATE	DRAWN	DESCRIPTION	DES./QA
A	10/29/24	CP	PRELIMINARY REVIEW	YX
0	11/4/24	CLS	CONSTRUCTION	YX
1	11/21/24	AB	CONSTRUCTION	YX



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SHEET NUMBER: D-4B
REVISION: 1

Exhibit C-1



November 1, 2024

Ryan Cullen
Jacobs Telecommunications, Inc.
2 Ash St # 3000
Conshohocken PA 19428
(484) 322-2254

B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject: **Appurtenance Mount Analysis Report**

Carrier Designation: **Site Number:** 15066552
Site Name: Los Alamos NML02662A
IWM Job Number: WSANM0043740

Engineering Firm Designation: **B+T Group Project Number:** 173282.001.01.0002

Site Data: 280 North Mesa Road, Los Alamos, NM, 87544, Los Alamos County
Latitude 35.89663°, Longitude -106.29505°
165.2' Water Tank
Proposed (3) 10.5' SitePro1 Part# VFA10-SD-S-NLB Sector Mounts
w/ SitePro1 - SP1 RCM911 & (6) X-B965 pipes

Dear Ryan Cullen,

B+T Group is pleased to submit this “**Appurtenance Mount Analysis Report**” to determine the structural integrity of the antenna mount on the above-mentioned structure.

The purpose of the analysis is to determine acceptability of the mount’s stress level. Based on our analysis we have determined the stress level for the mount under the following load case to be:

Existing + Proposed Equipment
Note: See Table 1 for the final loading configuration

Sufficient Capacity
(Passing at 36.8% with
Requirements in Section 5)

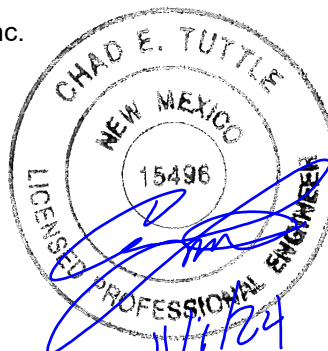
This analysis has been performed in accordance with the 2021 New Mexico Commercial Building Code (2021 International Building Code) based upon an ultimate 3-second gust wind speed of 104 mph. Applicable standard references and design criteria are listed in Section 2 - Analysis Criteria.

All the equipment proposed in this report shall be installed in accordance with the drawings for the determined available structural capacity to be effective.

We at B+T Group appreciate the opportunity of providing our continuing professional services to you and Jacobs Telecommunications, Inc. If you have any questions or need further assistance on this or any other projects, please give us a call.

Mount structural analysis prepared by: Angela Ashwood

Respectfully submitted by: B&T Engineering, Inc.



Chad E. Tuttle, P.E.

Exhibit C-1 to AGR26-823-A1

Exhibit A to Ordinance No. 739

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3.2) Assumptions

4) ANALYSIS RESULTS

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6) APPENDIX A

RISA-3D Output

7) APPENDIX B

Additional Calculations

8) APPENDIX C

Supplemental Drawings

1) INTRODUCTION

The appurtenance mount consists of (3) SitePro1 Part# VFA10-SD-S-NLB sector mounts w/ (1) SitePro1 - SP1 RCM911 & (6) X-B965 pipes at 75 ft., attached to water tank at 280 N. Mesa Rd. Los Alamos, NM, 87544, Los Alamos County. The proposed antenna loading information was obtained from Jacobs Telecommunications, Inc. All information provided to B+T Group was assumed accurate and complete.

2) ANALYSIS CRITERIA

The structural analysis was performed for this mount in accordance with the ANSI/TIA-222-H-2017 Structural Standard for Antenna Supporting Structures and Antennas and Small Wind Turbine Support Structures using a 3-second gust wind speed of 104 mph with no ice and 40 mph with 0 inch escalated ice thickness. Exposure Category C, Topographic Category 1 and Risk Category II were used in this analysis. In addition, the sector mount has been analyzed for various live loading conditions consisting of a 250-lb man live load applied individually at the midpoint and cantilevered ends of horizontal members as well as a 250-pound man live load applied individually at mount pipe locations using a 3-second gust of 30 mph. The mount was analyzed under 30° increments in the wind direction. The analyzed loading is detailed in Table 1.

Table 1 – Proposed and Existing Equipment Information

Loading	RAD Center Elev. (ft.)	Position	Qty.	Manufacturer	Model / Type	Note
Proposed	75	1	3	Ericsson	KRE 101 2586/1K	1
		2	3	Ericsson	AIR6472 B77G B77M	
		3	3	Kathrein	80010992	
		--	3	Ericsson	4490 B5/B12A	2
			3	Ericsson	4494 B14/B29	
			3	Ericsson	4890 B25/B66A	
			2	Raycap	DC9-48-60-24-8C-EV	
Existing	75	-	1	Raycap	DC9-48-60-24-8C-EV	3

Note:

- (1) Proposed Antennas to be installed on proposed mounting pipes attached to the proposed mount.
- (2) Proposed Equipment to be installed on the Equipment Mounting Pipes attached to the proposed mount.
- (3) Existing Equipment to be relocated on the Equipment Mounting Pipes attached to the proposed mount.

Table 2 – Documents Provided

Documents	Remarks	Reference	Source
10.14.2022. 15066552.NML02662A.WSANM004374 0.3903A1E50K.DE130.240928 – DE130	Existing Loading Proposed Loading	Date: 10/14/2024	Jacobs Telecommunications, Inc.
Redlined CDs by B+T Group		Date: 10/30/2024	On File

3) ANALYSIS PROCEDURE

3.1) Analysis Method

RISA-3D (Version 22.0.1), a commercially available analysis software package, was used to create a three-dimensional model of the mount and calculate member stresses and deflections for various loading cases. Selected output from the analysis is included in Appendix A.

Manufacturers drawing were used to create the model.

3.2) Assumptions

1. The mount was built in accordance with the manufacturer's specifications.

Exhibit C-1 to AGR26-823-A1

Exhibit A to Ordinance No. 739

2. The mount has been maintained in accordance with the manufacturer's specifications and is free of damage.
3. The configuration of antennas and other appurtenances are as specified in Table 1.
4. All mount components have been assumed to be in sufficient condition to carry their full design capacity for the analysis.
5. Mount areas and weights are determined from field measurements, standard material properties, and/or manufacturer product data.
6. Serviceability with respect to antenna twist, tilt, roll or lateral translation is not checked and is left to the carrier or tower owner to ensure conformance.
7. All prior structural modifications, if any are assumed to be correctly installed and fully effective.
8. All member connections are assumed to have been designed to meet or exceed the load carrying capacity of the connected member unless otherwise specified in this report.
9. The following material grades were assumed (Unless Noted Otherwise):
 - a) Connection Bolts : ASTM A325
 - b) Steel Pipe : ASTM A53 (GR. 35)
 - c) HSS (Round) : ASTM 500 (GR. B-42)
 - d) HSS (Rectangular) : ASTM 500 (GR. B-46)
 - e) Channel : ASTM A36 (GR. 36)
 - f) Steel Solid Rod : ASTM A36 (GR. 36)
 - g) Steel Plate : ASTM A36 (GR. 36)
 - h) Steel Angle : ASTM A36 (GR. 36)
 - i) UNISTRUT : ASTM A570 (GR. 33)

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the antenna mounting system.

4) ANALYSIS RESULTS

Table 3 - Mount Component Stresses vs. Capacity (Sector Mount)

Notes	Component	Elevation (ft.)	% Capacity*	Pass / Fail
-	Face Horizontals	75	36.8	Pass
-	Support Arms	75	26.3	Pass
-	Verticals	75	36.0	Pass
-	Diagonals	75	17.0	Pass
-	Mount Pipes	75	20.0	Pass
-	Tieback	75	6.2	Pass
-	Connection Plates	75	30.3	Pass
-	Equipment Mounting Pipes	75	5.8	Pass
-	Connection Pipe	75	2.2	Pass
-	Connection Bolts	75	32.0	Pass

Note: *Member Capacity based on Recommended Modification on Section 5.

5) REQUIREMENTS

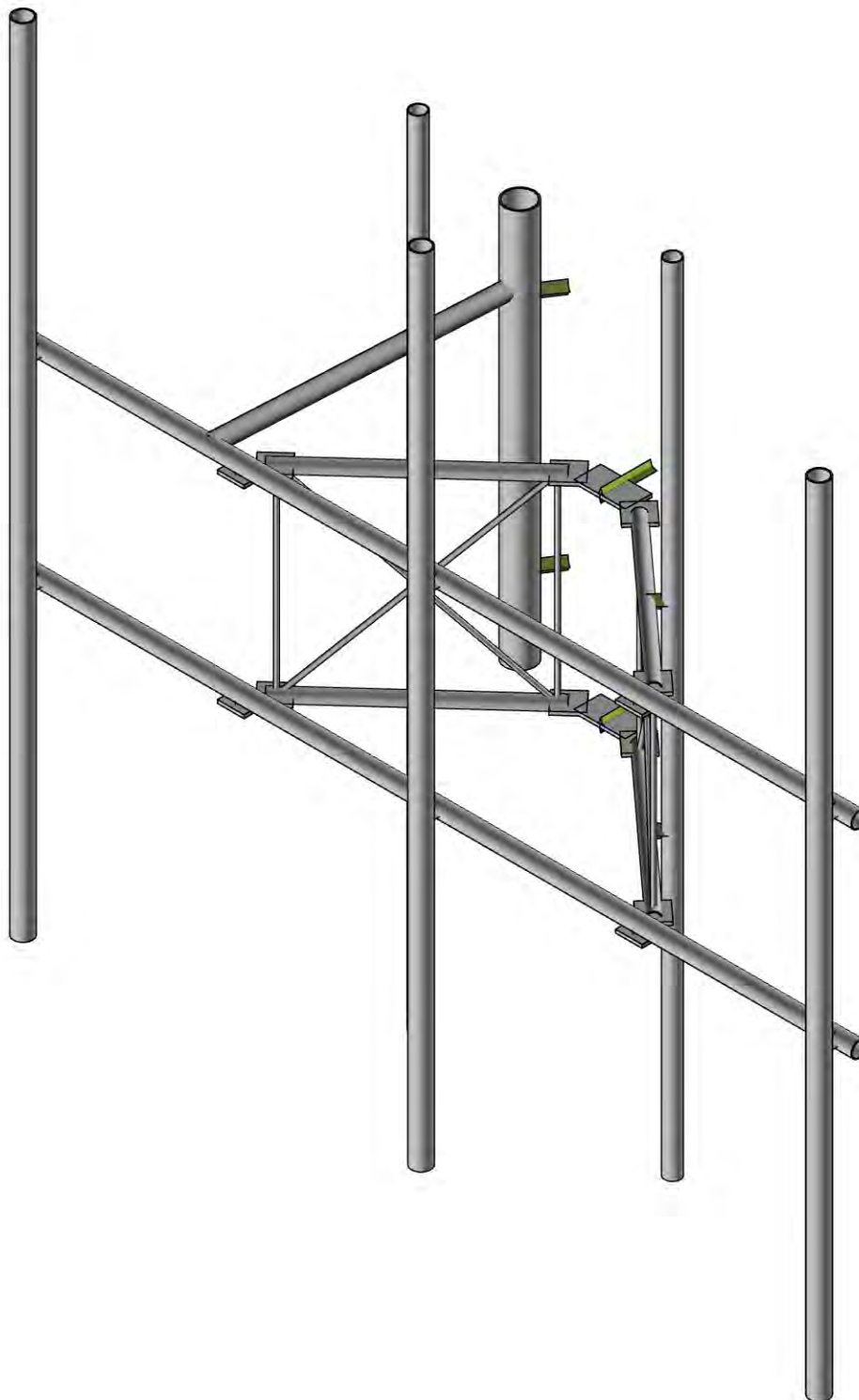
The proposed (3) SitePro1 Part# VFA10-SD-S-NLB sector mounts or approved equal w/ (1) SitePro1 - SP1 RCM911 & (6) X-B965 pipes has sufficient capacity to carry the existing and proposed loads and is in compliance with the ANSI/TIA-222-H standard for the proposed loading and existing loading, with the modifications described below. (Refer to the RISA output for the specific members).

1. (9) New 2-1/2" Std. x 10'-0" long SitePro1 Part# P30120 (P/N: ANT.16008) Antenna Mount Pipes attached to the face horizontals of the mount using (18) Commscope Part# XP-2025 (P/N: ANT.54856) or approved equal cross over plates in all positions.
2. Install (6) new 2" Std. x 10'-0" long SitePro1 Part# P2120 (P/N: ANT.55993) or approved equal mount pipes ached to the support arms of the mount using (12) new U-Bolts to install RRH and Raycap.

Install proposed mount pipes per requirements set by ATT-790-202-083.

APPENDIX A

(RISA-3D Output)



Envelope Only Solution



B+T Group

RP

173282.001.01.0002

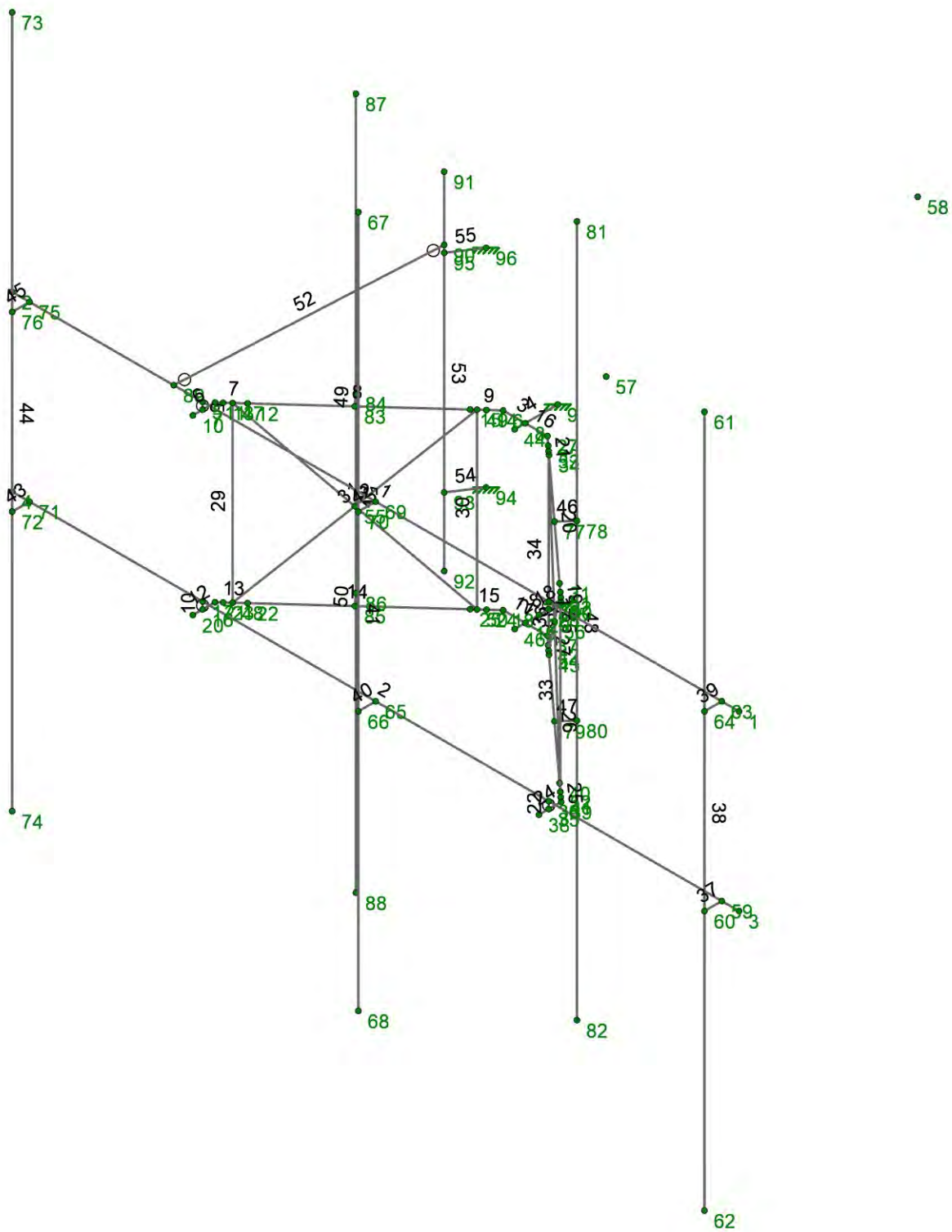
15066552 - Los Alamos NML02662A

Exhibit C-1 to AGR26-823-A1

SK-1

Nov 01, 2024 at 03:42 PM

173282_001_01_0002_Los ...



