



Northeast Site Solutions  
Denise Sabo  
4 Angela's Way, Burlington CT 06013  
203-435-3640  
denise@northeastsitesolutions.com

February 16, 2022

Members of the Siting Council  
Connecticut Siting Council  
Ten Franklin Square  
New Britain, CT 06051

RE: Tower Share Application  
2 Taugwonk Spur Road, Stonington, CT 06378  
Latitude: 41.38225  
Longitude: -71.903444  
Site #: CT00235-B\_BOBOS00039A\_SBA\_DISH

Dear Ms. Bachman:

This letter and attachments are submitted on behalf of Dish Wireless LLC. Dish Wireless LLC plans to install antennas and related equipment to the tower site located at 2 Taugwonk Spur Road, Stonington, Connecticut.

Dish Wireless LLC proposes to install three (3) 600/1900 MHz 5G antennas and six (6) RRUs, at the 182-foot level of the existing 190-foot monopole tower, one (1) Fiber cable will also be installed. Dish Wireless LLC equipment cabinets will be placed within a 7' x 5' lease area within the fenced compound. Included are plans by B+T, dated January 6, 2023, Exhibit C. Also included is a structural analysis prepared by TES, dated December 29, 2022, confirming that the existing tower is structurally capable of supporting the proposed equipment. Attached as Exhibit D. The facility was originally approved by the Stonington Planning & Zoning Commission on May 19, 1998. Please see attached Exhibit A.

Please accept this letter as notification pursuant to Regulations of Connecticut State Agencies 16-50aa, of Dish Wireless LLC intent to share a telecommunications facility pursuant to R.C.S.A. 16-50j-88. In accordance with R.C.S.A., a copy of this letter is being sent to Danielle Chesebrough, First Selectman and Keith Byrnes, Town Planner for the Town of Stonington, as well as the tower owner (SBA) and property owner (Damato Investments LLC).

The planned modifications of the facility fall squarely within those activities explicitly provided for in R.C.S.A. 16-50j-89.

1. The proposed modification will not result in an increase in the height of the existing structure. The top of the existing tower is 190-feet and the Dish Wireless LLC antennas will be located at a center line height of 182-feet.
2. The proposed modifications will not result in an increase of the site boundary as depicted on the attached site plan.



**NSS** **NORTHEAST**  
SITE SOLUTIONS

*Turnkey Wireless Development*

3. The proposed modifications will not increase noise levels at the facility by six decibels or more, or to levels that exceed local and state criteria. The incremental effect of the proposed changes will be negligent.

4. The operation of the proposed antennas will not increase radio frequency emissions at the facility to a level at or above the Federal Communications Commission safety standard. The combined site operations will result in a total power density of 7.31% as evidenced by Exhibit F.

Connecticut General Statutes 16-50aa indicates that the Council must approve the shared use of a telecommunications facility provided it finds the shared use is technically, legally, environmentally, and economically feasible and meets public safety concerns. As demonstrated in this letter, Dish Wireless LLC respectfully submits that the shared use of this facility satisfies these criteria.

A. Technical Feasibility. The existing monopole has been deemed structurally capable of supporting Dish Wireless LLC proposed loading. The structural analysis is included as Exhibit D.

B. Legal Feasibility. As referenced above, C.G.S. 16-50aa has been authorized to issue orders approving the shared use of an existing tower such as this monopole tower in Stonington. Under the authority granted to the Council, an order of the Council approving the requested shared use would permit Dish Wireless LLC to obtain a building permit for the proposed installation. Further, a Letter of Authorization is included as Exhibit G, authorizing Dish Wireless LLC to file this application for shared use.

C. Environmental Feasibility. The proposed shared use of this facility would have a minimal environmental impact. The installation of Dish Wireless LLC equipment at the 182-foot level of the existing 190-foot tower would have an insignificant visual impact on the area around the tower. Dish Wireless LLC ground equipment would be installed within the existing facility compound. Dish Wireless LLC shared use would therefore not cause any significant alteration in the physical or environmental characteristics of the existing site. Additionally, as evidenced by Exhibit F, the proposed antennas would not increase radio frequency emissions to a level at or above the Federal Communications Commission safety standard.

D. Economic Feasibility. Dish Wireless LLC will be entering into an agreement with the owner of this facility to mutually agreeable terms. As previously mentioned, the Letter of Authorization has been provided by the owner to assist Dish Wireless LLC with this tower sharing application.

E. Public Safety Concerns. As discussed above, the tower is structurally capable of supporting Dish Wireless LLC proposed loading. Dish Wireless LLC is not aware of any public safety concerns relative to the proposed sharing of the existing tower. Dish Wireless LLC intentions of providing new and improved wireless service through the shared use of this facility is expected to enhance the safety and welfare of local residents and individuals traveling through Stonington.

Sincerely,

*Denise Sabo*

Denise Sabo

Mobile: 203-435-3640

Fax: 413-521-0558

Office: 4 Angela's Way, Burlington CT 06013

Email: [denise@northeastsitesolutions.com](mailto:denise@northeastsitesolutions.com)



**NSS** **NORTHEAST**  
SITE SOLUTIONS  
*Turnkey Wireless Development*

Attachments

Cc: Danielle Chesebrough, First Selectman  
Town of Stonington  
152 Elm Street  
Stonington, CT 06378

Keith Byrnes, Town Planner  
Town of Stonington  
152 Elm Street  
Stonington, CT 06378

Damato Investments LLC, Property Owner  
183 Quarry Road  
Milford, CT 06460-2867

SBA - Tower Owner

# Exhibit A

## **Original Facility Approval**

**TOWN OF STONINGTON**  
**The Planning and Zoning Commission**  
**152 Elm Street, P.O. Box 352**  
**Stonington, Connecticut 06378**  
**(860) 535-5095**

May 21, 1998

Mr. Scott Thomae  
SBA, Inc.  
125 Shaw Street #116  
New London, CT 06320

Dear Mr. Thomae:

The Planning and Zoning Commission at their meeting of May 19, 1998 voted to APPROVE your application#PZ9820SPA SBA, INC. / SCOTT THOMAE - Application for Site Plan Approval for a multi-tenant monopole telecommunications facility and placement of associated equipment. Property located at Taugwonk Spur Road, Number 2. Assessor's Map 84 Block 1 Lot 3 Zone LI-130. This application was approved with the following stipulations:

1. Provide data requested by the Town Engineer as outlined in his memorandum dated May 18, 1998.
2. For screening Colorado Spruce (*Picea pungens*) or White Spruce (*Picea galuca*) should be substituted for the Eastern White Pine.

Please schedule an appointment with the Planning Office to review the final plans which have incorporated all the above stipulations and/or changes and have been listed on the site plan. Please bring to the Planning and Zoning Office for the Chairman's signature one (1) set of bluelines and one (1) set of mylars.

If you have any questions, please feel free to contact the Planning Office.