Envelope Only Solution



B+T Group

RP

173282.001.01.0002

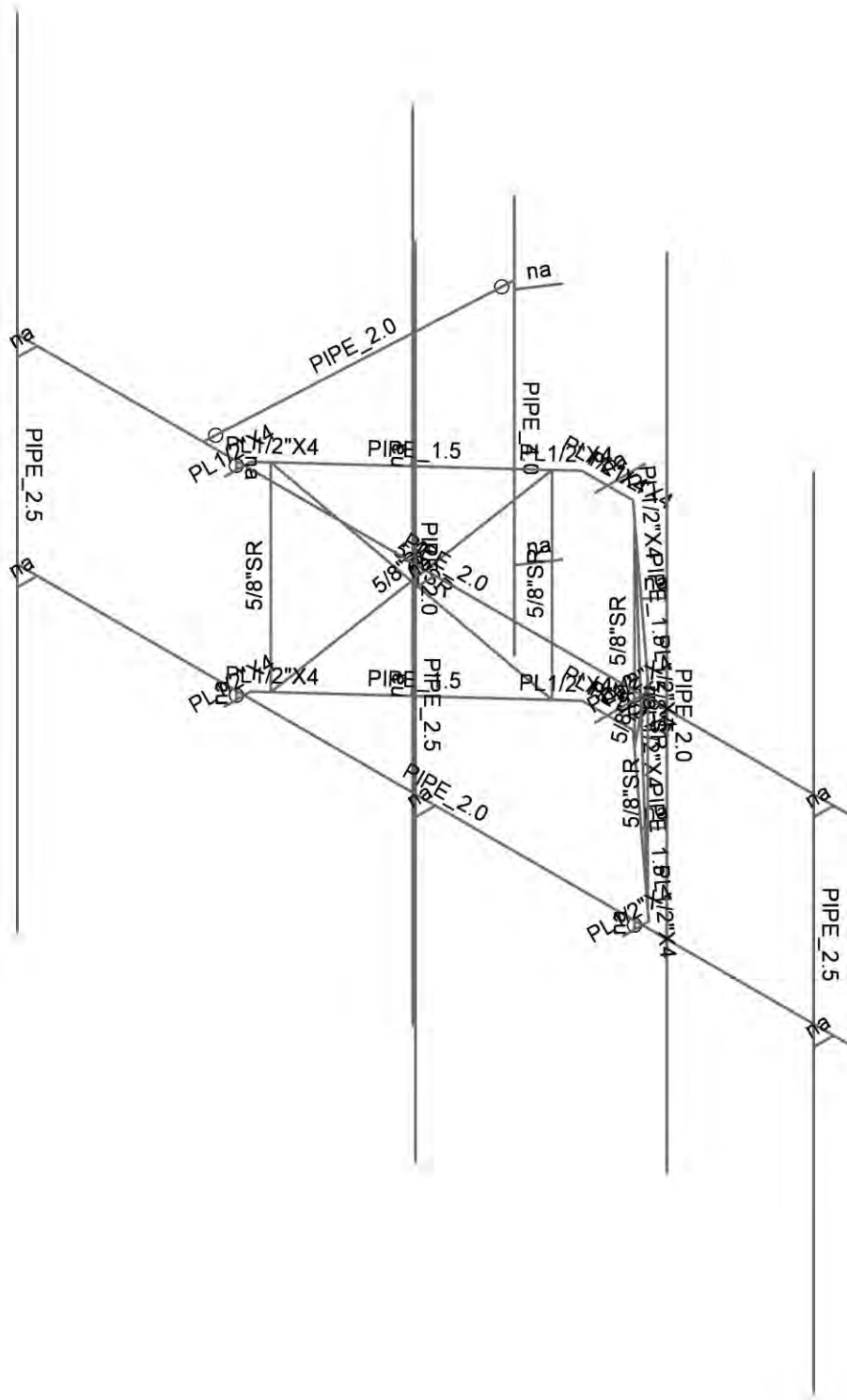
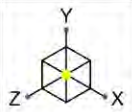
15066552 - Los Alamos NML02662A

Exhibit C-1 to AGR26-823-A1

SK-2

Nov 01, 2024 at 03:43 PM

173282_001_01_0002_Los ...



Envelope Only Solution



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RP

173282.001.01.0002

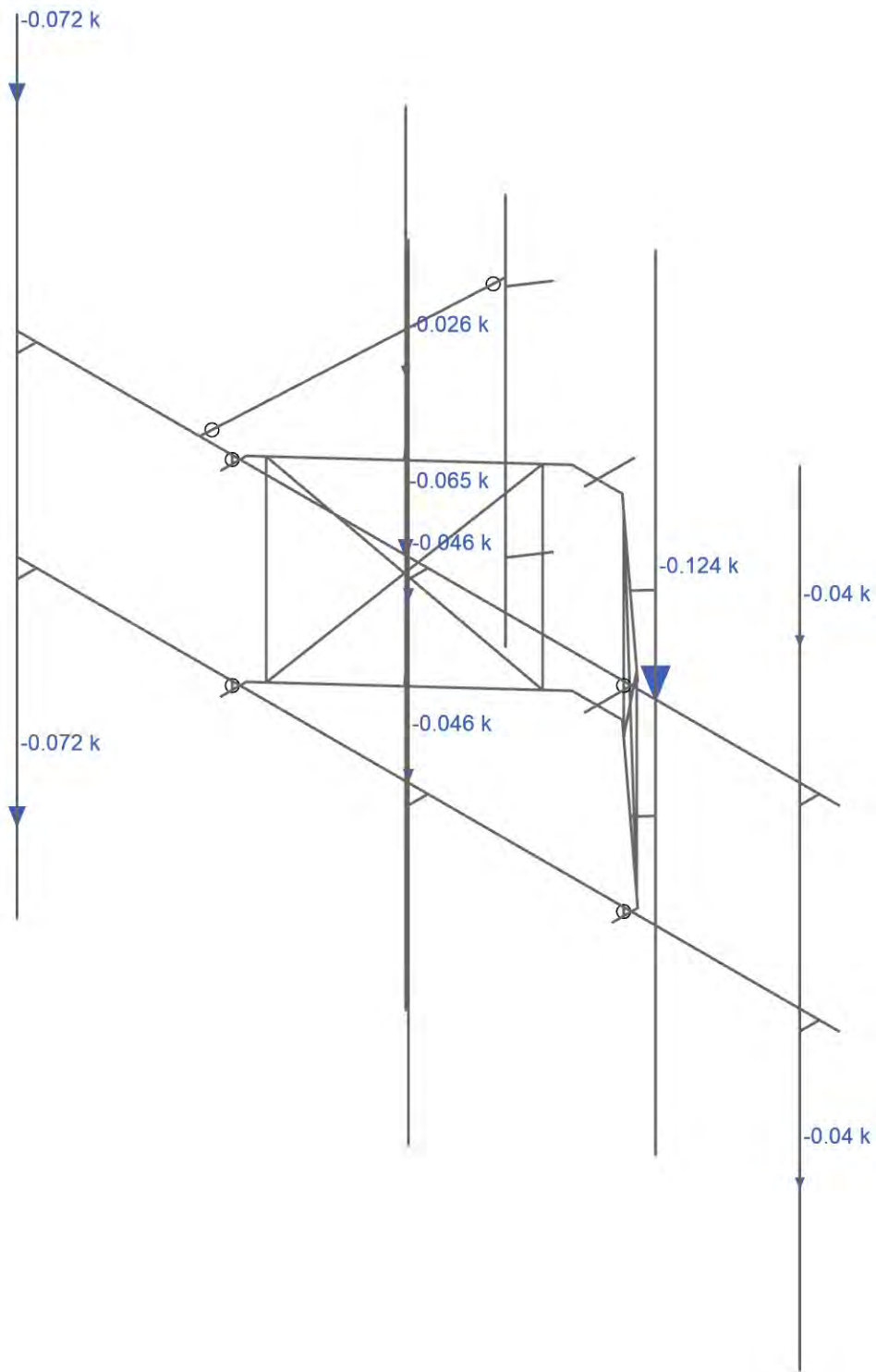
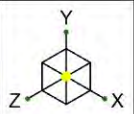
15066552 - Los Alamos NML02662A

Exhibit C-1 to AGR26-823-A1

SK-3

Nov 01, 2024 at 03:43 PM

173282_001_01_0002_Los ...



Loads: BLC 1, Dead
Envelope Only Solution



B+T Group

RP

173282.001.01.0002

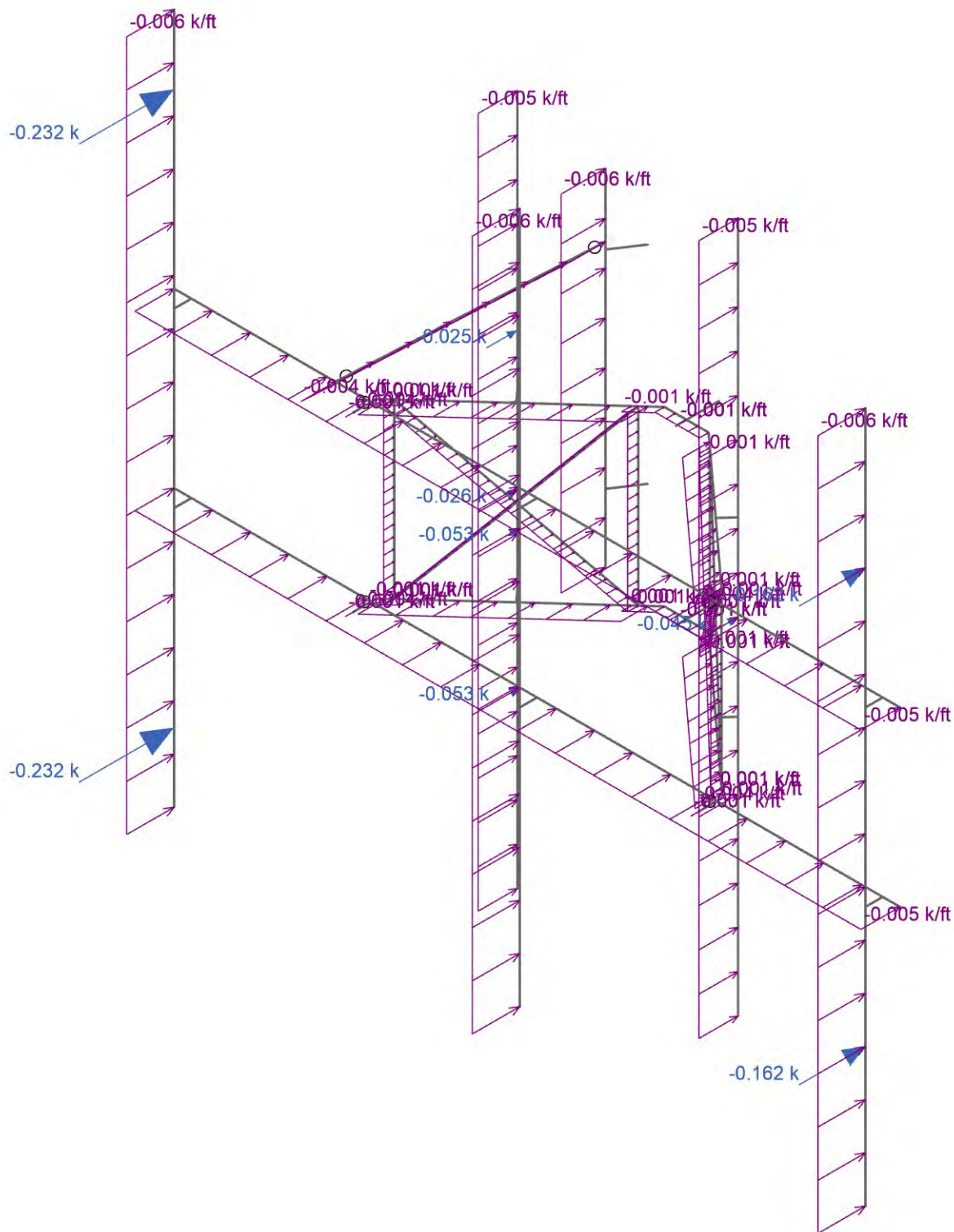
15066552 - Los Alamos NML02662A

Exhibit C-1 to AGR26-823-A1

SK-4

Nov 01, 2024 at 03:43 PM

173282_001_01_0002_Los ...



Loads: BLC 2, 0 Wind - No Ice
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B+T Group

RP	
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173282.001.01.0002

15066552 - Los Alamos NML02662A

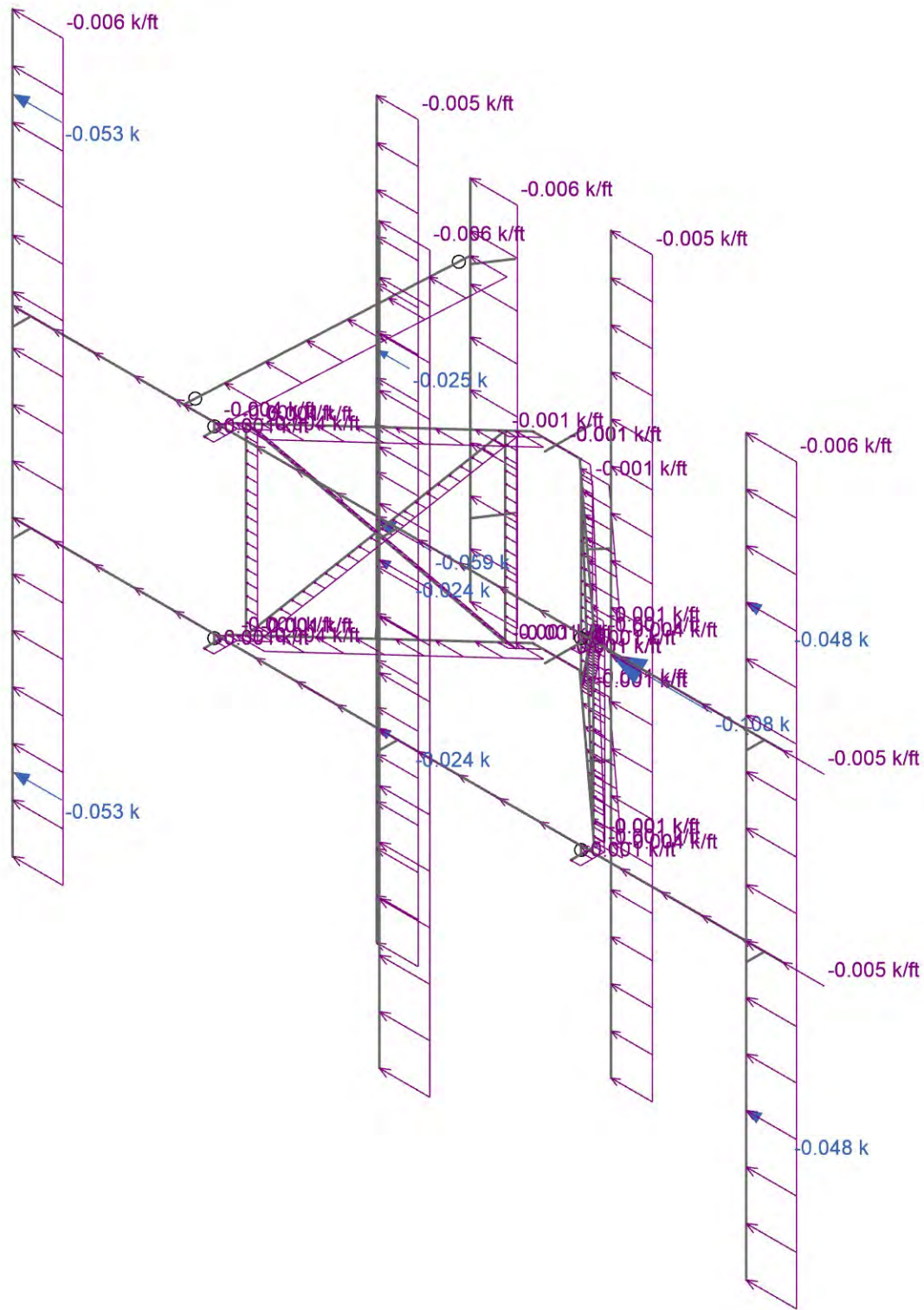
SK-5

Nov 01, 2024 at 03:43 PM

173282_001_01_0002_Los ...