Sincerely,

*Edward Donnelly*

Edward C. Donnelly, AICP  
Planning Director

(kjt)

:kjt

# Exhibit B

## **Property Card**



# Town of Stonington, CT

## Property Listing Report

Map Block Lot

84-1-3

Building # 1

PID

4491

Account

00194500

### Property Information

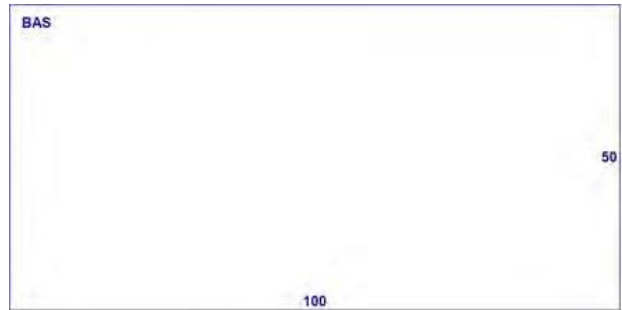
Property Location	TAUGWONK SPUR RD
Owner	DAMATO INVESTMENTS LLC
Co-Owner	
Mailing Address	183 QUARRY RD MILFORD CT 06460-2867
Land Use	3324 COM JOB SHOP(S)
Land Class	C
Zoning Code	LI-130
Census Tract	7054

Neighborhood	2500
Acreage	8.5
Utilities	
Lot Setting/Desc	Suburban Above Street
Book / Page	0740/0277
Additional Info	

### Photo



### Sketch



### Primary Construction Details

Year Built	1984
Building Desc.	COM JOB SHOP(S)
Building Style	Job Shop(s)
Building Grade	Average
Stories	1
Occupancy	4
Exterior Walls	Concr/Cinder
Exterior Walls 2	NA
Roof Style	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Walls	Drywall/Sheet
Interior Walls 2	Minim/Masonry
Interior Floors 1	Concr-Finished
Interior Floors 2	

Heating Fuel	Gas
Heating Type	Hot Air-no Duc
AC Type	None
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(\*Industrial / Commercial Details)

Building Use	Gar/Svc Statn
Building Condition	AV
Sprinkler %	
Heat / AC	NONE
Frame Type	MASONRY
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEIL & WALLS
Rooms / Prtns	AVERAGE
Wall Height	12
First Floor Use	316I
Foundation	



# Town of Stonington, CT

Property Listing Report

Map Block Lot **84-1-3**

Building # **1**

PID **4491**

Account **00194500**

## Valuation Summary (Assessed value = 70% of Appraised Value)

Item	Appraised	Assessed
Buildings	2290700	1603500
Extras	0	0
Improvements		
Outbuildings	146400	102600
Land	540100	378100
Total	2977200	2084200

## Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	5000	5000
Total Area	5000	5000

## Outbuilding and Extra Features

Type	Description
PAVING-ASPHALT	60000.00 S.F.
CELL TOWER	1.00 UNIT
FENCE-8' CHAIN	108.00 L.F.
LIGHTS-IN W/PL	5.00 UNITS
PAVING-CONC	484.00 S.F.

## Sales History

Owner of Record	Book/ Page	Sale Date	Sale Price
DAMATO INVESTMENTS LLC	0740/0277	5/22/2015	2000
DAMATO INVESTMENTS LLC	0421/0081	7/7/1998	0





# Town of Stonington, CT

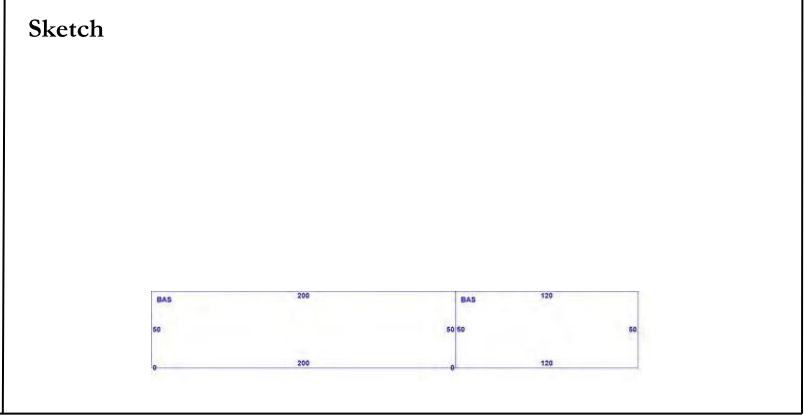
## Property Listing Report

Map Block Lot **84-1-3**

Building # **2**

PID **4491**

Account **00194500**



### Primary Construction Details

Year Built	1984
Building Desc.	Gar/Svc Statn
Building Style	Job Shop(s)
Building Grade	Average
Stories	1
Occupancy	15
Exterior Walls	Concr/Cinder
Exterior Walls 2	NA
Roof Style	Gable/Hip
Roof Cover	Asph/F GlS/Cmp
Interior Walls	Minim/Masonry
Interior Walls 2	Drywall/Sheet
Interior Floors 1	Concr-Finished
Interior Floors 2	Carpet

Heating Fuel	Gas
Heating Type	Hot Air-no Duc
AC Type	None
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(\*Industrial / Commercial Details)

Building Use	COM JOB SHOP(S)
Building Condition	AV
Sprinkler %	
Heat / AC	NONE
Frame Type	MASONRY
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEIL & WALLS
Rooms / Prtns	AVERAGE
Wall Height	12
First Floor Use	316I
Foundation	

### Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
First Floor	16000	16000

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	16000	16000





Town of Stonington, CT

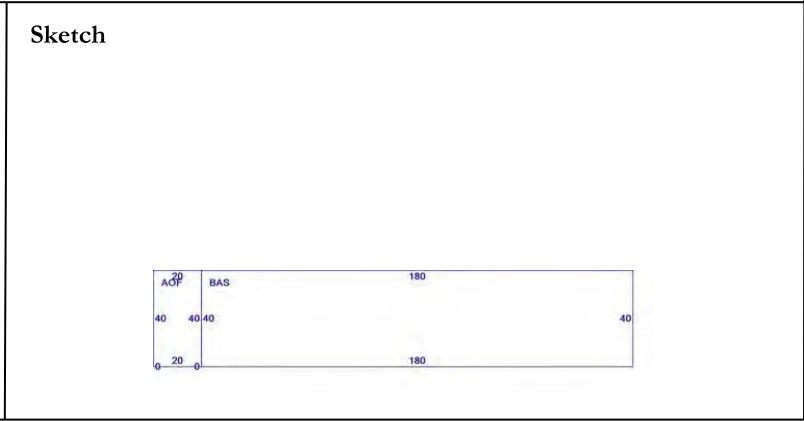
Property Listing Report

Map Block Lot 84-1-3

Building # 4

PID 4491

Account 00194500



Primary Construction Details

Year Built	1984
Building Desc.	Gar/Svc Statn
Building Style	Job Shop(s)
Building Grade	Average
Stories	1
Occupancy	1
Exterior Walls	Brick/Masonry
Exterior Walls 2	NA
Roof Style	Gable/Hip
Roof Cover	Asph/F Gls/Cmp
Interior Walls	Drywall/Sheet
Interior Walls 2	NA
Interior Floors 1	Concr-Finished
Interior Floors 2	

Heating Fuel	Gas
Heating Type	Hot Air-no Duc
AC Type	None
Bedrooms	0
Full Bathrooms	0
Half Bathrooms	0
Extra Fixtures	
Total Rooms	0
Bath Style	NA
Kitchen Style	NA
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(\*Industrial / Commercial Details)