~~Exhibit C-1 to AGR26-823-A1~~

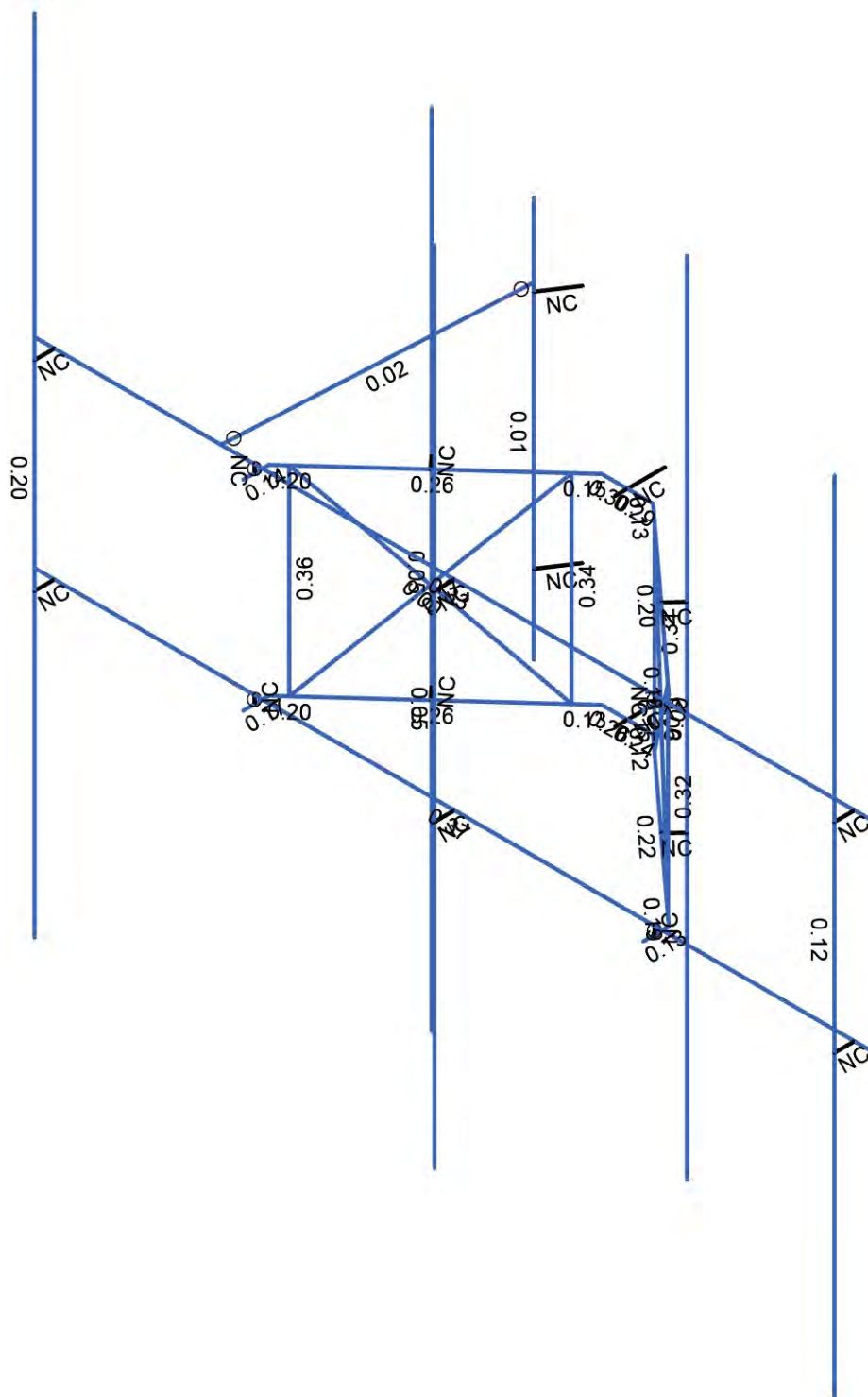
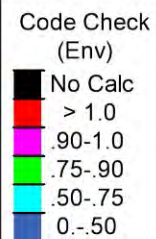
Exhibit A to Ordinance No. 739



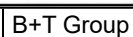
173282.001.01.0002

173282_001_01_0002_Los ...

Exhibit A to Ordinance No. 739



Member Code Checks Displayed (Enveloped)
Envelope Only Solution



RP

173282.001.01.0002

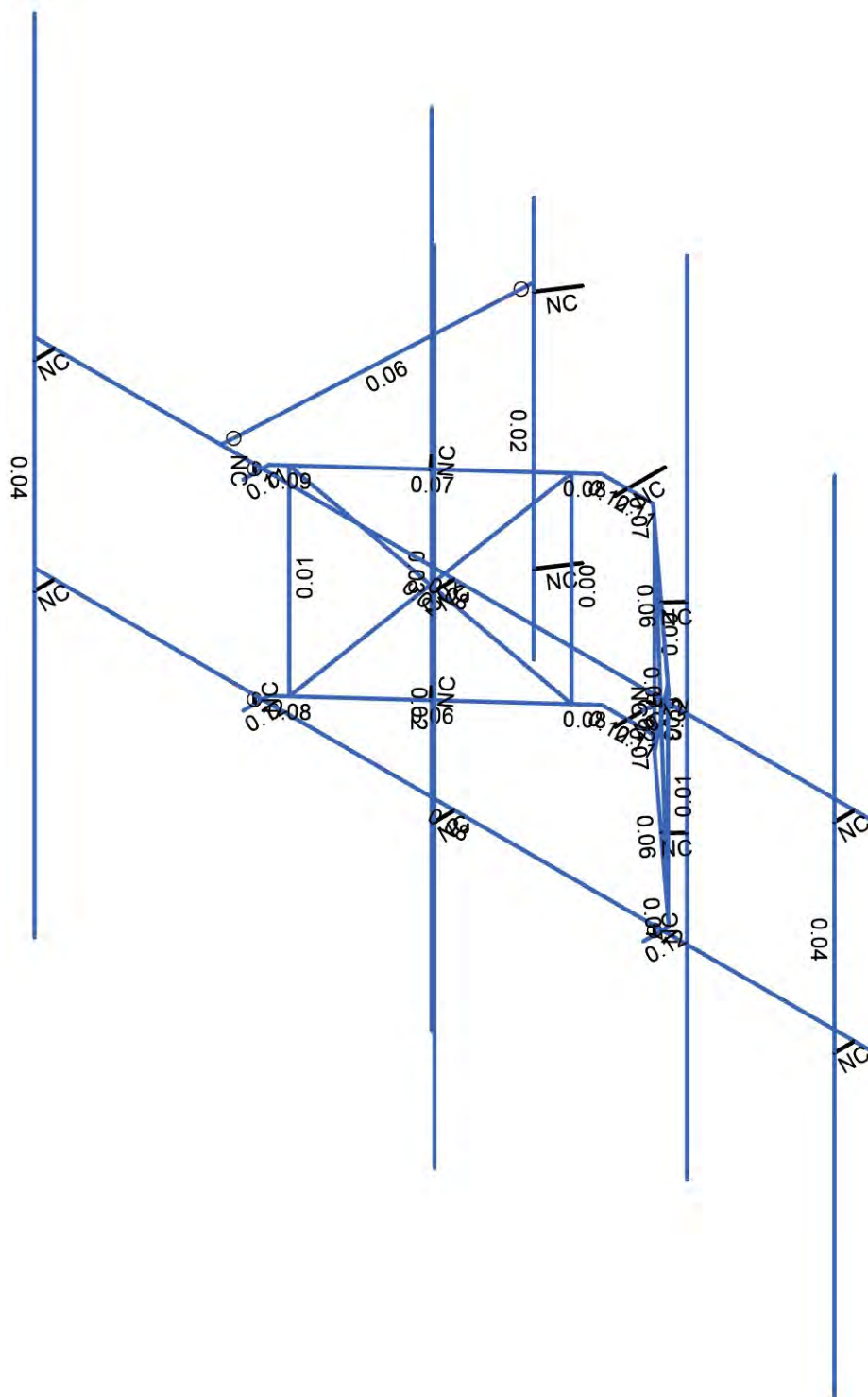
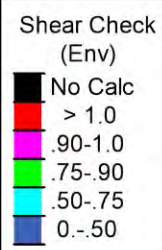
15066552 - Los Alamos NML02662A

SK-7

Nov 01, 2024 at 03:44 PM

173282	001	01	0002	Los ...
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~~Exhibit C-1 to AGR26-823-A1~~



RISA®
A NEMETSCHEK COMPANY

173282.001.01.0002

173282_001_01_0002_Los ...

~~Exhibit C-1 to AGR26-823-A1~~

Node Coordinates

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
1	1	5.25	0.098958	7.830715	
2	2	-5.25	0.098958	7.830715	
3	3	5.25	-2.401042	7.830715	
4	4	-5.25	-2.401042	7.830715	
5	5	-2.5	0.098958	7.830715	
6	6	-0.320333	0	5.669228	
7	7	-2.5	0	7.830715	
8	8	0	0	5.669228	
9	9	0	0	5.2005	
10	10	-2.5	0	7.971342	
11	11	-2.5	0	7.651029	
12	12	-2.253369	0	7.426787	
13	13	-2.438342	0	7.594969	
14	14	-0.44603	0	5.783514	
15	15	-0.569345	0	5.895635	
16	16	-2.5	-2.500084	7.830715	
17	17	-2.5	-2.401042	7.830715	
18	18	-0.320333	-2.500084	5.669228	
19	19	0	-2.500084	5.669228	
20	20	-2.5	-2.500084	7.971342	
21	21	-2.5	-2.500084	7.651029	
22	22	-2.253369	-2.500084	7.426787	
23	23	-2.438342	-2.500084	7.594969	
24	24	-0.44603	-2.500084	5.783514	
25	25	-0.569345	-2.500084	5.895635	
26	26	2.5	0.098958	7.830715	
27	27	0.320333	0	5.669228	
28	28	2.5	0	7.830715	
29	29	2.5	0	7.971342	
30	30	2.5	0	7.651029	
31	31	2.253369	0	7.426787	
32	32	2.438342	0	7.594969	
33	33	0.44603	0	5.783514	
34	34	0.569345	0	5.895635	
35	35	2.5	-2.500084	7.830715	
36	36	2.5	-2.401042	7.830715	
37	37	0.320333	-2.500084	5.669228	
38	38	2.5	-2.500084	7.971342	
39	39	2.5	-2.500084	7.651029	
40	40	2.253369	-2.500084	7.426787	
41	41	2.438342	-2.500084	7.594969	
42	42	0.44603	-2.500084	5.783514	
43	43	0.569345	-2.500084	5.895635	
44	44	0	0	5.822878	
45	45	0	-2.500084	5.2005	
46	46	0	-2.500084	5.822878	
47	47	-2.367035	0	7.530135	
48	48	-2.367035	-2.500084	7.530135	
49	49	-0.517337	0	5.848348	
50	50	-0.517337	-2.500084	5.848348	
51	51	2.367035	0	7.530135	
52	52	2.367035	-2.500084	7.530135	
53	53	0.517337	0	5.848348	
54	54	0.517337	-2.500084	5.848348	
55	55	-1.442186	-1.250042	6.689241	

Node Coordinates (Continued)

	Label	X [ft]	Y [ft]	Z [ft]	Detach From Diaphragm
56	56	1.442186	-1.250042	6.689241	
57	57	0	0	4.5	
58	58	0	0	0	
59	59	5	-2.401042	7.830715	
60	60	5	-2.401042	8.08071	
61	61	5	3.84896	8.08071	
62	62	5	-6.15104	8.08071	
63	63	5	0.098958	7.830715	
64	64	5	0.098958	8.08071	
65	65	0	-2.401042	7.830715	
66	66	0	-2.401042	8.08071	
67	67	0	3.84896	8.08071	
68	68	0	-6.15104	8.08071	
69	69	0	0.098958	7.830715	
70	70	0	0.098958	8.08071	
71	71	-4.999998	-2.401042	7.830715	
72	72	-4.999998	-2.401042	8.080714	
73	73	-4.999998	3.84896	8.080714	
74	74	-4.999998	-6.15104	8.080714	
75	75	-4.999998	0.098958	7.830715	
76	76	-4.999998	0.098958	8.080714	
77	77	1.442185	0	6.68924	
78	78	1.596351	0	6.519682	
79	79	1.442185	-2.500084	6.68924	
80	80	1.596351	-2.500084	6.519682	
81	81	1.596351	3.74996	6.519682	
82	82	1.596351	-6.25004	6.519682	
83	83	-1.442185	0	6.68924	
84	84	-1.596351	0	6.519682	
85	85	-1.442185	-2.500084	6.68924	
86	86	-1.596351	-2.500084	6.519682	
87	87	-1.596351	3.74996	6.519682	
88	88	-1.596351	-6.25004	6.519682	
89	89	-2.91667	0.098958	7.830715	
90	90	-2.719438	0.098958	4.121112	
91	91	-2.719438	1.015625	4.121112	
92	92	-2.719438	-3.984375	4.121112	
93	93	-2.719438	-3	4.121112	
94	94	-2.478475	-3	3.75595	
95	95	-2.719438	0	4.121112	
96	96	-2.478475	0	3.75595	

Node Boundary Conditions

	Node Label	X [k/in]	Y [k/in]	Z [k/in]	X Rot [k-ft/rad]	Y Rot [k-ft/rad]	Z Rot [k-ft/rad]
1	9	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
2	45	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
3	96	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction
4	94	Reaction	Reaction	Reaction	Reaction	Reaction	Reaction

Hot Rolled Steel Properties

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [1e ⁻⁵ F ⁻¹]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
1	A992	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
2	A36 Gr.36	29000	11154	0.3	0.65	0.49	36	1.5	58	1.2

Hot Rolled Steel Properties (Continued)

	Label	E [ksi]	G [ksi]	Nu	Therm. Coeff. [10^{-6}F^{-1}]	Density [k/ft ³]	Yield [ksi]	Ry	Fu [ksi]	Rt
3	A572 Gr.50	29000	11154	0.3	0.65	0.49	50	1.1	65	1.1
4	A500 Gr.B RND	29000	11154	0.3	0.65	0.527	42	1.4	58	1.3
5	A500 Gr.B Rect	29000	11154	0.3	0.65	0.527	46	1.4	58	1.3
6	A53 Gr.B	29000	11154	0.3	0.65	0.49	35	1.6	60	1.2
7	A1085	29000	11154	0.3	0.65	0.49	50	1.4	65	1.3
8	Fe-410	29007.787	11156.841	0.3	0.667	0.49	36.26	1.5	58.016	1.5
9	Fe-570	29007.787	11156.841	0.3	0.667	0.49	49.313	1.5	58.016	1.5

Hot Rolled Steel Section Sets

	Label	Shape	Type	Design List	Material	Design Rule	Area [in ²]	Iyy [in ⁴]	Izz [in ⁴]	J [in ⁴]
1	MF-H1	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
2	SF-H1	PIPE 1.5	Beam	Pipe	A53 Gr.B	Typical	0.749	0.293	0.293	0.586
3	SF-V1	5/8"SR	Column	BAR	A36 Gr.36	Typical	0.307	0.007	0.007	0.015
4	SF-D1	5/8"SR	HBrace	BAR	A36 Gr.36	Typical	0.307	0.007	0.007	0.015
5	MF-P1	PIPE 2.5	Column	Pipe	A53 Gr.B	Typical	1.61	1.45	1.45	2.89
6	Tieback	PIPE 2.0	Beam	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
7	CP-1	PL1/2"X4	Beam	RECT	A36 Gr.36	Typical	2	0.042	2.667	0.154
8	Eq Pipes	PIPE 2.0	Column	Pipe	A53 Gr.B	Typical	1.02	0.627	0.627	1.25
9	Connection Pipes	PIPE 4.0	Column	Pipe	A53 Gr.B	Typical	2.96	6.82	6.82	13.6

Member Primary Data

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
1	1	1	2		MF-H1	Beam	Pipe	A53 Gr.B	Typical
2	2	3	4		MF-H1	Beam	Pipe	A53 Gr.B	Typical
3	3	8	6	90	CP-1	Beam	RECT	A36 Gr.36	Typical
4	4	44	9	90	RIGID	None	None	RIGID	Typical
5	5	5	7	90	RIGID	None	None	RIGID	Typical
6	6	10	11	90	CP-1	Beam	RECT	A36 Gr.36	Typical
7	7	11	12	90	CP-1	Beam	RECT	A36 Gr.36	Typical
8	8	13	14	90	SF-H1	Beam	Pipe	A53 Gr.B	Typical
9	9	15	6	90	CP-1	Beam	RECT	A36 Gr.36	Typical
10	10	16	17	90	RIGID	None	None	RIGID	Typical
11	11	19	18	90	CP-1	Beam	RECT	A36 Gr.36	Typical
12	12	20	21	90	CP-1	Beam	RECT	A36 Gr.36	Typical
13	13	21	22	90	CP-1	Beam	RECT	A36 Gr.36	Typical
14	14	23	24	90	SF-H1	Beam	Pipe	A53 Gr.B	Typical
15	15	25	18	90	CP-1	Beam	RECT	A36 Gr.36	Typical
16	16	8	27	90	CP-1	Beam	RECT	A36 Gr.36	Typical
17	17	26	28	90	RIGID	None	None	RIGID	Typical
18	18	29	30	90	CP-1	Beam	RECT	A36 Gr.36	Typical
19	19	30	31	90	CP-1	Beam	RECT	A36 Gr.36	Typical
20	20	32	33	90	SF-H1	Beam	Pipe	A53 Gr.B	Typical
21	21	34	27	90	CP-1	Beam	RECT	A36 Gr.36	Typical
22	22	35	36	90	RIGID	None	None	RIGID	Typical
23	23	19	37	90	CP-1	Beam	RECT	A36 Gr.36	Typical
24	24	38	39	90	CP-1	Beam	RECT	A36 Gr.36	Typical
25	25	39	40	90	CP-1	Beam	RECT	A36 Gr.36	Typical
26	26	41	42	90	SF-H1	Beam	Pipe	A53 Gr.B	Typical
27	27	43	37	90	CP-1	Beam	RECT	A36 Gr.36	Typical
28	28	46	45	90	RIGID	None	None	RIGID	Typical
29	29	48	47	90	SF-V1	Column	BAR	A36 Gr.36	Typical
30	30	50	49	90	SF-V1	Column	BAR	A36 Gr.36	Typical
31	31	48	49	90	SF-D1	HBrace	BAR	A36 Gr.36	Typical

Member Primary Data (Continued)

	Label	I Node	J Node	Rotate(deg)	Section/Shape	Type	Design List	Material	Design Rule
32	32	47	50	90	SF-D1	HBrace	BAR	A36 Gr.36	Typical
33	33	52	51	90	SF-V1	Column	BAR	A36 Gr.36	Typical
34	34	54	53	90	SF-V1	Column	BAR	A36 Gr.36	Typical
35	35	52	53	90	SF-D1	HBrace	BAR	A36 Gr.36	Typical
36	36	51	54	90	SF-D1	HBrace	BAR	A36 Gr.36	Typical
37	37	59	60		RIGID	None	None	RIGID	Typical
38	38	61	62		MF-P1	Column	Pipe	A53 Gr.B	Typical
39	39	63	64		RIGID	None	None	RIGID	Typical
40	40	65	66		RIGID	None	None	RIGID	Typical
41	41	67	68		MF-P1	Column	Pipe	A53 Gr.B	Typical
42	42	69	70		RIGID	None	None	RIGID	Typical
43	43	71	72		RIGID	None	None	RIGID	Typical
44	44	73	74		MF-P1	Column	Pipe	A53 Gr.B	Typical
45	45	75	76		RIGID	None	None	RIGID	Typical
46	46	77	78		RIGID	None	None	RIGID	Typical
47	47	79	80		RIGID	None	None	RIGID	Typical
48	48	81	82		Eq Pipes	Column	Pipe	A53 Gr.B	Typical
49	49	83	84		RIGID	None	None	RIGID	Typical
50	50	85	86		RIGID	None	None	RIGID	Typical
51	51	87	88		Eq Pipes	Column	Pipe	A53 Gr.B	Typical
52	52	89	90		Tieback	Beam	Pipe	A53 Gr.B	Typical
53	53	91	92		Connection Pipes	Column	Pipe	A53 Gr.B	Typical
54	54	93	94		RIGID	None	None	RIGID	Typical
55	55	95	96		RIGID	None	None	RIGID	Typical

Member Advanced Data

	Label	I Release	J Release	Col-Wall Vert Release	T/C Only	Physical	Deflection Ratio Options	Seismic DR
1	1					Yes	N/A	None
2	2					Yes	N/A	None
3	3					Yes	Default	None
4	4					Yes	** NA **	None
5	5	OOOOOX				Yes	** NA **	None
6	6					Yes	N/A	None
7	7					Yes	N/A	None
8	8					Yes	N/A	None
9	9					Yes	N/A	None
10	10		OOOOOX			Yes	** NA **	None
11	11					Yes	Default	None
12	12					Yes	N/A	None
13	13					Yes	N/A	None
14	14					Yes	N/A	None
15	15					Yes	N/A	None
16	16					Yes	Default	None
17	17	OOOOOX				Yes	** NA **	None
18	18					Yes	N/A	None
19	19					Yes	N/A	None
20	20					Yes	N/A	None
21	21					Yes	N/A	None
22	22		OOOOOX			Yes	** NA **	None
23	23					Yes	Default	None
24	24					Yes	N/A	None
25	25					Yes	N/A	None
26	26					Yes	N/A	None
27	27					Yes	N/A	None
28	28					Yes	** NA **	None

Member Advanced Data (Continued)

	Label	I Release	J Release	Col-Wall Vert Release	T/C Only	Physical	Deflection Ratio Options	Seismic DR
29	29					Yes	** NA **	None
30	30					Yes	** NA **	None
31	31				Euler Buckling	Yes	** NA **	None
32	32				Euler Buckling	Yes	** NA **	None
33	33					Yes	** NA **	None
34	34					Yes	** NA **	None
35	35				Euler Buckling	Yes	** NA **	None
36	36				Euler Buckling	Yes	** NA **	None
37	37					Yes	** NA **	None
38	38					Yes	** NA **	None
39	39					Yes	** NA **	None
40	40					Yes	** NA **	None
41	41					Yes	** NA **	None
42	42					Yes	** NA **	None
43	43					Yes	** NA **	None
44	44					Yes	** NA **	None
45	45					Yes	** NA **	None
46	46					Yes	** NA **	None
47	47					Yes	** NA **	None
48	48					Yes	** NA **	None
49	49					Yes	** NA **	None
50	50					Yes	** NA **	None
51	51					Yes	** NA **	None
52	52	BenPIN	BenPIN			Yes	Default	None
53	53					Yes	** NA **	None
54	54					Yes	** NA **	None
55	55					Yes	** NA **	None

Hot Rolled Steel Design Parameters

	Label	Shape	Length [ft]	Lcomp top [ft]	Channel Conn.	a [ft]	Function
1	1	MF-H1	10.5	Lbyy	N/A	N/A	Lateral
2	2	MF-H1	10.5	Lbyy	N/A	N/A	Lateral
3	3	CP-1	0.32	Lbyy	N/A	N/A	Lateral
4	6	CP-1	0.32	Lbyy	N/A	N/A	Lateral
5	7	CP-1	0.333	Lbyy	N/A	N/A	Lateral
6	8	SF-H1	2.693	Lbyy	N/A	N/A	Lateral
7	9	CP-1	0.337	Lbyy	N/A	N/A	Lateral
8	11	CP-1	0.32	Lbyy	N/A	N/A	Lateral
9	12	CP-1	0.32	Lbyy	N/A	N/A	Lateral
10	13	CP-1	0.333	Lbyy	N/A	N/A	Lateral
11	14	SF-H1	2.693	Lbyy	N/A	N/A	Lateral
12	15	CP-1	0.337	Lbyy	N/A	N/A	Lateral
13	16	CP-1	0.32	Lbyy	N/A	N/A	Lateral
14	18	CP-1	0.32	Lbyy	N/A	N/A	Lateral
15	19	CP-1	0.333	Lbyy	N/A	N/A	Lateral
16	20	SF-H1	2.693	Lbyy	N/A	N/A	Lateral
17	21	CP-1	0.337	Lbyy	N/A	N/A	Lateral
18	23	CP-1	0.32	Lbyy	N/A	N/A	Lateral
19	24	CP-1	0.32	Lbyy	N/A	N/A	Lateral
20	25	CP-1	0.333	Lbyy	N/A	N/A	Lateral
21	26	SF-H1	2.693	Lbyy	N/A	N/A	Lateral
22	27	CP-1	0.337	Lbyy	N/A	N/A	Lateral
23	29	SF-V1	2.5	Lbyy	N/A	N/A	Lateral
24	30	SF-V1	2.5	Lbyy	N/A	N/A	Lateral
25	31	SF-D1	3.536	Lbyy	N/A	N/A	Lateral

Hot Rolled Steel Design Parameters (Continued)

	Label	Shape	Length [ft]	Lcomp top [ft]	Channel Conn.	a [ft]	Function
26	32	SF-D1	3.536	Lbyy	N/A	N/A	Lateral
27	33	SF-V1	2.5	Lbyy	N/A	N/A	Lateral
28	34	SF-V1	2.5	Lbyy	N/A	N/A	Lateral
29	35	SF-D1	3.536	Lbyy	N/A	N/A	Lateral
30	36	SF-D1	3.536	Lbyy	N/A	N/A	Lateral
31	38	MF-P1	10	Lbyy	N/A	N/A	Lateral
32	41	MF-P1	10	Lbyy	N/A	N/A	Lateral
33	44	MF-P1	10	Lbyy	N/A	N/A	Lateral
34	48	Eq Pipes	10	Lbyy	N/A	N/A	Lateral
35	51	Eq Pipes	10	Lbyy	N/A	N/A	Lateral
36	52	Tieback	3.715	Lbyy	N/A	N/A	Lateral
37	53	Connection Pipes	5	Lbyy	N/A	N/A	Lateral

Member Point Loads (BLC 1 : Dead)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	38	Y	-0.04	%20
2	38	Y	-0.04	%80
3	38	Y	0	0
4	38	Y	0	0
5	38	Y	0	0
6	41	Y	-0.046	%40
7	41	Y	-0.046	%60
8	41	Y	0	0
9	41	Y	0	0
10	41	Y	0	0
11	44	Y	-0.072	%10
12	44	Y	-0.072	%90
13	44	Y	0	0
14	44	Y	0	0
15	44	Y	0	0
16	51	Y	-0.065	%50
17	51	Y	-0.026	%30
18	51	Y	0	0
19	51	Y	0	0
20	51	Y	0	0
21	48	Y	-0.057	%50
22	48	Y	-0.067	%50
23	48	Y	0	0
24	48	Y	0	0
25	48	Y	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	38	Z	-0.163	%20
2	38	Z	-0.163	%80
3	38	Z	0	0
4	38	Z	0	0
5	38	Z	0	0
6	41	Z	-0.053	%40
7	41	Z	-0.053	%60
8	41	Z	0	0
9	41	Z	0	0
10	41	Z	0	0

Member Point Loads (BLC 2 : 0 Wind - No Ice) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
11	44	Z	-0.232	%10
12	44	Z	-0.232	%90
13	44	Z	0	0
14	44	Z	0	0
15	44	Z	0	0
16	51	Z	-0.026	%50
17	51	Z	-0.025	%30
18	51	Z	0	0
19	51	Z	0	0
20	51	Z	0	0
21	48	Z	-0.018	%50
22	48	Z	-0.026	%50
23	48	Z	0	0
24	48	Z	0	0
25	48	Z	0	0

Member Point Loads (BLC 3 : 90 Wind - No Ice)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	38	X	-0.048	%20
2	38	X	-0.048	%80
3	38	X	0	0
4	38	X	0	0
5	38	X	0	0
6	41	X	-0.025	%40
7	41	X	-0.025	%60
8	41	X	0	0
9	41	X	0	0
10	41	X	0	0
11	44	X	-0.053	%10
12	44	X	-0.053	%90
13	44	X	0	0
14	44	X	0	0
15	44	X	0	0
16	51	X	-0.059	%50
17	51	X	-0.025	%30
18	51	X	0	0
19	51	X	0	0
20	51	X	0	0
21	48	X	-0.049	%50
22	48	X	-0.059	%50
23	48	X	0	0
24	48	X	0	0
25	48	X	0	0

Member Point Loads (BLC 6 : 0 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	38	Z	-0.013	%20
2	38	Z	-0.013	%80
3	38	Z	0	0
4	38	Z	0	0
5	38	Z	0	0
6	41	Z	-0.004	%40
7	41	Z	-0.004	%60

Member Point Loads (BLC 6 : 0 Wind - Service) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
8	41	Z	0	0
9	41	Z	0	0
10	41	Z	0	0
11	44	Z	-0.019	%10
12	44	Z	-0.019	%90
13	44	Z	0	0
14	44	Z	0	0
15	44	Z	0	0
16	51	Z	-0.002	%50
17	51	Z	-0.002	%30
18	51	Z	0	0
19	51	Z	0	0
20	51	Z	0	0
21	48	Z	-0.002	%50
22	48	Z	-0.002	%50
23	48	Z	0	0
24	48	Z	0	0
25	48	Z	0	0

Member Point Loads (BLC 7 : 90 Wind - Service)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	38	X	-0.004	%20
2	38	X	-0.004	%80
3	38	X	0	0
4	38	X	0	0
5	38	X	0	0
6	41	X	-0.002	%40
7	41	X	-0.002	%60
8	41	X	0	0
9	41	X	0	0
10	41	X	0	0
11	44	X	-0.004	%10
12	44	X	-0.004	%90
13	44	X	0	0
14	44	X	0	0
15	44	X	0	0
16	51	X	-0.005	%50
17	51	X	-0.002	%30
18	51	X	0	0
19	51	X	0	0
20	51	X	0	0
21	48	X	-0.004	%50
22	48	X	-0.005	%50
23	48	X	0	0
24	48	X	0	0
25	48	X	0	0

Member Point Loads (BLC 9 : 0 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	38	Z	-0.059	%20
2	38	Z	-0.059	%80
3	38	Z	0	0
4	38	Z	0	0

Member Point Loads (BLC 9 : 0 Seismic) (Continued)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
5	38	Z	0	0
6	41	Z	-0.068	%40
7	41	Z	-0.068	%60
8	41	Z	0	0
9	41	Z	0	0
10	41	Z	0	0
11	44	Z	-0.106	%10
12	44	Z	-0.106	%90
13	44	Z	0	0
14	44	Z	0	0
15	44	Z	0	0
16	51	Z	-0.048	%50
17	51	Z	-0.019	%30
18	51	Z	0	0
19	51	Z	0	0
20	51	Z	0	0
21	48	Z	-0.042	%50
22	48	Z	-0.05	%50
23	48	Z	0	0
24	48	Z	0	0
25	48	Z	0	0

Member Point Loads (BLC 10 : 90 Seismic)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	38	X	-0.059	%20
2	38	X	-0.059	%80
3	38	X	0	0
4	38	X	0	0
5	38	X	0	0
6	41	X	-0.068	%40
7	41	X	-0.068	%60
8	41	X	0	0
9	41	X	0	0
10	41	X	0	0
11	44	X	-0.106	%10
12	44	X	-0.106	%90
13	44	X	0	0
14	44	X	0	0
15	44	X	0	0
16	51	X	-0.048	%50
17	51	X	-0.019	%30
18	51	X	0	0
19	51	X	0	0
20	51	X	0	0
21	48	X	-0.042	%50
22	48	X	-0.05	%50
23	48	X	0	0
24	48	X	0	0
25	48	X	0	0

Member Point Loads (BLC 15 : Maint LL 1)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	2	Y	-0.25	%5

Member Point Loads (BLC 16 : Maint LL 2)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	1	Y	-0.25	%5

Member Point Loads (BLC 17 : Maint LL 3)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	8	Y	-0.25	%50

Member Point Loads (BLC 18 : Maint LL 4)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	14	Y	-0.25	%50

Member Point Loads (BLC 19 : Maint LL 5)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	20	Y	-0.25	%50

Member Point Loads (BLC 20 : Maint LL 6)

	Member Label	Direction	Magnitude [k, k-ft]	Location [(ft, %)]
1	26	Y	-0.25	%50

Member Distributed Loads (BLC 2 : 0 Wind - No Ice)

	Member Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.005	-0.005	0	%100
2	2	Z	-0.005	-0.005	0	%100
3	3	Z	-0.001	-0.001	0	%100
4	6	Z	-0.001	-0.001	0	%100
5	7	Z	-0.001	-0.001	0	%100
6	8	Z	-0.004	-0.004	0	%100
7	9	Z	-0.001	-0.001	0	%100
8	11	Z	-0.001	-0.001	0	%100
9	12	Z	-0.001	-0.001	0	%100
10	13	Z	-0.001	-0.001	0	%100
11	14	Z	-0.004	-0.004	0	%100
12	15	Z	-0.001	-0.001	0	%100
13	16	Z	-0.001	-0.001	0	%100
14	18	Z	-0.001	-0.001	0	%100
15	19	Z	-0.001	-0.001	0	%100
16	20	Z	-0.004	-0.004	0	%100
17	21	Z	-0.001	-0.001	0	%100
18	23	Z	-0.001	-0.001	0	%100
19	24	Z	-0.001	-0.001	0	%100
20	25	Z	-0.001	-0.001	0	%100
21	26	Z	-0.004	-0.004	0	%100
22	27	Z	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 2 : 0 Wind - No Ice) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
23	29	Z	-0.001	-0.001	0	%100
24	30	Z	-0.001	-0.001	0	%100
25	31	Z	-0.001	-0.001	0	%100
26	32	Z	-0.001	-0.001	0	%100
27	33	Z	-0.001	-0.001	0	%100
28	34	Z	-0.001	-0.001	0	%100
29	35	Z	-0.001	-0.001	0	%100
30	36	Z	-0.001	-0.001	0	%100
31	38	Z	-0.006	-0.006	0	%100
32	41	Z	-0.006	-0.006	0	%100
33	44	Z	-0.006	-0.006	0	%100
34	48	Z	-0.005	-0.005	0	%100
35	51	Z	-0.005	-0.005	0	%100
36	52	Z	-0.004	-0.004	0	%100
37	53	Z	-0.006	-0.006	0	%100