Building Use	COM JOB SHOP(S)
Building Condition	AV
Sprinkler %	
Heat / AC	NONE
Frame Type	MASONRY
Baths / Plumbing	AVERAGE
Ceiling / Wall	CEIL & WALLS
Rooms / Prtns	AVERAGE
Wall Height	12
First Floor Use	316I
Foundation	

Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Office, (Average)	800	800
First Floor	7200	7200

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
Total Area	8000	8000



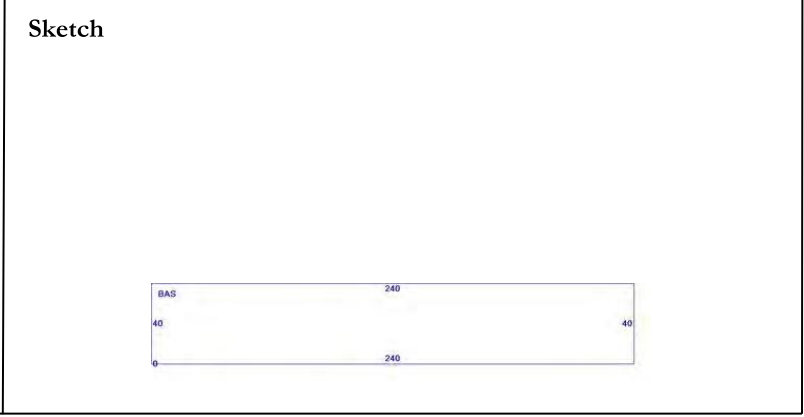
# Town of Stonington, CT

Property Listing Report

Map Block Lot **84-1-3**

Building # **5** PID **4491**

Account **00194500**



## Primary Construction Details

Year Built	<b>1995</b>
Building Desc.	<b>Gar/Svc Statn</b>
Building Style	<b>Job Shop(s)</b>
Building Grade	<b>Average</b>
Stories	<b>1</b>
Occupancy	<b>6</b>
Exterior Walls	<b>Brick/Masonry</b>
Exterior Walls 2	<b>NA</b>
Roof Style	<b>Gable/Hip</b>
Roof Cover	<b>Asph/F GlS/Cmp</b>
Interior Walls	<b>Drywall/Sheet</b>
Interior Walls 2	<b>NA</b>
Interior Floors 1	<b>Concr-Finished</b>
Interior Floors 2	<b>Vinyl/Asphalt</b>

Heating Fuel	<b>Gas</b>
Heating Type	<b>Hot Air-no Duc</b>
AC Type	<b>None</b>
Bedrooms	<b>0</b>
Full Bathrooms	<b>0</b>
Half Bathrooms	<b>0</b>
Extra Fixtures	
Total Rooms	<b>0</b>
Bath Style	<b>NA</b>
Kitchen Style	<b>NA</b>
Fin Bsmt Area	
Fin Bsmt Quality	
Bsmt Gar	
Fireplaces	

(\*Industrial / Commercial Details)

Building Use	<b>COM JOB SHOP(S)</b>
Building Condition	<b>AV</b>
Sprinkler %	
Heat / AC	<b>NONE</b>
Frame Type	<b>MASONRY</b>
Baths / Plumbing	<b>AVERAGE</b>
Ceiling / Wall	<b>CEIL &amp; WALLS</b>
Rooms / Prtns	<b>AVERAGE</b>
Wall Height	<b>12</b>
First Floor Use	<b>316I</b>
Foundation	

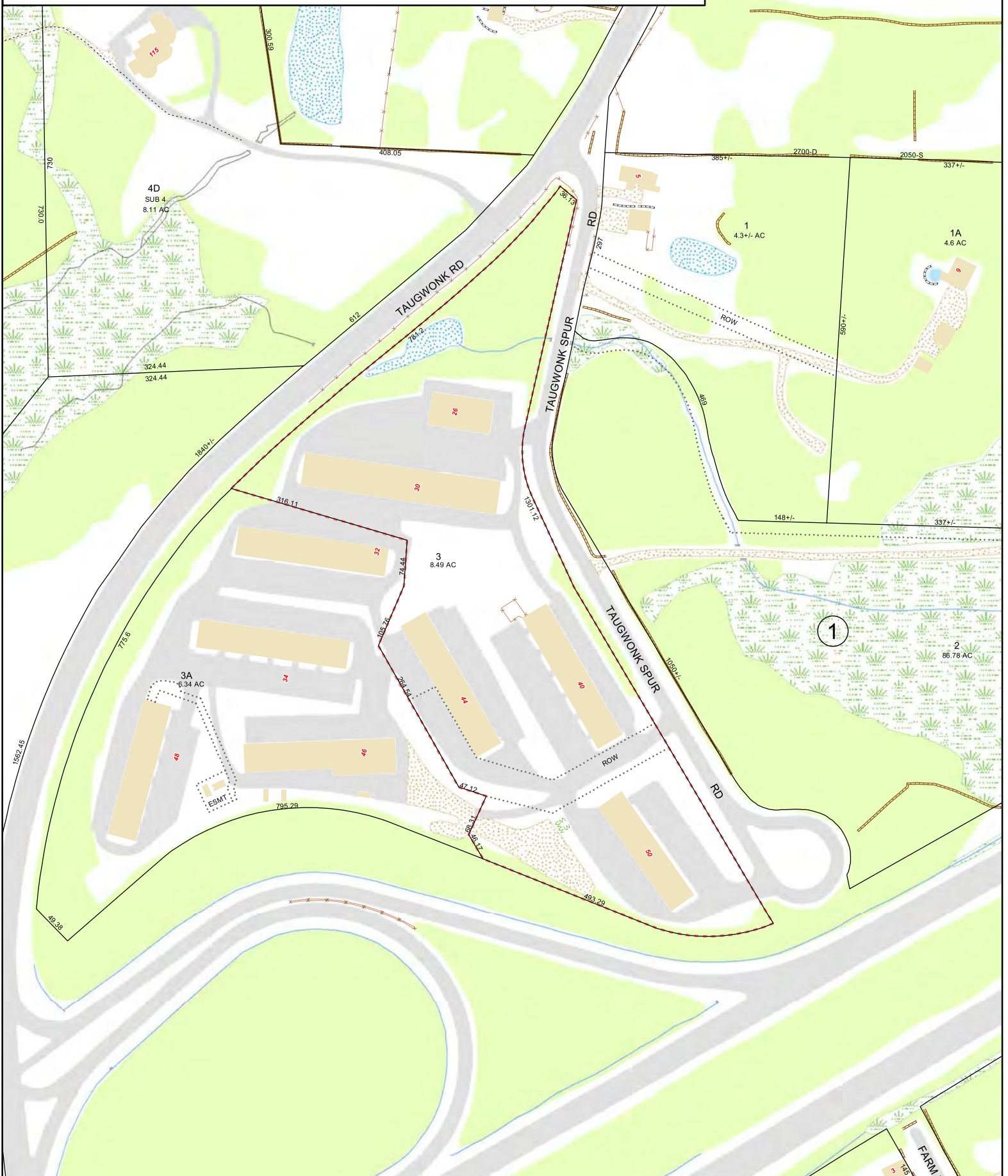
## Sub Areas

Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
<b>First Floor</b>	<b>9600</b>	<b>9600</b>

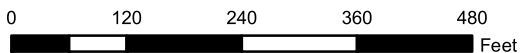
Subarea Type	Gross Area (sq ft)	Living Area (sq ft)
<b>Total Area</b>	<b>9600</b>	<b>9600</b>

# Town of Stonington, Connecticut - Assessment Parcel Map

Parcel: 84-1-3 Address: TAUGWONK SPUR RD



Approximate Scale:  
**1 inch = 200 feet**



**Revised To Grand List: October 2021 Map Produced: February 2022**

Disclaimer: This map is for informational purposes only All information is subject to verification by any user. The Town of Stonington and its mapping contractors assume no legal responsibility for the information contained herein.