Member Distributed Loads (BLC 3 : 90 Wind - No Ice)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.005	-0.005	0	%100
2	2	X	-0.005	-0.005	0	%100
3	3	X	-0.001	-0.001	0	%100
4	6	X	-0.001	-0.001	0	%100
5	7	X	-0.001	-0.001	0	%100
6	8	X	-0.004	-0.004	0	%100
7	9	X	-0.001	-0.001	0	%100
8	11	X	-0.001	-0.001	0	%100
9	12	X	-0.001	-0.001	0	%100
10	13	X	-0.001	-0.001	0	%100
11	14	X	-0.004	-0.004	0	%100
12	15	X	-0.001	-0.001	0	%100
13	16	X	-0.001	-0.001	0	%100
14	18	X	-0.001	-0.001	0	%100
15	19	X	-0.001	-0.001	0	%100
16	20	X	-0.004	-0.004	0	%100
17	21	X	-0.001	-0.001	0	%100
18	23	X	-0.001	-0.001	0	%100
19	24	X	-0.001	-0.001	0	%100
20	25	X	-0.001	-0.001	0	%100
21	26	X	-0.004	-0.004	0	%100
22	27	X	-0.001	-0.001	0	%100
23	29	X	-0.001	-0.001	0	%100
24	30	X	-0.001	-0.001	0	%100
25	31	X	-0.001	-0.001	0	%100
26	32	X	-0.001	-0.001	0	%100
27	33	X	-0.001	-0.001	0	%100
28	34	X	-0.001	-0.001	0	%100
29	35	X	-0.001	-0.001	0	%100
30	36	X	-0.001	-0.001	0	%100
31	38	X	-0.006	-0.006	0	%100
32	41	X	-0.006	-0.006	0	%100
33	44	X	-0.006	-0.006	0	%100
34	48	X	-0.005	-0.005	0	%100
35	51	X	-0.005	-0.005	0	%100
36	52	X	-0.004	-0.004	0	%100
37	53	X	-0.006	-0.006	0	%100

Member Distributed Loads (BLC 6 : 0 Wind - Service)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.0002	-0.0002	0	%100
2	2	Z	-0.0002	-0.0002	0	%100
3	3	Z	-0.0001	-0.0001	0	%100
4	6	Z	-0.0001	-0.0001	0	%100
5	7	Z	-0.0001	-0.0001	0	%100
6	8	Z	-0.0002	-0.0002	0	%100
7	9	Z	-0.0001	-0.0001	0	%100
8	11	Z	-0.0001	-0.0001	0	%100
9	12	Z	-0.0001	-0.0001	0	%100
10	13	Z	-0.0001	-0.0001	0	%100
11	14	Z	-0.0002	-0.0002	0	%100
12	15	Z	-0.0001	-0.0001	0	%100
13	16	Z	-0.0001	-0.0001	0	%100
14	18	Z	-0.0001	-0.0001	0	%100
15	19	Z	-0.0001	-0.0001	0	%100
16	20	Z	-0.0002	-0.0002	0	%100
17	21	Z	-0.0001	-0.0001	0	%100
18	23	Z	-0.0001	-0.0001	0	%100
19	24	Z	-0.0001	-0.0001	0	%100
20	25	Z	-0.0001	-0.0001	0	%100
21	26	Z	-0.0002	-0.0002	0	%100
22	27	Z	-0.0001	-0.0001	0	%100
23	29	Z	-0.0001	-0.0001	0	%100
24	30	Z	-0.0001	-0.0001	0	%100
25	31	Z	-0.0001	-0.0001	0	%100
26	32	Z	-0.0001	-0.0001	0	%100
27	33	Z	-0.0001	-0.0001	0	%100
28	34	Z	-0.0001	-0.0001	0	%100
29	35	Z	-0.0001	-0.0001	0	%100
30	36	Z	-0.0001	-0.0001	0	%100
31	38	Z	-0.0003	-0.0003	0	%100
32	41	Z	-0.0003	-0.0003	0	%100
33	44	Z	-0.0003	-0.0003	0	%100
34	48	Z	-0.0002	-0.0002	0	%100
35	51	Z	-0.0002	-0.0002	0	%100
36	52	Z	-0.0002	-0.0002	0	%100
37	53	Z	-0.0004	-0.0004	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.0002	-0.0002	0	%100
2	2	X	-0.0002	-0.0002	0	%100
3	3	X	-0.0001	-0.0001	0	%100
4	6	X	-0.0001	-0.0001	0	%100
5	7	X	-0.0001	-0.0001	0	%100
6	8	X	-0.0002	-0.0002	0	%100
7	9	X	-0.0001	-0.0001	0	%100
8	11	X	-0.0001	-0.0001	0	%100
9	12	X	-0.0001	-0.0001	0	%100
10	13	X	-0.0001	-0.0001	0	%100
11	14	X	-0.0002	-0.0002	0	%100
12	15	X	-0.0001	-0.0001	0	%100
13	16	X	-0.0001	-0.0001	0	%100
14	18	X	-0.0001	-0.0001	0	%100

Member Distributed Loads (BLC 7 : 90 Wind - Service) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
15	19	X	-0.0001	-0.0001	0	%100
16	20	X	-0.0002	-0.0002	0	%100
17	21	X	-0.0001	-0.0001	0	%100
18	23	X	-0.0001	-0.0001	0	%100
19	24	X	-0.0001	-0.0001	0	%100
20	25	X	-0.0001	-0.0001	0	%100
21	26	X	-0.0002	-0.0002	0	%100
22	27	X	-0.0001	-0.0001	0	%100
23	29	X	-0.0001	-0.0001	0	%100
24	30	X	-0.0001	-0.0001	0	%100
25	31	X	-0.0001	-0.0001	0	%100
26	32	X	-0.0001	-0.0001	0	%100
27	33	X	-0.0001	-0.0001	0	%100
28	34	X	-0.0001	-0.0001	0	%100
29	35	X	-0.0001	-0.0001	0	%100
30	36	X	-0.0001	-0.0001	0	%100
31	38	X	-0.0003	-0.0003	0	%100
32	41	X	-0.0003	-0.0003	0	%100
33	44	X	-0.0003	-0.0003	0	%100
34	48	X	-0.0002	-0.0002	0	%100
35	51	X	-0.0002	-0.0002	0	%100
36	52	X	-0.0002	-0.0002	0	%100
37	53	X	-0.0004	-0.0004	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	Z	-0.003	-0.003	0	%100
2	2	Z	-0.003	-0.003	0	%100
3	3	Z	-0.005	-0.005	0	%100
4	6	Z	-0.005	-0.005	0	%100
5	7	Z	-0.005	-0.005	0	%100
6	8	Z	-0.002	-0.002	0	%100
7	9	Z	-0.005	-0.005	0	%100
8	11	Z	-0.005	-0.005	0	%100
9	12	Z	-0.005	-0.005	0	%100
10	13	Z	-0.005	-0.005	0	%100
11	14	Z	-0.002	-0.002	0	%100
12	15	Z	-0.005	-0.005	0	%100
13	16	Z	-0.005	-0.005	0	%100
14	18	Z	-0.005	-0.005	0	%100
15	19	Z	-0.005	-0.005	0	%100
16	20	Z	-0.002	-0.002	0	%100
17	21	Z	-0.005	-0.005	0	%100
18	23	Z	-0.005	-0.005	0	%100
19	24	Z	-0.005	-0.005	0	%100
20	25	Z	-0.005	-0.005	0	%100
21	26	Z	-0.002	-0.002	0	%100
22	27	Z	-0.005	-0.005	0	%100
23	29	Z	-0.001	-0.001	0	%100
24	30	Z	-0.001	-0.001	0	%100
25	31	Z	-0.001	-0.001	0	%100
26	32	Z	-0.001	-0.001	0	%100
27	33	Z	-0.001	-0.001	0	%100
28	34	Z	-0.001	-0.001	0	%100
29	35	Z	-0.001	-0.001	0	%100

Member Distributed Loads (BLC 9 : 0 Seismic) (Continued)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
30	36	Z	-0.001	-0.001	0	%100
31	38	Z	-0.004	-0.004	0	%100
32	41	Z	-0.004	-0.004	0	%100
33	44	Z	-0.004	-0.004	0	%100
34	48	Z	-0.003	-0.003	0	%100
35	51	Z	-0.003	-0.003	0	%100
36	52	Z	-0.003	-0.003	0	%100
37	53	Z	-0.008	-0.008	0	%100

Member Distributed Loads (BLC 10 : 90 Seismic)

Member	Label	Direction	Start Magnitude [k/ft, F, ksf, k-ft/ft]	End Magnitude [k/ft, F, ksf, k-ft/ft]	Start Location [(ft, %)]	End Location [(ft, %)]
1	1	X	-0.003	-0.003	0	%100
2	2	X	-0.003	-0.003	0	%100
3	3	X	-0.005	-0.005	0	%100
4	6	X	-0.005	-0.005	0	%100
5	7	X	-0.005	-0.005	0	%100
6	8	X	-0.002	-0.002	0	%100
7	9	X	-0.005	-0.005	0	%100
8	11	X	-0.005	-0.005	0	%100
9	12	X	-0.005	-0.005	0	%100
10	13	X	-0.005	-0.005	0	%100
11	14	X	-0.002	-0.002	0	%100
12	15	X	-0.005	-0.005	0	%100
13	16	X	-0.005	-0.005	0	%100
14	18	X	-0.005	-0.005	0	%100
15	19	X	-0.005	-0.005	0	%100
16	20	X	-0.002	-0.002	0	%100
17	21	X	-0.005	-0.005	0	%100
18	23	X	-0.005	-0.005	0	%100
19	24	X	-0.005	-0.005	0	%100
20	25	X	-0.005	-0.005	0	%100
21	26	X	-0.002	-0.002	0	%100
22	27	X	-0.005	-0.005	0	%100
23	29	X	-0.001	-0.001	0	%100
24	30	X	-0.001	-0.001	0	%100
25	31	X	-0.001	-0.001	0	%100
26	32	X	-0.001	-0.001	0	%100
27	33	X	-0.001	-0.001	0	%100
28	34	X	-0.001	-0.001	0	%100
29	35	X	-0.001	-0.001	0	%100
30	36	X	-0.001	-0.001	0	%100
31	38	X	-0.004	-0.004	0	%100
32	41	X	-0.004	-0.004	0	%100
33	44	X	-0.004	-0.004	0	%100
34	48	X	-0.003	-0.003	0	%100
35	51	X	-0.003	-0.003	0	%100
36	52	X	-0.003	-0.003	0	%100
37	53	X	-0.008	-0.008	0	%100

Node Loads and Enforced Displacements (BLC 11 : Live Load a)

Node	Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	59	L	Y	-0.25

Node Loads and Enforced Displacements (BLC 12 : Live Load b)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	65	L	Y	-0.25

Node Loads and Enforced Displacements (BLC 13 : Live Load c)

	Node Label	L, D, M	Direction	Magnitude [(k, k-ft), (in, rad), (k*s ² /ft, k*s ² *ft)]
1	71	L	Y	-0.25

Basic Load Cases

	BLC Description	Category	Y Gravity	Nodal	Point	Distributed
1	Dead	DL	-1		25	
2	0 Wind - No Ice	WLZ			25	37
3	90 Wind - No Ice	WLX			25	37
4	0 Wind - Ice	WLZ				
5	90 Wind - Ice	WLX				
6	0 Wind - Service	WLZ			25	37
7	90 Wind - Service	WLX			25	37
8	Ice	OL1				
9	0 Seismic	ELZ			25	37
10	90 Seismic	ELX			25	37
11	Live Load a	LL		1		
12	Live Load b	LL		1		
13	Live Load c	LL		1		
14	Live Load d	LL				
15	Maint LL 1	LL			1	
16	Maint LL 2	LL			1	
17	Maint LL 3	LL			1	
18	Maint LL 4	LL			1	
19	Maint LL 5	LL			1	
20	Maint LL 6	LL			1	
21	Maint LL 7	LL				
22	Maint LL 8	LL				

Load Combinations

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
1	1.4 Dead	Yes	Y	1	1.4						
2	1.2 D + 1.0 - 0 W	Yes	Y	1	1.2	2	1				
3	1.2 D + 1.0 - 30 W	Yes	Y	1	1.2	2	0.866	3	0.5		
4	1.2 D + 1.0 - 60 W	Yes	Y	1	1.2	3	0.866	2	0.5		
5	1.2 D + 1.0 - 90 W	Yes	Y	1	1.2	3	1				
6	1.2 D + 1.0 - 120 W	Yes	Y	1	1.2	3	0.866	2	-0.5		
7	1.2 D + 1.0 - 150 W	Yes	Y	1	1.2	2	-0.866	3	0.5		
8	1.2 D + 1.0 - 180 W	Yes	Y	1	1.2	2	-1				
9	1.2 D + 1.0 - 210 W	Yes	Y	1	1.2	2	-0.866	3	-0.5		
10	1.2 D + 1.0 - 240 W	Yes	Y	1	1.2	3	-0.866	2	-0.5		
11	1.2 D + 1.0 - 270 W	Yes	Y	1	1.2	3	-1				
12	1.2 D + 1.0 - 300 W	Yes	Y	1	1.2	3	-0.866	2	0.5		
13	1.2 D + 1.0 - 330 W	Yes	Y	1	1.2	2	0.866	3	-0.5		
14	1.2 D + 1.0 - 0 W/Ice	Yes	Y	1	1.2	4	1			8	1
15	1.2 D + 1.0 - 30 W/Ice	Yes	Y	1	1.2	4	0.866	5	0.5	8	1
16	1.2 D + 1.0 - 60 W/Ice	Yes	Y	1	1.2	5	0.866	4	0.5	8	1
17	1.2 D + 1.0 - 90 W/Ice	Yes	Y	1	1.2	5	1			8	1
18	1.2 D + 1.0 - 120 W/Ice	Yes	Y	1	1.2	5	0.866	4	-0.5	8	1

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
19	1.2 D + 1.0 - 150 W/Ice	Yes	Y	1	1.2	4	-0.866	5	0.5	8	1
20	1.2 D + 1.0 - 180 W/Ice	Yes	Y	1	1.2	4	-1			8	1
21	1.2 D + 1.0 - 210 W/Ice	Yes	Y	1	1.2	4	-0.866	5	-0.5	8	1
22	1.2 D + 1.0 - 240 W/Ice	Yes	Y	1	1.2	5	-0.866	4	-0.5	8	1
23	1.2 D + 1.0 - 270 W/Ice	Yes	Y	1	1.2	5	-1			8	1
24	1.2 D + 1.0 - 300 W/Ice	Yes	Y	1	1.2	5	-0.866	4	0.5	8	1
25	1.2 D + 1.0 - 330 W/Ice	Yes	Y	1	1.2	4	0.866	5	-0.5	8	1
26	1.2 D + 1.0 E - 0	Yes	Y	1	1.2	9	1				
27	1.2 D + 1.0 E - 30	Yes	Y	1	1.2	9	0.866	10	0.5		
28	1.2 D + 1.0 E - 60	Yes	Y	1	1.2	10	0.866	9	0.5		
29	1.2 D + 1.0 E - 90	Yes	Y	1	1.2	10	1				
30	1.2 D + 1.0 E - 120	Yes	Y	1	1.2	10	0.866	9	-0.5		
31	1.2 D + 1.0 E - 150	Yes	Y	1	1.2	9	-0.866	10	0.5		
32	1.2 D + 1.0 E - 180	Yes	Y	1	1.2	9	-1				
33	1.2 D + 1.0 E - 210	Yes	Y	1	1.2	9	-0.866	10	-0.5		
34	1.2 D + 1.0 E - 240	Yes	Y	1	1.2	10	-0.866	9	-0.5		
35	1.2 D + 1.0 E - 270	Yes	Y	1	1.2	10	-1				
36	1.2 D + 1.0 E - 300	Yes	Y	1	1.2	10	-0.866	9	0.5		
37	1.2 D + 1.0 E - 330	Yes	Y	1	1.2	9	0.866	10	-0.5		
38	1.2 D + 1.5 LL a + Service - 0 W	Yes	Y	1	1.2	6	1			11	1.5
39	1.2 D + 1.5 LL a + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	11	1.5
40	1.2 D + 1.5 LL a + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	11	1.5
41	1.2 D + 1.5 LL a + Service - 90 W	Yes	Y	1	1.2	7	1			11	1.5
42	1.2 D + 1.5 LL a + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	11	1.5
43	1.2 D + 1.5 LL a + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	11	1.5
44	1.2 D + 1.5 LL a + Service - 180 W	Yes	Y	1	1.2	6	-1			11	1.5
45	1.2 D + 1.5 LL a + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	11	1.5
46	1.2 D + 1.5 LL a + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	11	1.5
47	1.2 D + 1.5 LL a + Service - 270 W	Yes	Y	1	1.2	7	-1			11	1.5
48	1.2 D + 1.5 LL a + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	11	1.5
49	1.2 D + 1.5 LL a + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	11	1.5
50	1.2 D + 1.5 LL b + Service - 0 W	Yes	Y	1	1.2	6	1			12	1.5
51	1.2 D + 1.5 LL b + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	12	1.5
52	1.2 D + 1.5 LL b + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	12	1.5
53	1.2 D + 1.5 LL b + Service - 90 W	Yes	Y	1	1.2	7	1			12	1.5
54	1.2 D + 1.5 LL b + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	12	1.5
55	1.2 D + 1.5 LL b + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	12	1.5
56	1.2 D + 1.5 LL b + Service - 180 W	Yes	Y	1	1.2	6	-1			12	1.5
57	1.2 D + 1.5 LL b + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	12	1.5
58	1.2 D + 1.5 LL b + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	12	1.5
59	1.2 D + 1.5 LL b + Service - 270 W	Yes	Y	1	1.2	7	-1			12	1.5
60	1.2 D + 1.5 LL b + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	12	1.5
61	1.2 D + 1.5 LL b + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	12	1.5
62	1.2 D + 1.5 LL c + Service - 0 W	Yes	Y	1	1.2	6	1			13	1.5
63	1.2 D + 1.5 LL c + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	13	1.5
64	1.2 D + 1.5 LL c + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	13	1.5
65	1.2 D + 1.5 LL c + Service - 90 W	Yes	Y	1	1.2	7	1			13	1.5
66	1.2 D + 1.5 LL c + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	13	1.5
67	1.2 D + 1.5 LL c + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	13	1.5
68	1.2 D + 1.5 LL c + Service - 180 W	Yes	Y	1	1.2	6	-1			13	1.5
69	1.2 D + 1.5 LL c + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	13	1.5
70	1.2 D + 1.5 LL c + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	13	1.5
71	1.2 D + 1.5 LL c + Service - 270 W	Yes	Y	1	1.2	7	-1			13	1.5
72	1.2 D + 1.5 LL c + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	13	1.5
73	1.2 D + 1.5 LL c + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	13	1.5