# Exhibit C

## **Construction Drawings**



DISH Wireless L.L.C. SITE ID:  
**BOBOS00039A**

DISH Wireless L.L.C. SITE ADDRESS:  
**TAUGWONK SPUR ROAD NO. 2  
STONINGTON, CT 06378**

**REVIEWED**

By Dipesh Parikh at 1:57 pm, May 18, 2022

**APPROVED**

By chris.seremet at 9:16 am, Jul 05, 2022

**APPROVED WITH REDLINES.**

**SCOPE OF WORK**

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

- TOWER SCOPE OF WORK:**
- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
  - INSTALL (1) PROPOSED ANTENNA PLATFORM MOUNT
  - INSTALL PROPOSED JUMPERS
  - INSTALL (6) PROPOSED RRUs (2 PER SECTOR)
  - INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
  - INSTALL (1) PROPOSED HYBRID CABLE

- GROUND SCOPE OF WORK:**
- INSTALL (1) PROPOSED ICE BRIDGE
  - INSTALL (1) PROPOSED PPC CABINET
  - INSTALL (1) PROPOSED EQUIPMENT CABINET
  - INSTALL (1) PROPOSED POWER CONDUIT
  - INSTALL (1) PROPOSED TELCO CONDUIT
  - INSTALL (1) PROPOSED TELCO-FIBER BOX
  - INSTALL (1) PROPOSED GPS UNIT
  - INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)

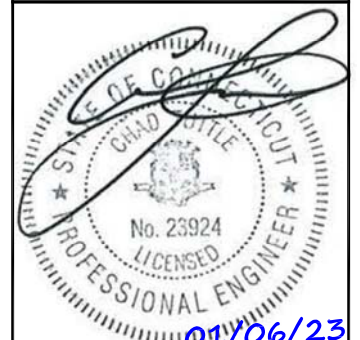
SITE INFORMATION	PROJECT DIRECTORY
PROPERTY OWNER: TAUGWONK LLC ADDRESS: 183 QUARRY RD MILFORD, CT 06460-2867	APPLICANT: DISH Wireless L.L.C. 5701 SOUTH SANTA FE DRIVE LITTLETON, CO 80120
TOWER TYPE: MONOPOLE	TOWER OWNER: SBA COMMUNICATAIONS CORP. 8051 CONGRESS AVENUE BOCA RATON, FL 33487 (800) 487-7483
TOWER CO SITE ID: CT00235-B	SITE DESIGNER: B+T GROUP 1717 S. BOULDER AVE, SUITE 300 TULSA, OK 74119 (918) 587-4630
TOWER APP NUMBER: 160702	SITE ACQUISITION: APRIL PARROTT april.parrott@dish.com
COUNTY: NEW LONDON	CONST. MANAGER: JAVIER SOTO javier.soto@dish.com
LATITUDE (NAD 83): 41° 22' 55.2576" N 41.382016 N	RF ENGINEER: ARVIN SEBASTIAN arvin.sebastian@dish.com
LONGITUDE (NAD 83): 71° 54' 12.9204" W -71.903589 W	
ZONING JURISDICTION: CONNECTICUT SITING COUNCIL	
ZONING DISTRICT: INDUSTRIAL LI-130	
PARCEL NUMBER: 84-1-3A	
OCCUPANCY GROUP: U	
CONSTRUCTION TYPE: II-B	
POWER COMPANY: EVERSOURCE	
TELEPHONE COMPANY: T.B.D.	



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



8051 CONGRESS AVENUE  
BOCA RATON, FL 33487



MTS ENGINEERING P.L.L.C.  
BER:2386985  
Expires 3/31/23

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.

DRAWN BY:	CHECKED BY:	APPROVED BY:
BLB	MRE	RMC

RFDS REV #: 1

**CONSTRUCTION DOCUMENTS**

REV	DATE	DESCRIPTION
A	9/22/21	ISSUED FOR REVIEW
B	01/05/22	ISSUED FOR REVIEW
0	5/13/22	ISSUED FOR CONSTRUCTION
1	9/22/22	ISSUED FOR CONSTRUCTION
2	01/06/23	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
**149424.001.01**

DISH Wireless L.L.C.  
PROJECT INFORMATION

**BOBOS00039A**  
**TAUGWONK SPUR RD NO. 2**  
**STONINGTON, CT 06378**

SHEET TITLE  
**TITLE SHEET**

SHEET NUMBER  
**T-1**

**CONNECTICUT CODE OF COMPLIANCE**

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 IBC
MECHANICAL	2021 IMC
ELECTRICAL	2020 NEC

**SHEET INDEX**

SHEET NO.	SHEET TITLE
T-1	TITLE SHEET
LS1	SITE SURVEY
A-1	OVERALL AND ENLARGED SITE PLAN
A-2	ELEVATION, ANTENNA LAYOUT AND SCHEDULE
A-3	EQUIPMENT PAD AND H-FRAME DETAILS
A-4	EQUIPMENT DETAILS
A-5	EQUIPMENT DETAILS
A-6	EQUIPMENT DETAILS
E-1	ELECTRICAL/FIBER ROUTE PLAN AND NOTES
E-2	ELECTRICAL DETAILS
E-3	ELECTRICAL ONE-LINE, FAULT CALCS & PANEL SCHEDULE
G-1	GROUNDING PLANS AND NOTES
G-2	GROUNDING DETAILS
G-3	GROUNDING DETAILS
RF-1	RF CABLE COLOR CODE
GN-1	LEGEND AND ABBREVIATIONS
GN-2	GENERAL NOTES
GN-3	GENERAL NOTES
GN-4	GENERAL NOTES

**SITE PHOTO**



**DIRECTIONS**

DIRECTIONS FROM RHODE ISLAND T.F. GREEN INTERNATIONAL AIRPORT:  
HEAD SOUTHWEST TOWARD WARWICK INDUSTRIAL DR, TURN RIGHT ONTO WARWICK INDUSTRIAL DR, TURN RIGHT ONTO MAIN AVE. CONTINUE ONTO EAST AVE, USE THE RIGHT LANE TO MERGE ONTO I-95 S VIA THE RAMP TO NEWYORK. MERGE ONTO I-95 S, KEEP RIGHT AT THE FORK TO STAY ON I-95 S. TAKE EXIT 91 TOWARD CT-234/STONINGTON, TURN RIGHT ONTO TAUGWONK RD AND ARRIVE AT BOBOS0039A.