Load Combinations (Continued)

	Description	Solve	P-Delta	BLC	Factor	BLC	Factor	BLC	Factor	BLC	Factor
74	1.2 D + 1.5 LL d + Service - 0 W	Yes	Y	1	1.2	6	1			14	1.5
75	1.2 D + 1.5 LL d + Service - 30 W	Yes	Y	1	1.2	6	0.866	7	0.5	14	1.5
76	1.2 D + 1.5 LL d + Service - 60 W	Yes	Y	1	1.2	7	0.866	6	0.5	14	1.5
77	1.2 D + 1.5 LL d + Service - 90 W	Yes	Y	1	1.2	7	1			14	1.5
78	1.2 D + 1.5 LL d + Service - 120 W	Yes	Y	1	1.2	7	0.866	6	-0.5	14	1.5
79	1.2 D + 1.5 LL d + Service - 150 W	Yes	Y	1	1.2	6	-0.866	7	0.5	14	1.5
80	1.2 D + 1.5 LL d + Service - 180 W	Yes	Y	1	1.2	6	-1			14	1.5
81	1.2 D + 1.5 LL d + Service - 210 W	Yes	Y	1	1.2	6	-0.866	7	-0.5	14	1.5
82	1.2 D + 1.5 LL d + Service - 240 W	Yes	Y	1	1.2	7	-0.866	6	-0.5	14	1.5
83	1.2 D + 1.5 LL d + Service - 270 W	Yes	Y	1	1.2	7	-1			14	1.5
84	1.2 D + 1.5 LL d + Service - 300 W	Yes	Y	1	1.2	7	-0.866	6	0.5	14	1.5
85	1.2 D + 1.5 LL d + Service - 330 W	Yes	Y	1	1.2	6	0.866	7	-0.5	14	1.5
86	1.2 D + 1.5 LL Maint (1)	Yes	Y	1	1.2					15	1.5
87	1.2 D + 1.5 LL Maint (2)	Yes	Y	1	1.2					16	1.5
88	1.2 D + 1.5 LL Maint (3)	Yes	Y	1	1.2					17	1.5
89	1.2 D + 1.5 LL Maint (4)	Yes	Y	1	1.2					18	1.5
90	1.2 D + 1.5 LL Maint (5)	Yes	Y	1	1.2					19	1.5
91	1.2 D + 1.5 LL Maint (6)	Yes	Y	1	1.2					20	1.5
92	1.2 D + 1.5 LL Maint (7)	Yes	Y	1	1.2					21	1.5
93	1.2 D + 1.5 LL Maint (8)	Yes	Y	1	1.2					22	1.5

Envelope Node Reactions

Node Label			X [k]	LC	Y [k]	LC	Z [k]	LC	MX [k-ft]	LC	MY [k-ft]	LC	MZ [k-ft]	LC
1	9	max	0.81	65	0.808	68	-0.069	12	-0.294	2	0.35	6	0.089	40
2		min	-0.604	47	0.543	13	-1.443	6	-0.431	69	-0.247	12	-0.108	70
3	45	max	0.59	41	0.748	90	1.443	2	-0.288	8	0.394	29	0.063	40
4		min	-0.799	71	0.542	7	0.092	8	-0.417	91	-0.427	35	-0.08	70
5	96	max	0.018	8	0.045	1	0.606	28	0.046	28	0.142	28	-0.018	52
6		min	-0.017	2	0.038	28	-0.632	34	-0.073	10	-0.148	34	-0.11	70
7	94	max	0.02	29	0.035	1	0.02	26	-0.009	26	0.009	28	-0.005	35
8		min	-0.02	35	0.03	28	-0.02	32	-0.013	32	-0.009	34	-0.009	29
9	Totals:	max	0.995	29	1.564	91	1.51	2						
10		min	-0.995	35	1.189	6	-1.51	8						

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks

Member	Shape	Code Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
1	1	PIPE 2.0	0.329	8.094	8	0.077	7.766		29	8.922	32.13	1.872	1.872	1	H1-1b
2	2	PIPE 2.0	0.368	7.766	2	0.076	7.766		2	8.922	32.13	1.872	1.872	1	H1-1b
3	3	PL1/2"X4	0.303	0	62	0.117	0.32	y	88	62.425	64.8	0.675	5.4	1.877	H1-1b
4	6	PL1/2"X4	0.144	0.32	7	0.114	0.32	y	66	62.425	64.8	0.675	5.4	1.391	H1-1b
5	7	PL1/2"X4	0.204	0.083	67	0.087	0.083	y	53	62.232	64.8	0.675	5.4	1.193	H1-1b
6	8	PIPE 1.5	0.263	0.252	8	0.065	1.346		88	20.581	23.593	1.105	1.105	1	H1-1b
7	9	PL1/2"X4	0.154	0.168	68	0.076	0.175	y	67	62.184	64.8	0.675	5.4	1.159	H1-1b
8	11	PL1/2"X4	0.261	0	88	0.117	0.32	y	89	62.425	64.8	0.675	5.4	2.063	H1-1b
9	12	PL1/2"X4	0.171	0.32	8	0.117	0.143	y	66	62.425	64.8	0.675	5.4	1.388	H1-1b
10	13	PL1/2"X4	0.205	0.083	8	0.084	0.003	y	56	62.232	64.8	0.675	5.4	1.148	H1-1b
11	14	PIPE 1.5	0.262	0.252	2	0.064	1.346		89	20.581	23.593	1.105	1.105	1	H1-1b
12	15	PL1/2"X4	0.125	0.168	73	0.075	0.337	y	89	62.184	64.8	0.675	5.4	1.141	H1-1b
13	16	PL1/2"X4	0.289	0	40	0.113	0.32	y	90	62.425	64.8	0.675	5.4	1.718	H1-1b
14	18	PL1/2"X4	0.112	0.32	7	0.12	0.32	y	44	62.425	64.8	0.675	5.4	1.396	H1-1b
15	19	PL1/2"X4	0.182	0.083	87	0.073	0.083	y	53	62.232	64.8	0.675	5.4	1.311	H1-1b
16	20	PIPE 1.5	0.198	0.252	8	0.063	1.346		90	20.581	23.593	1.105	1.105	1	H1-1b
17	21	PL1/2"X4	0.131	0.168	44	0.071	0.337	y	90	62.184	64.8	0.675	5.4	1.265	H1-1b

Envelope AISC 15TH (360-16): LRFD Member Steel Code Checks (Continued)

Member	Shape	Code	Check	Loc[ft]	LC	Shear	Check	Loc[ft]	Dir	LC	phi*Pnc [k]	phi*Pnt [k]	phi*Mn y-y [k-ft]	phi*Mn z-z [k-ft]	Cb	Eqn
18	23	PL1/2"X4	0.239	0	90	0.113	0.32	y	91	62.425	64.8	0.675	5.4	2.157	1	H1-1b
19	24	PL1/2"X4	0.129	0.32	8	0.12	0.32	y	44	62.425	64.8	0.675	5.4	1.392	1	H1-1b
20	25	PL1/2"X4	0.187	0.083	86	0.072	0.003	y	56	62.232	64.8	0.675	5.4	1.231	1	H1-1b
21	26	PIPE 1.5	0.217	0.252	2	0.062	1.346		91	20.581	23.593	1.105	1.105	1	1	H1-1b
22	27	PL1/2"X4	0.117	0.168	39	0.071	0.337	y	91	62.184	64.8	0.675	5.4	1.132	1	H1-1b
23	29	5/8"SR	0.36	2.5	70	0.009	2.5		10	1.88	9.94	0.104	0.104	1	1	H1-1a
24	30	5/8"SR	0.336	0	70	0.002	2.5		29	1.88	9.94	0.104	0.104	1	1	H1-1a
25	31	5/8"SR	0.17	3.536	69	0.024	1.768		8	0.94	9.94	0.104	0.104	1	1	H1-1b*
26	32	5/8"SR	0	3.536	93	0.016	0		2	0.94	9.94	0.104	0.104	1	1	H1-1a
27	33	5/8"SR	0.318	2.5	87	0.008	2.5		35	1.88	9.94	0.104	0.104	1	1	H1-1a
28	34	5/8"SR	0.309	0	40	0.002	2.5		34	1.88	9.94	0.104	0.104	1	1	H1-1a
29	35	5/8"SR	0.154	3.536	40	0.017	1.768		2	0.94	9.94	0.104	0.104	1	1	H1-1b*
30	36	5/8"SR	0	3.536	93	0.017	1.768		8	0.94	9.94	0.104	0.104	1	1	H1-1a
31	38	PIPE 2.5	0.12	6.25	43	0.037	3.75		45	22.373	50.715	3.596	3.596	1	1	H1-1b
32	41	PIPE 2.5	0.053	3.75	10	0.02	3.75		34	22.373	50.715	3.596	3.596	1	1	H1-1b
33	44	PIPE 2.5	0.2	3.75	2	0.038	3.75		67	22.373	50.715	3.596	3.596	1	1	H1-1b
34	48	PIPE 2.0	0.058	6.25	90	0.027	6.25		34	9.837	32.13	1.872	1.872	1	1	H1-1b
35	51	PIPE 2.0	0.053	6.25	88	0.025	6.25		34	9.837	32.13	1.872	1.872	1	1	H1-1b
36	52	PIPE 2.0	0.022	3.715	28	0.062	3.715		70	27.23	32.13	1.872	1.872	1	1	H1-1b*
37	53	PIPE 4.0	0.01	0.99	69	0.022	0.99		34	86.074	93.24	10.631	10.631	1	1	H1-1b

APPENDIX B

(Additional Calculations)

PROJECT	173282.001.01.0002 - Los Alamos NM KSC		
SUBJECT	Sector Mount Analysis		
DATE	11/01/24		



B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

Tower Type	:	Other		
Ground Elevation	z_s	7348	ft	[ASCE7 Hazard Tool]
Tower Height	:	165.17	ft	
Mount Elevation	:	75.00	ft	
Antenna Elevation	:	75.00	ft	
Crest Height	:	0	ft	
Risk Category	:	II		[Table 2-1]
Exposure Category	:	C		[Sec. 2.6.5.1.2]
Topography Category	:	1.00		[Sec. 2.6.6.2]
Wind Velocity	V	104	mph	[ASCE7 Hazard Tool]
Ice wind Velocity	V_i	40	mph	[ASCE7 Hazard Tool]
Service Velocity	V_s	30	mph	[ASCE7 Hazard Tool]
Base Ice thickness	t_i	0.00	in	[ASCE7 Hazard Tool]
Seismic Design Cat.	:	D		[ASCE7 Hazard Tool]
	S_S	0.54		
	S_1	0.17		
	S_{DS}	0.49		
	S_{D1}	0.26		
Gust Factor	G_h	1.00		[Sec. 16.6]
Pressure Coefficient	K_z	1.19		[Sec. 2.6.5.2]
Topography Factor	K_{zt}	1.00		[Sec. 2.6.6]
Elevation Factor	K_e	0.77		[Sec. 2.6.8]
Directionality Factor	K_d	0.95		[Sec. 16.6]
Shielding Factor	K_a	0.90		[Sec. 16.6]
Design Ice Thickness	t_{iz}	0.00	in	[Sec. 2.6.10]
Importance Factor	I_e	1		[Table 2-3]
Response Coefficient	C_s	0.246		[Sec. 2.7.7.1]
Amplification	A_s	3		[Sec. 16.7]
	q_z	24.02	psf	

PROJECT	173282.001.01.0002 - Los Alamos NM KSC	
SUBJECT	Sector Mount Analysis	
DATE	11/01/24	

Bolded Equipment EPA has been adjusted per wind tunnel & CFD testing



B+T Group
 1717 S. Boulder, Suite 300
 Tulsa, OK 74119
 (918) 587-4630

B+T GRP

Manufacturer	Model	Qty	Height (in ²)	Width (in ²)	Depth (in ²)	Weight (lbs)	C _a A _a (N) (ft ²)	C _a A _a (T) (ft ²)	C _a A _a (N) Ice (ft ²)	C _a A _a (T) Ice (ft ²)	F _A (N) (k)	F _A (T) (k)	F _A (N) Ice (k)	F _A (T) Ice (k)
ERICSSON	KRE 101 2586/1K	0.5	95.9	19.2	6.5	80.0	5.16	1.52	8.38	3.59	0.16	0.05	0.02	0.01
ERICSSON	KRE 101 2586/1K	0.5					5.16	1.52	8.38	3.59	0.16	0.05	0.02	0.01
ERICSSON	AIR6472 B77G B77M	0.5	36.4	16.1	7.5	92.6	2.45	1.23	2.45	1.23	0.05	0.02	0.01	0.00
ERICSSON	AIR6472 B77G B77M	0.5					2.45	1.23	2.45	1.23	0.05	0.02	0.01	0.00
KATHREIN	80010992	0.5	105.2	20.0	6.9	144.4	7.31	1.66	9.66	4.22	0.23	0.05	0.03	0.01
KATHREIN	80010992	0.5					7.31	1.66	9.66	4.22	0.23	0.05	0.03	0.01
ERICSSON	4490 B5/B12A	1	20.6	7.0	15.6	65.0	1.22	2.68	1.22	2.68	0.03	0.06	0.00	0.01
RAYCAP	DC9-48-60-24-8C-EV	1	31.4	10.2	10.2	26.2	1.14	1.14	1.14	1.14	0.02	0.02	0.00	0.00
ERICSSON	4494 B14/B29	1	17.5	5.6	15.1	57.3	0.84	2.20	0.84	2.20	0.02	0.05	0.00	0.01
ERICSSON	4890 B25/B66A	1	20.6	7.0	15.7	67.2	1.22	2.70	1.22	2.70	0.03	0.06	0.00	0.01

PROJECT	173282.001.01.0002 - Los Alamos NM KSC			
SUBJECT	Sector Mount Analysis			
DATE	11/01/24	PAGE	1	OF 1



B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630

[REF: AISC 360-05]

Reactions at Bolted Connection

Tension	:	1.443	k
Vertical Shear	:	0.808	k
Horizontal Shear	:	0.81	k
Torsion	:	0.108	k.ft
Moment from Horizontal Forces	:	0.35	k.ft
Moment from Vertical Forces	:	0.431	k.ft

Bolt Parameters

Bolt Grade	:	A307	
Bolt Diameter	:	0.5	in
Nominal Bolt Area	:	0.1963495	in ²
Bolt spacing, Horizontal	:	9.5	in
Bolt spacing, Vertical	:	3.5	in
Bolt edge distance, plate height	:	1.25	in
Bolt edge distance, plate width	:	1.25	in
Total Number of Bolts	:	4	bolts

Summary of Forces

Shear Resultant Force	:	1.14	k
Force from Horz. Moment	:	0.42	k
Force from Vert. Moment	:	1.29	k
Shear Load / Bolt	:	0.29	k
Tension Load / Bolt	:	0.36	k
Resultant from Moments / Bolt	:	0.68	k