**VICINITY MAP**



**UNDERGROUND SERVICE ALERT CBYD 811**  
**UTILITY NOTIFICATION CENTER OF CONNECTICUT**  
(800) 922-4455  
[WWW.CBYD.COM](http://WWW.CBYD.COM)  
CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION

**GENERAL NOTES**

THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE. NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

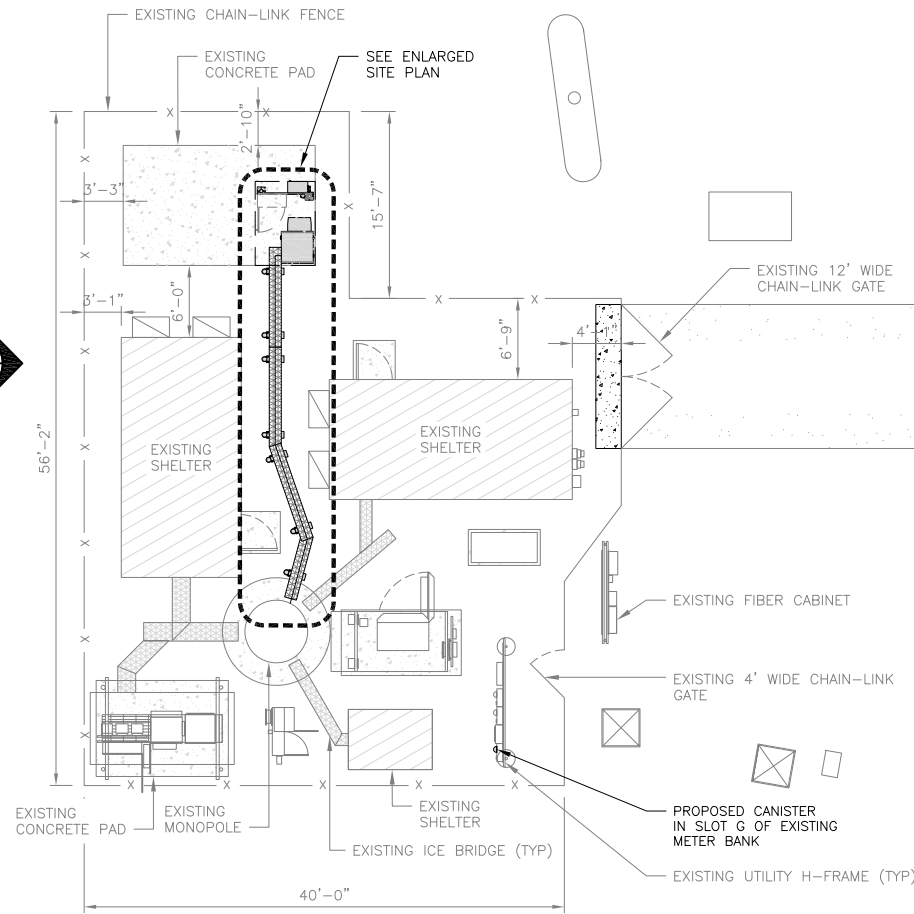
**11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED**

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

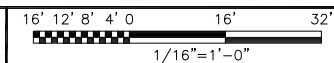
NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.

TAUGWONK SPUR ROAD NO. 2



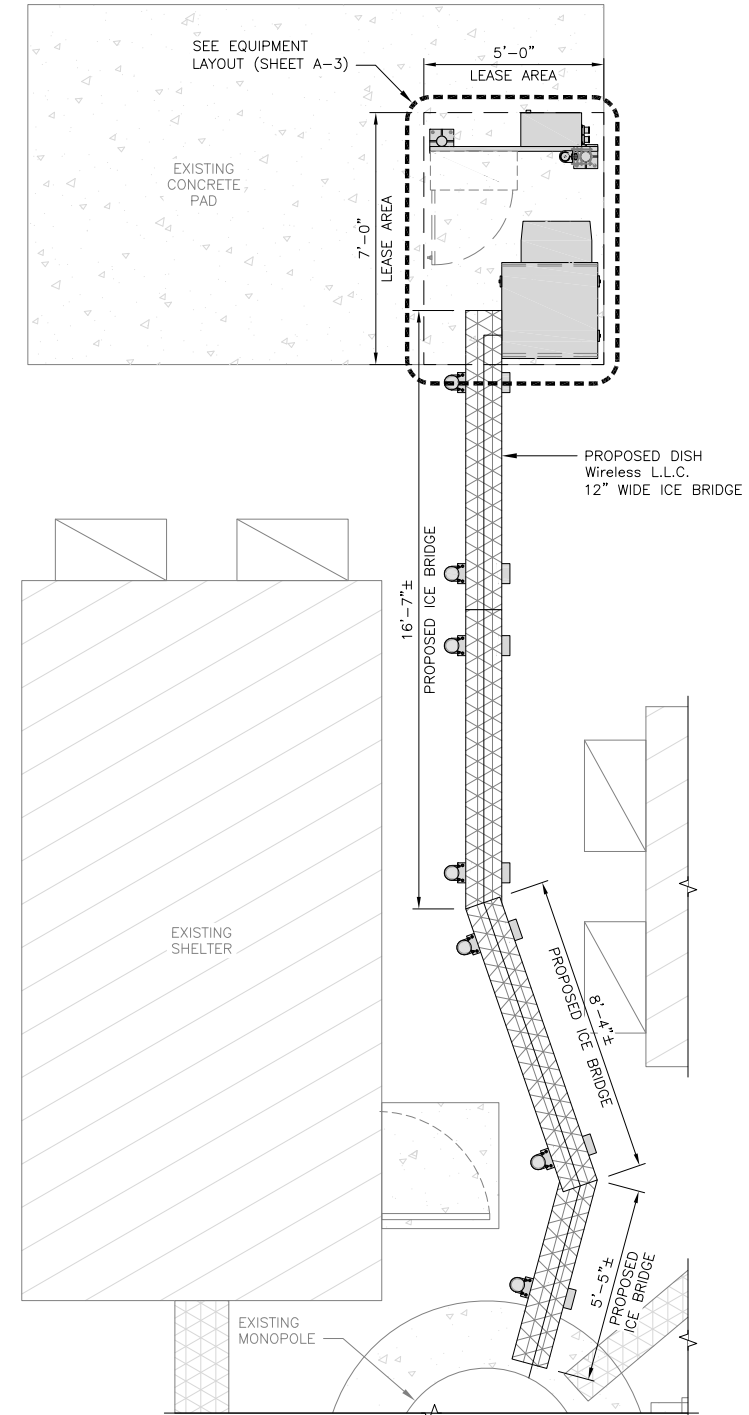
OVERALL SITE PLAN



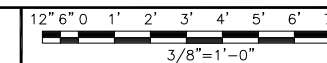
1

NOTES

1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS UNIT, TRANSMITTING ANTENNAS AND EXISTING GPS UNITS.
3. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.



ENLARGED SITE PLAN



2



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



8051 CONGRESS AVENUE  
BOCA RATON, FL 33487



MTS ENGINEERING P.L.L.C.  
BER:2386985  
Expires 3/31/23

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DRAWN BY: CHECKED BY: APPROVED BY:  
BLB MRE RMC

RFDS REV #: 1

CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
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DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00039A  
TAUGWONK SPUR RD NO. 2  
STONINGTON, CT 06378

SHEET TITLE  
OVERALL AND ENLARGED  
SITE PLAN

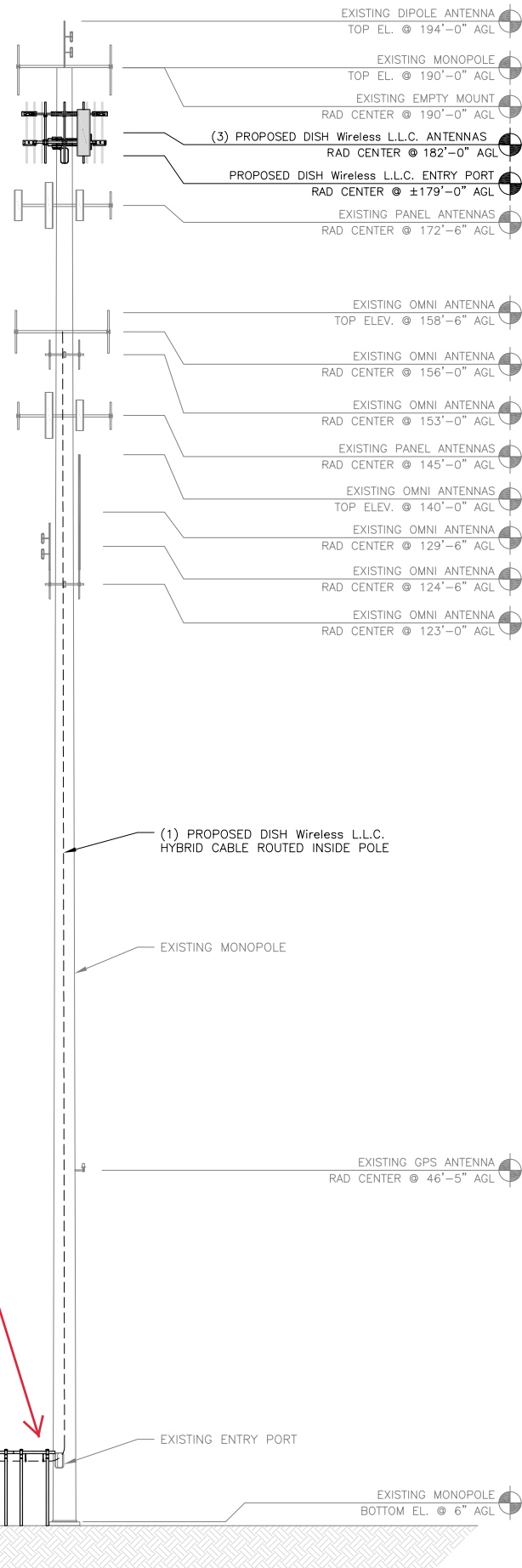
SHEET NUMBER

A-1

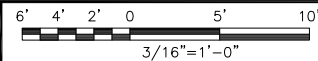


**NOTES**

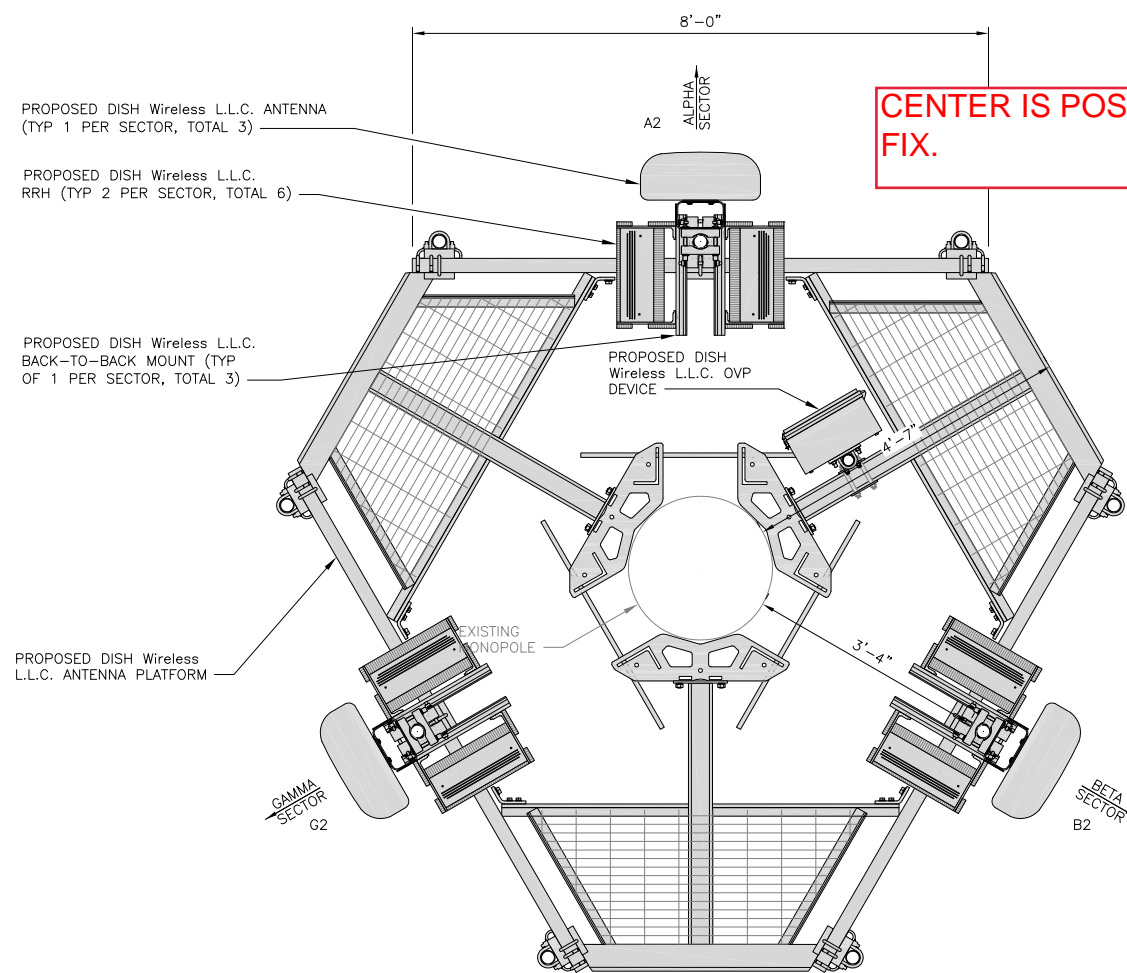
1. CONTRACTOR SHALL FIELD VERIFY ALL DIMENSIONS.
2. ANTENNA AND MW DISH SPECIFICATIONS REFER TO ANTENNA SCHEDULE AND TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS
3. EXISTING EQUIPMENT AND FENCE OMITTED FOR CLARITY.