Bolt Checks

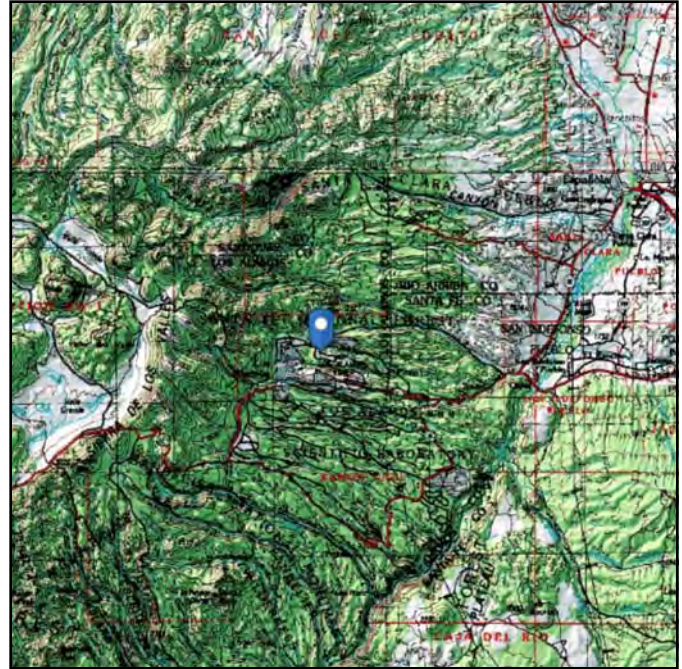
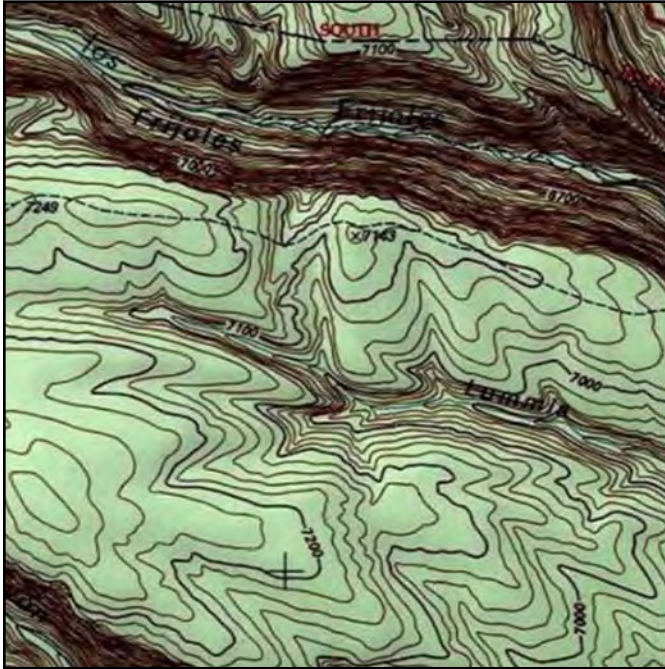
Nominal Tensile Stress, F_{nt}	:	45.00	ksi	[AISC Table J3.2]
Available Tensile Stress, ΦR_{nt}	:	6.63	k/bolt	[Eq. J3-1]
Unity Check, Bolt Tension	:	15.70%		OKAY
Nominal Shear Stress, F_{nv}	:	27.00	ksi	[AISC Table J3.2]
Available Shear Stress, ΦR_{nv}	:	3.98	k/bolt	[Eq. J3-1]
Unity Check, Bolt Shear	:	16.27%		OKAY
Unity Check, Combined	:	31.97%		OKAY
Available Bearing Strength, ΦR_n	:	28.55	k/bolt	
Unity Check, Bolt Bearing	:	1.00%		OKAY

ASCE Hazards Report

Address:
No Address at This Location

Standard: ASCE/SEI 7-16
Risk Category: II
Soil Class: D - Default (see Section 11.4.3)

Latitude: 35.896638
Longitude: -106.295055
Elevation: 7348.458432637539 ft (NAVD 88)



Wind

Results:

Wind Speed	104 Vmph
10-year MRI	75 Vmph
25-year MRI	82 Vmph
50-year MRI	87 Vmph
100-year MRI	91 Vmph

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2
Date Accessed: Thu Oct 31 2024

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

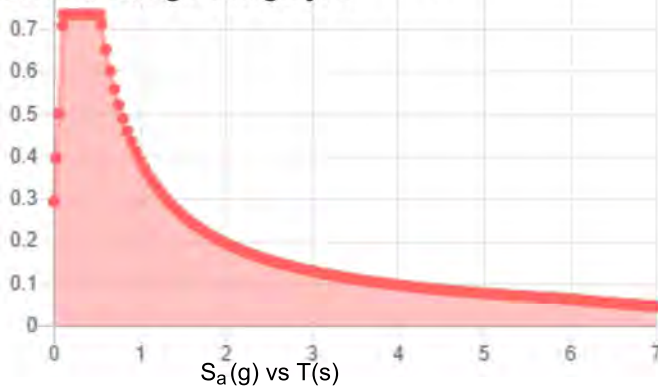
Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

Site Soil Class: D - Default (see Section 11.4.3)

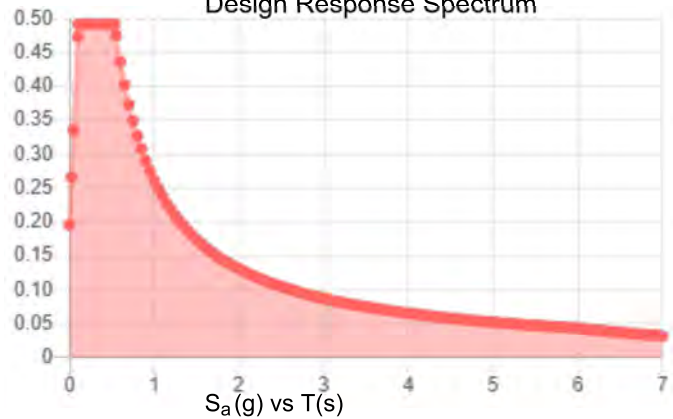
Results:

S_S :	0.538	S_{D1} :	0.261
S_1 :	0.174	T_L :	6
F_a :	1.37	PGA :	0.232
F_v :	2.252	PGA _M :	0.318
S_{MS} :	0.736	F_{PGA} :	1.368
S_{M1} :	0.392	I_e :	1
S_{DS} :	0.491	C_v :	1.058

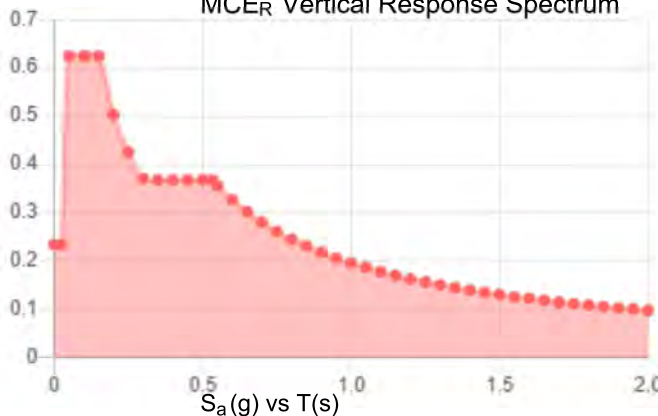
Seismic Design Category: D
MCE_R Response Spectrum



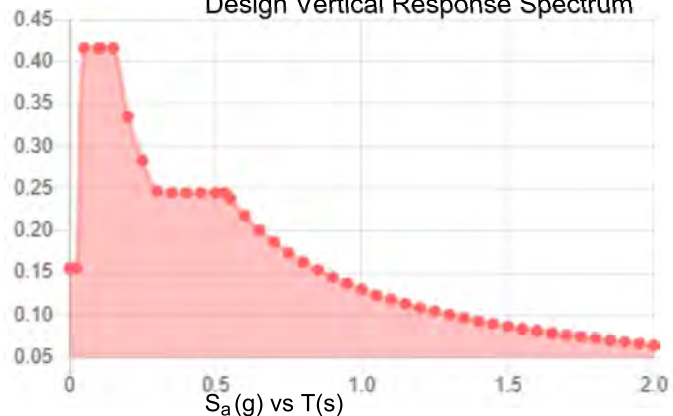
Design Response Spectrum



MCE_R Vertical Response Spectrum



Design Vertical Response Spectrum



Data Accessed: Thu Oct 31 2024

Date Source:

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

Ice

Results:

Ice Thickness: 0.25 in.
Concurrent Temperature: 15 F
Gust Speed 40 mph

Data Source: Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

Date Accessed: Thu Oct 31 2024

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

In the mountain west, ice thicknesses may exceed the mapped values in the foothills and passes. However, at elevations above 5,000 ft, freezing rain is unlikely.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

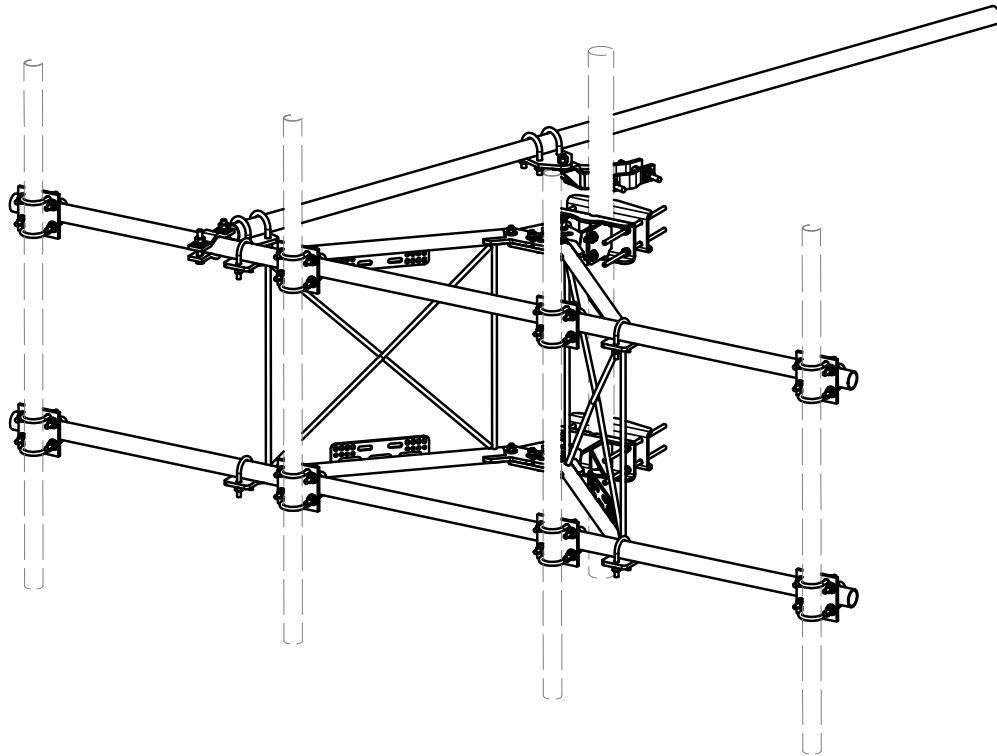
The ASCE Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE Hazard Tool.

APPENDIX C

(Supplemental Drawings)

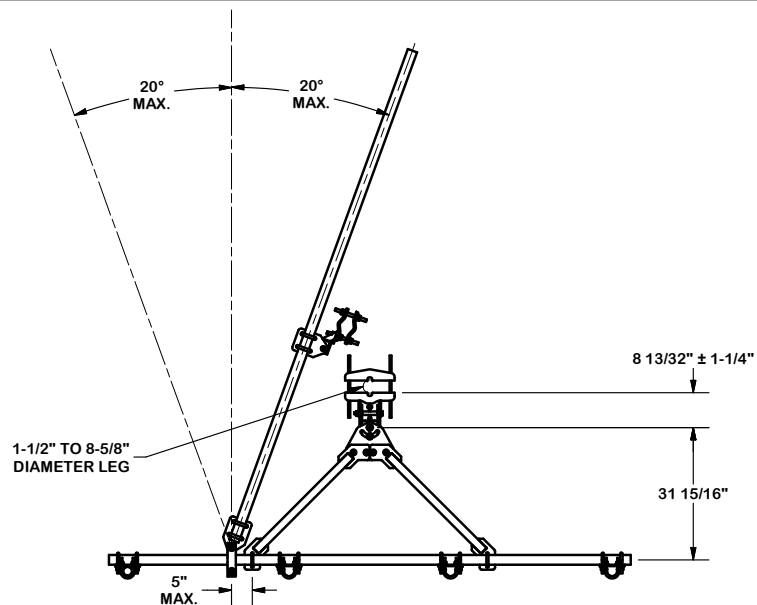


PARTS LIST						
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.	NET WT.
1	2	X-VFASD	SUPPORT ARM FOR STANDARD DUTY V-FRAME ASSEMBLY		45.34	90.69
2	1	X-SDTFLB	DIAGONAL SLOT WELDMENT FOR BCAM SD		15.08	15.08
3	1	X-SDMHTP	MULTI-HOLE TAPER PLATE WELDMENT		16.63	16.63
4	2	X-SDPP	PIVOT PLATE	11 1/16 in	9.09	18.18
5	2	X-LCBP2	BENT BACKING PLATE	12 in	8.86	17.73
6	1	X-SDCAMSS	STRAIGHT SLOT WELDMENT FOR BCAM		8.48	8.48
7	2	X-SPTB	SLIDING PIPE TIE BACK PLATE	5 1/2 in	5.87	11.74
8	1	X-SDCAMSP	POSITIONING PLATE WELDMENT FOR BCAM		1.43	1.43
9	2	X-TBCA	TIE BACK CLIP ANGLE		2.01	4.01
10	8	SCX1	CROSSOVER PLATE 2-3/8" X 2-3/8"	6 in	3.71	29.67
11	2	MCP	CLAMP HALF 1/2" THICK, 11-5/8" LONG	12 1/16 in	3.59	7.19
12	4	DCP	1/2" THICK, 5-3/4" CNTER TO CENTER CLAMP HALF	8 1/8 in	2.36	9.45
13	3	P2126	2-3/8" X 126" (2" SCH. 40) GALVANIZED PIPE	126 in	40.75	122.26
14	4	A34214	3/4"-10 X 2-1/4" A325 BOLT	2 1/4 in	0.47	1.89
15	4	G34FW	3/4" HDG USS FLATWASHER		0.06	0.24
16	4	G34LW	3/4" HDG LOCKWASHER		0.04	0.17
17	4	G34NUT	3/4" HDG HEAVY 2H HEX NUT		0.21	0.85
18	2	G58R-12	5/8" x 12" THREADED ROD (HDG.)		1.05	2.09
19	2	G58R-8	5/8" x 8" THREADED ROD (HDG.)		0.70	1.39
20	4	X-UB5258	5/8" X 2-5/8" X 4-1/2" X 2" U-BOLT (HDG.)		1.00	4.00
21	4	G5804	5/8" x 4" HDG HEX BOLT GR5		0.44	1.78
22	2	G5802	5/8" x 2" HDG HEX BOLT GR5		0.27	0.54
23	10	G58FW	5/8" HDG USS FLATWASHER	1/8 in	0.07	0.70
24	16	G58LW	5/8" HDG LOCKWASHER		0.03	0.42
25	18	G58NUT	5/8" HDG HEAVY 2H HEX NUT		0.13	2.34
26	8	G12R-15	1/2" x 15" THREADED ROD (HDG.)		0.84	6.69
27	36	X-UB1212	1/2" X 2-1/2" X 4-1/2" X 2" GALV. U-BOLT		0.66	23.86
28	2	G12065	1/2" x 6-1/2" HDG HEX BOLT GR5 FULL THREAD	5 1/2 in	0.41	0.82
29	1	G12045	1/2" x 4.5" HDG HEX BOLT GR5 FULL THREAD	4 1/2 in	0.30	0.30
30	8	G1202	1/2" x 2" HDG HEX BOLT GR5	2 in	0.18	1.41
31	85	G12FW	1/2" HDG USS FLATWASHER	3/32 in	0.03	2.90
32	98	G12LW	1/2" HDG LOCKWASHER	1/8 in	0.01	1.36
33	99	G12NUT	1/2" HDG HEAVY 2H HEX NUT		0.07	7.09
					TOTAL WT. #	413.36

				TOLERANCE NOTES			DESCRIPTION		SITE PRO 1		Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX	
				TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE: SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$) DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES BENDS ARE $\pm 1/2$ DEGREE ALL OTHER MACHINING ($\pm 0.030"$) ALL OTHER ASSEMBLY ($\pm 0.060"$)			10'-6" STANDARD DUTY V-FRAME ASSEMBLY W/ 1 STIFF ARMS		Engineering Support Team: 1-888-753-7446			
A	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	8/17/2018				CPD NO.	DRAWN BY CEK 6/21/2017	ENG. APPROVAL	PART NO.	VFA10-SD-S
REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE	PROPRIETARY NOTE: THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.			CLASS	SUB	DRAWING USAGE	CHECKED BY	DWG. NO.
REVISION HISTORY								81	02	CUSTOMER	BMC 7/13/2017	VFA10-SD-S