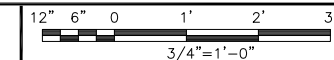
**PROPOSED WEST ELEVATION**



1



**ANTENNA LAYOUT**



2

SECTOR POS.	ANTENNA					TRANSMISSION CABLE	RRH			OVP
	EXISTING OR PROPOSED	MANUFACTURER - MODEL NUMBER	TECH	AZIMUTH	RAD CENTER		FEED LINE TYPE AND LENGTH	MANUFACTURER - MODEL NUMBER	TECH	
A1	--	--	--	--	--	(1) HIGH-CAPACITY HYBRID CABLE (240' LONG)	FUJITSU - TA08025-B605	5G	A2	RAYCAP RDIDC-9181-PF-48
A2	PROPOSED	JMA - MX08FRO665-21	5G	0°	182'-0"		FUJITSU - TA08025-B604	5G	A2	
A3	--	--	--	--	--		--	--	--	
B1	--	--	--	--	--	SHARED W/ALPHA	FUJITSU - TA08025-B605	5G	B2	SHARED W/ALPHA
B2	PROPOSED	JMA - MX08FRO665-21	5G	120°	182'-0"		FUJITSU - TA08025-B604	5G	B2	
B3	--	--	--	--	--		--	--	--	
C1	--	--	--	--	--	SHARED W/ALPHA	FUJITSU - TA08025-B605	5G	C2	SHARED W/ALPHA
C2	PROPOSED	JMA - MX08FRO665-21	5G	240°	182'-0"		FUJITSU - TA08025-B604	5G	C2	
C3	--	--	--	--	--		--	--	--	

**NOTES**

1. CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS.
2. ANTENNA AND RRH MODELS MAY CHANGE DUE TO EQUIPMENT AVAILABILITY. ALL EQUIPMENT CHANGES MUST BE APPROVED AND REMAIN IN COMPLIANCE WITH THE PROPOSED DESIGN AND STRUCTURAL ANALYSES.

**ANTENNA SCHEDULE**

NO SCALE

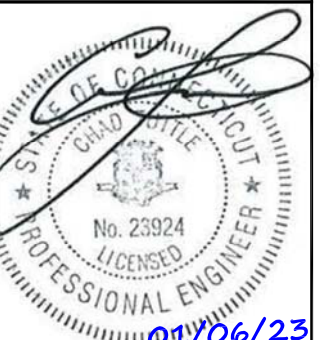
3



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



8051 CONGRESS AVENUE  
BOCA RATON, FL 33487



MTS ENGINEERING P.L.L.C.  
BER:2386985  
Expires 3/31/23

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DRAWN BY: CHECKED BY: APPROVED BY:  
BLB MRE RMC

RFDS REV #: 1

**CONSTRUCTION DOCUMENTS**

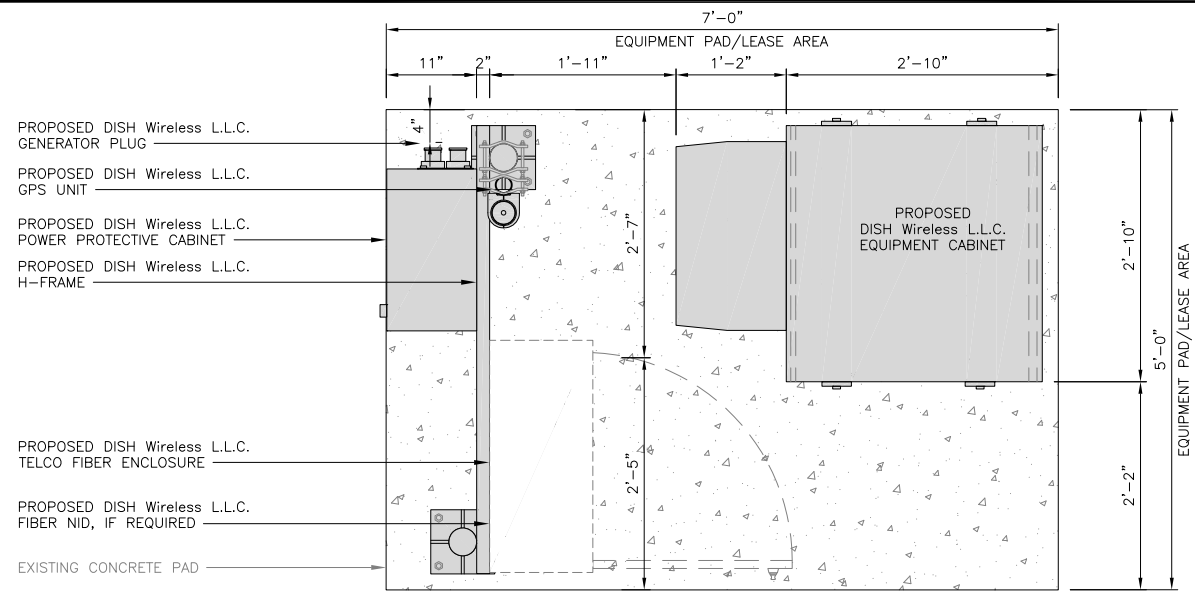
SUBMITTALS		
REV	DATE	DESCRIPTION
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B	01/05/22	ISSUED FOR REVIEW
0	5/13/22	ISSUED FOR CONSTRUCTION
1	9/22/22	ISSUED FOR CONSTRUCTION
2	01/06/23	ISSUED FOR CONSTRUCTION

A&E PROJECT NUMBER  
**149424.001.01**

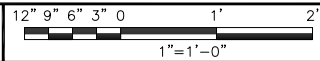
DISH Wireless L.L.C.  
PROJECT INFORMATION  
**BOBOS00039A**  
TAUGWONK SPUR RD NO. 2  
STONINGTON, CT 06378