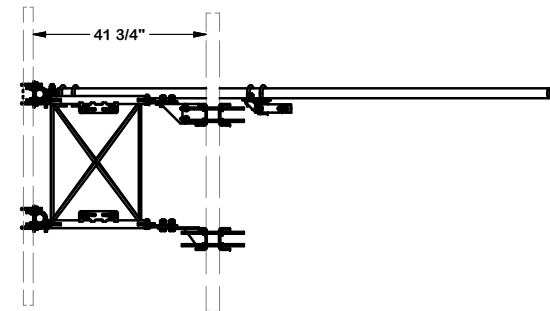
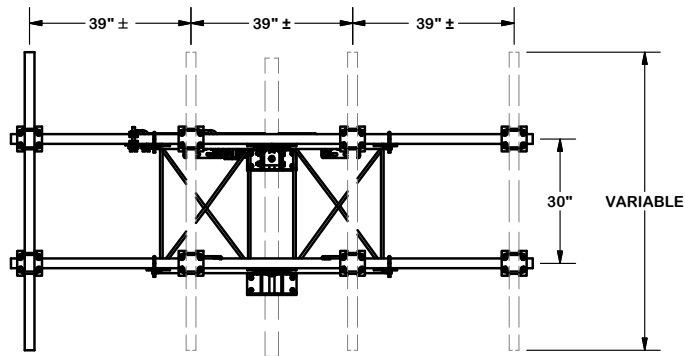
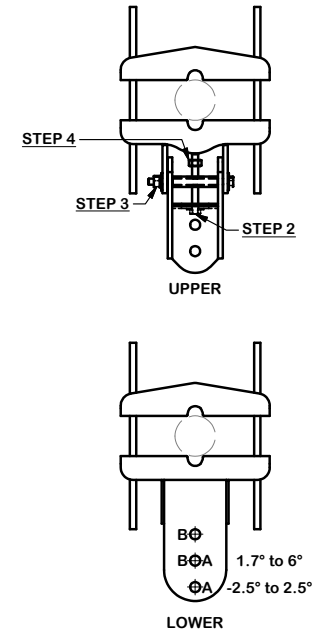
Exhibit C-1 to AGR26-823-A1

Exhibit A to Ordinance No. 739



ANGLE CALIBRATING PROCEDURE:

1. MEASURE TOWER TAPER AND PICK LOWER BRACKET HOLE:
 - HOLE A = -2.5° TO 2.5°
 - HOLE B = 1.7° TO 6°
2. USE CALIBRATING BOLT TO ADJUST FRAME TO DESIRED TAPER
3. TORQUE LOCKING BOLTS TO 50 ft.-lbs.
4. ADVANCE LOCKING NUT TO POSITIONING PLATE, THEN TIGHTEN.



TOLERANCE NOTES

TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE:
 SAWED, SHEARED AND GAS CUT EDGES (± 0.030)
 DRILLED AND GAS CUT HOLES (± 0.030) - NO CONING OF HOLES
 LASER CUT EDGES AND HOLES (± 0.010) - NO CONING OF HOLES
 BENDS ARE $\pm 1/2$ DEGREE
 ALL OTHER MACHINING (± 0.030)
 ALL OTHER ASSEMBLY (± 0.060)

PROPRIETARY NOTE:
 THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.

DESCRIPTION

10'-6" STANDARD DUTY
 V-FRAME ASSEMBLY
 W/ 1 STIFF ARMS

CPD NO.

DRAWN BY

ENG. APPROVAL

CLASS

SUB

DRAWING USAGE

CHECKED BY

PART NO.

VFA10-SD-S

DWG. NO.

VFA10-SD-S



Engineering
 Support Team:
 1-888-753-7446

Locations:
 New York, NY
 Atlanta, GA
 Los Angeles, CA
 Plymouth, IN
 Salem, OR
 Dallas, TX

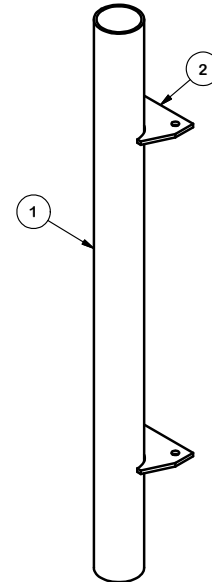
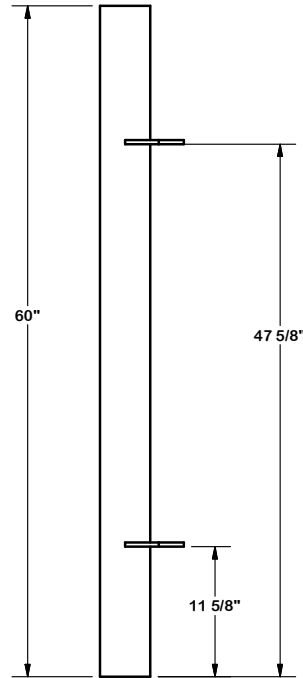
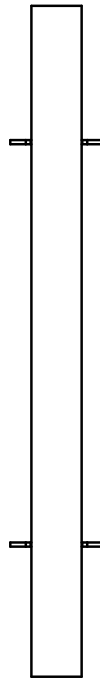
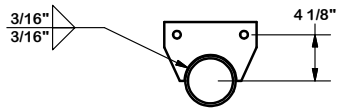
A valmont COMPANY

REV	DESCRIPTION OF REVISIONS	CPD	BY	DATE
A	UPDATED BCAM VERSION 1 TO BCAM VERSION 2		CEK	8/17/2018
REVISION HISTORY				

Exhibit C-1 to AGR26-823-A1

Exhibit A to Ordinance No. 739

PARTS LIST					
ITEM	QTY	PART NO.	PART DESCRIPTION	LENGTH	UNIT WT.
1	1	351690	4" SCH. 40 PIPE (4.5" O.D. x 0.237" WALL)(Fy = 35 Ksi Min.)	60 in	54.08
2	2	X-99618	PIPE MOUNT WELDMENT BRACKET	5 1/4 in	3.20
TOTAL WT. #					60.48



FINISH: HOT DIP GALVANIZED.		TOLERANCE NOTES TOLERANCES ON DIMENSIONS, UNLESS OTHERWISE NOTED ARE: SAWED, SHEARED AND GAS CUT EDGES ($\pm 0.030"$) DRILLED AND GAS CUT HOLES ($\pm 0.030"$) - NO CONING OF HOLES LASER CUT EDGES AND HOLES ($\pm 0.010"$) - NO CONING OF HOLES BENDS ARE $\pm 1/2$ DEGREE ALL OTHER MACHINING ($\pm 0.030"$) ALL OTHER ASSEMBLY ($\pm 0.060"$) PROPRIETARY NOTE: THE DATA AND TECHNIQUES CONTAINED IN THIS DRAWING ARE PROPRIETARY INFORMATION OF VALMONT INDUSTRIES AND CONSIDERED A TRADE SECRET. ANY USE OR DISCLOSURE WITHOUT THE CONSENT OF VALMONT INDUSTRIES IS STRICTLY PROHIBITED.		DESCRIPTION PIPE MOUNT WELDMENT		SITE PRO 1 A valmont COMPANY Engineering Support Team: 1-888-753-7446 Locations: New York, NY Atlanta, GA Los Angeles, CA Plymouth, IN Salem, OR Dallas, TX					
CPD NO.								DRAWN BY CEK 9/19/2011		ENG. APPROVAL	
CLASS SUB								DRAWING USAGE SHOP		CHECKED BY BMC 9/20/2011	
PART NO.								X-B965		DWG. NO.	
				X-B965		1 OF 1					

November 14, 2024

Ryan Cullen
Jacobs Telecommunications, Inc.
2 Ash St # 3000
Conshohocken PA 19428
(484) 322-2254



B+T Group
1717 S. Boulder, Suite 300
Tulsa, OK 74119
(918) 587-4630
towersupport@btgrp.com

Subject: Water Tower- Structural Analysis Report

Carrier Designation: **Site Number:** 15066552
Site Name: Los Alamos NML02662A
IWM Job Number: WSANM0043740

Engineering Firm Designation: **B+T Group Project Number:** 173282.001.01.0002

Site Data: 280 North Mesa Road, Los Alamos, NM, 87544, Los Alamos County
Latitude 35.89663°, Longitude -106.29505°
165.2' Water Tank

Dear Ryan Cullen,

B+T Group is pleased to submit this “**Water Tower- Structural Analysis Report**” to determine the structural integrity of the above-mentioned water tower supported telecommunications site.

The purpose of the analysis is to determine the acceptability of the water tower to sufficiently support the telecommunications equipment presented in this report. Based on our analysis we have determined the suitability for the structure, under the following load case, to be:

Existing + Proposed Equipment

Note: See Table 1 for the proposed and existing equipment information

Sufficient Capacity

This analysis has been performed in accordance with the 2021 New Mexico Commercial Building Code (2021 International Building Code) based upon an ultimate 3-second gust wind speed of 110 mph. Applicable standard references and design criteria are listed in Section 2 - Analysis Criteria.

All equipment proposed in this report shall be installed in accordance with the drawings for the determined available structural capacity to be effective.

We at B+T Group appreciate the opportunity of providing our continuing professional services to you and MasTec Network Solutions. If you have any questions or need further assistance on this or any other projects, please give us a call.

Mount structural analysis prepared by: Andrew Fisher

Respectfully submitted by: B&T Engineering, Inc.

Chad E. Tuttle, P.E.

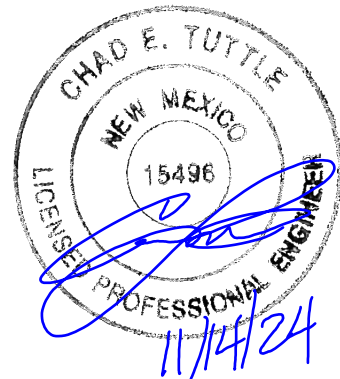


Exhibit C-1 to AGR26-823-A1

Exhibit A to Ordinance No. 739

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APPENDIX A

1) INTRODUCTION

The appurtenance mount consists of (3) SitePro1 Part# VFA10-SD-S-NLB sector mounts w/ (1) SitePro1 - SP1 RCM911 & (6) X-B965 pipes at 75 ft., attached to water tank at 280 N. Mesa Rd. Los Alamos, NM, 87544, Los Alamos County. The proposed antenna loading information was obtained from Jacobs Telecommunications, Inc. All information provided to B+T Group was assumed accurate and complete.

2) ANALYSIS CRITERIA

The structural analysis was performed for this structure in accordance with the 2018 International Building Code, ANSI/AWWA D100-11 and the ASCE 7 Design Standard. The TIA-222-H applies to telecommunications towers. Although telecommunications equipment is present, this structure is primarily a water tower and is more appropriately assessed with the ASCE 7 Standard.

Table 1 – Proposed and Existing Equipment Information

Loading	RAD Center Elev. (ft.)	Position	Qty.	Manufacturer	Model / Type	Note
Proposed	75	1	3	Ericsson	KRE 101 2586/1K	1
		2	3	Ericsson	AIR6472 B77G B77M	
		3	3	Kathrein	80010992	
		--	3	Ericsson	4490 B5/B12A	2
			3	Ericsson	4494 B14/B29	
			3	Ericsson	4890 B25/B66A	
			2	Raycap	DC9-48-60-24-8C-EV	
Existing	75	-	1	Raycap	DC9-48-60-24-8C-EV	3

Note:

- (1) Proposed Antennas to be installed on proposed mounting pipes attached to the proposed mount.
- (2) Proposed Equipment to be installed on the Equipment Mounting Pipes attached to the proposed mount.
- (3) Existing Equipment to be relocated on the Equipment Mounting Pipes attached to the proposed mount.

Table 2 – Documents Provided

Documents	Remarks	Reference	Source
10.14.2022. 15066552.NML02662A.WSANM004374 0.3903A1E50K.DE130.240928 – DE130	Existing Loading Proposed Loading	Date: 10/14/2024	Jacobs Telecommunications, Inc.
Redlined CDs by B+T Group		Date: 10/30/2024	On File

3) ANALYSIS PROCEDURE

3.1) Analysis Method

This water tower is a substantial structure designed and fabricated to support thousands of gallons of water in addition to its own self weight. The new antennas will be mounted on proposed 10' Sector Frame mounts at 75' of the tower. Seismically, the weight of the telecommunication equipment is negligible compared to the overall capacity of the water tower. For wind loads, the area exposed due to the wind is 36.4 sq. ft for the telecommunication equipment. The increase in the overturning moment due to telecommunication equipment is approximately 8.05%. As the overturning moment due to additional equipment on water tower is less than 10%, the structure is sufficient to support the proposed loading configuration.

3.2) Assumptions

- 1) The structure was built in accordance with the designer's specifications.
- 2) The structure has been maintained and is free of damage.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 the referenced drawings.
- 4) Mount areas and weights are assumed based on photographs, drawings or mapping data provided.

This analysis may be affected if any assumptions are not valid or have been made in error. B+T Group should be notified to determine the effect on the structural integrity of the structure.

4) ANALYSIS RESULTS

4.1) Recommendations

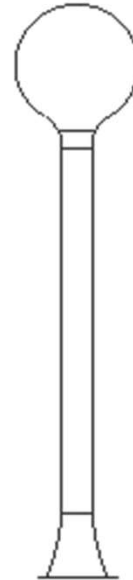
As per the comparative analysis in this report, the water tower has sufficient capacity to carry the proposed loading configuration.

APPENDIX A

PROJECT	173282.001.01.0003 - LOS ALAMOS 15JV		
SUBJECT	Pedisphere Water Tank Analysis		
DATE	11/13/24	PAGE	1 OF 3

Tank Properties

h_{top}	=	163.60	ft	water tank top elevation	
h_{tank}	=	38.43	ft	tank height	$r2_tank = 19.215$
d_{tank}	=	38.50	ft	tank diameter	$r_tank = 19.25$
t_{tank}	=	0.75	in	average tank thickness	
h_{shaft}	=	125.17	ft	top of shaft elevation	
d_{shaft}	=	10.00	ft	shaft diameter	
t_{shaft}	=	0.75	in	average shaft thickness	
h_{bell}	=	20.00	ft	top of bell elevation	
d_{bell}	=	26.48	ft	bell diameter @ base	
t_{bell}	=	0.75	in	average bell thickness	
r_{water}	=	62.40	pcf	density of water	
r_{steel}	=	487.00	pcf	density of steel	
n	=	16.00		number of anchors	
ϕ_{Bolt}	=	2.25	in	anchor bolt diameter	



Wind Load

V	=	110.00	mph	basic wind speed
I	=	1.15		importance factor
G	=	1.00		gust factor
Exp	=	B		exposure category

h_{top}	=	164		Per ASCE 7 Table 6-3
K_z	=	1.14		ANSI/AWWA D100-11 Eq.3-2
q_z	=	40.52	psf	$C_{f\ flat} = 1.00$ Per ANSI/AWWA D100-11 Table 2
$P_{w\ flat}$	=	40.52	psf	$C_{f\ cylindrical} = 0.60$
$P_{w\ cylindrical}$	=	24.31	psf	$C_{f\ double\ curved} = 0.50$
$P_{w\ double\ curved}$	=	20.26	psf	

F_{tank}	=	47.11	k	M_{tank}	=	6802.51	k	W_{tank}	=	148.82	k
F_{shaft}	=	80.33	k	M_{shaft}	=	5830.46	k	W_{shaft}	=	119.69	k
F_{bell}	=	8.87	k	M_{bell}	=	88.69	k	W_{bell}	=	34.88	k
F_{total}	=	136.31	k	M_{total}	=	12721.66	k	W_{water}	=	1488.90	k
								W_{total}	=	1792.29	k

Seismic Load

S_s	=	0.538	g	mapped earthquake spectral response acceleration (0.2s)
S_1	=	0.174	g	mapped earthquake spectral response acceleration (1.0s)
I_E	=	1.00		seismic importance factor - table 24
R_i	=	3.00		response modification factor - table 28
F_a	=	1.37		short period site coefficient - table 26
F_v	=	2.25		long period site coefficient - table 27
T_i	=	1.00	s	natural period of the structure
T_L	=	6.00	s	region dependent transition - figure 19
S_{DS}	=	0.49	g	design earthquake spectral response acceleration (0.2s)
S_{D1}	=	0.26	g	design earthquake spectral response acceleration (1.0s)
T_s	=	0.53		
S_{ai}	=	0.26	g	design spectral response acceleration for impulsive components
A_i	=	0.06	g	design acceleration
E_{total}	=	111.48	k	

Wind Controls

Antenna Load

r_{ice}	=	0.3	in	radial ice thickness
ρ_{ice}	=	57.2	pcf	density of ice

Exhibit C-1 to AGR26-823-A1