SHEET TITLE  
**ELEVATION, ANTENNA LAYOUT AND SCHEDULE**

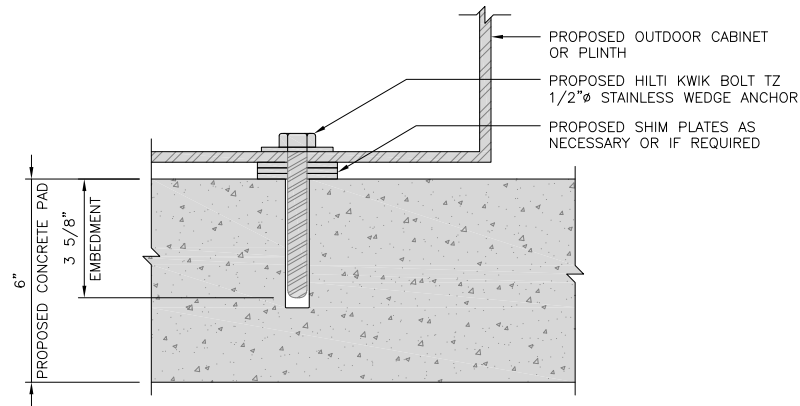
SHEET NUMBER  
**A-2**



CONCRETE PAD EQUIPMENT PLAN



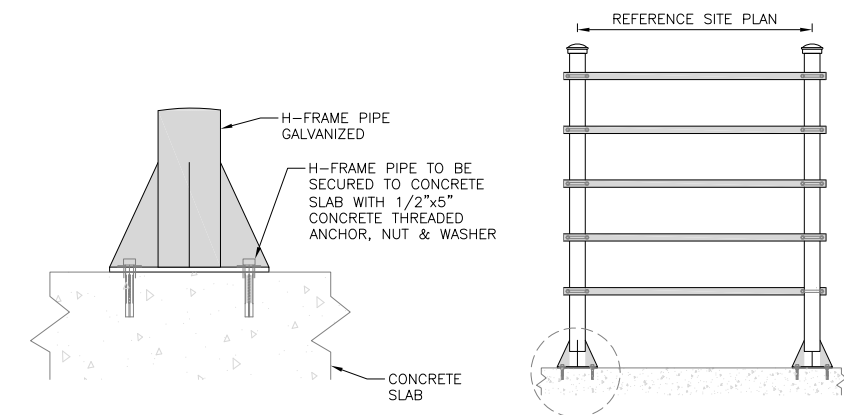
1



TYPICAL OUTDOOR EQUIPMENT TO CONCRETE SLAB ANCHORAGE

2

H-FRAME	
UNISTRUT/SUPPORT RAIL	6

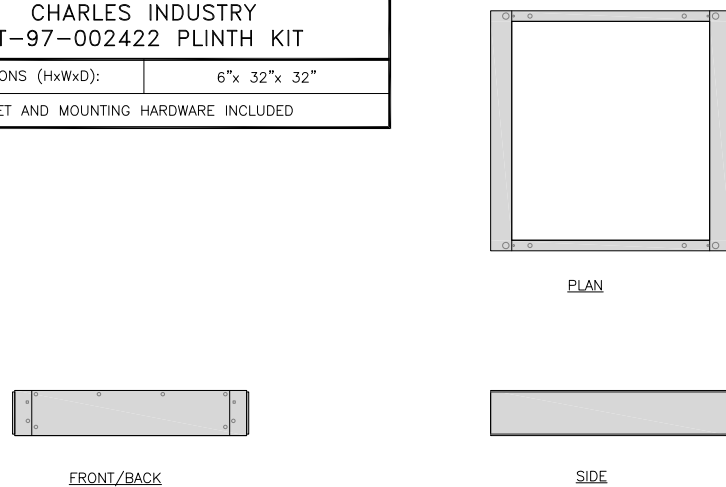


H-FRAME CONCRETE SLAB INSTALLATION DETAIL

NO SCALE

3

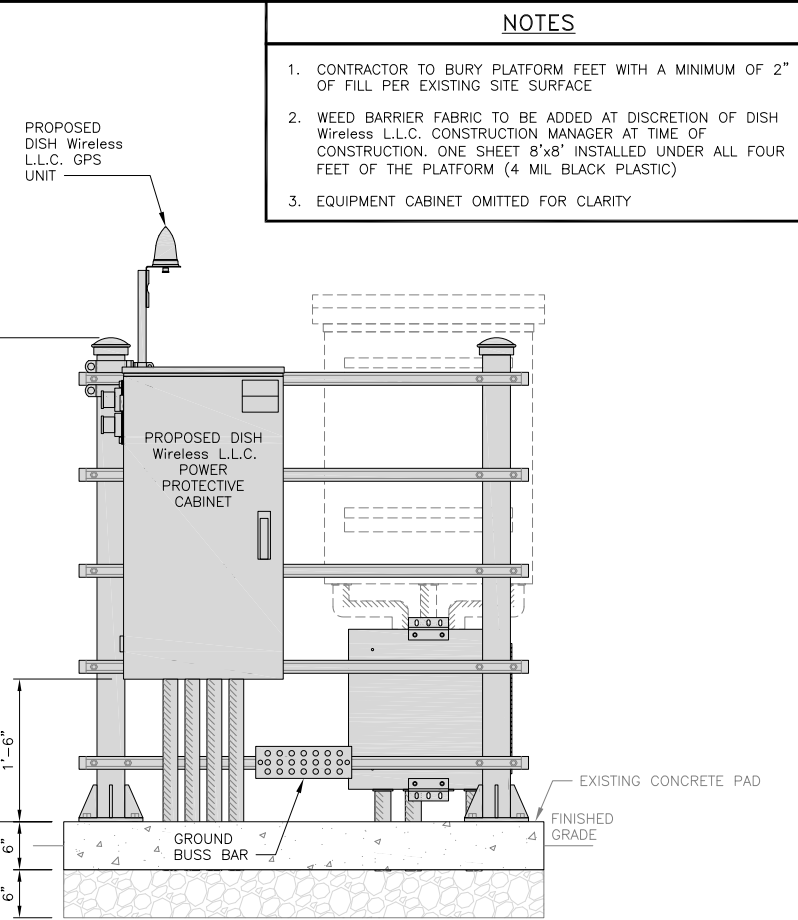
CHARLES INDUSTRY LT-97-002422 PLINTH KIT	
DIMENSIONS (HxWxD):	6" x 32" x 32"
NOTE: GASKET AND MOUNTING HARDWARE INCLUDED	



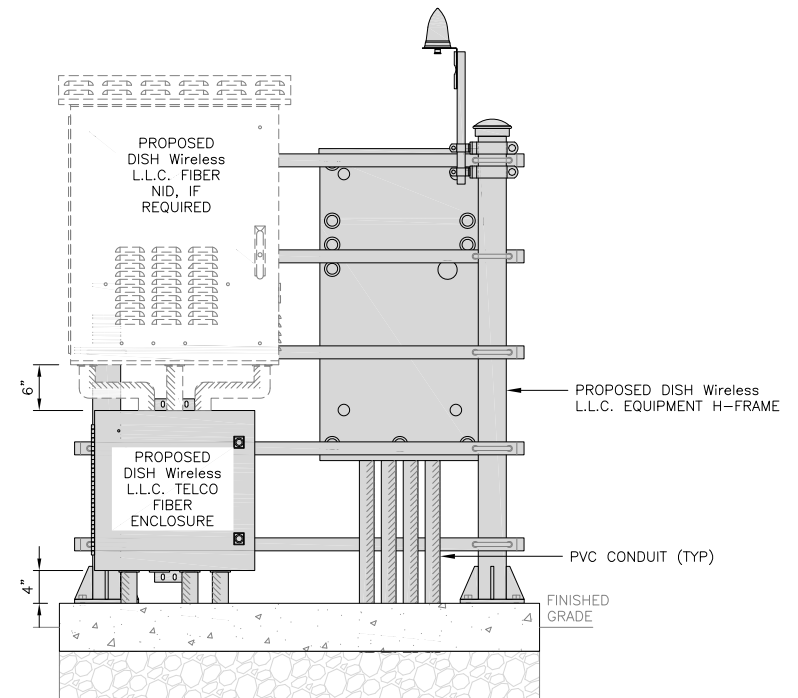
PLINTH DETAIL

NO SCALE

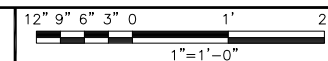
4



FRONT ELEVATION



BACK ELEVATION



H-FRAME EQUIPMENT ELEVATION

5

NOTES

- CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
- WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH Wireless L.L.C. CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE PLATFORM (4 MIL BLACK PLASTIC)
- EQUIPMENT CABINET OMITTED FOR CLARITY



5701 SOUTH SANTA FE DRIVE  
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Expires 3/31/23

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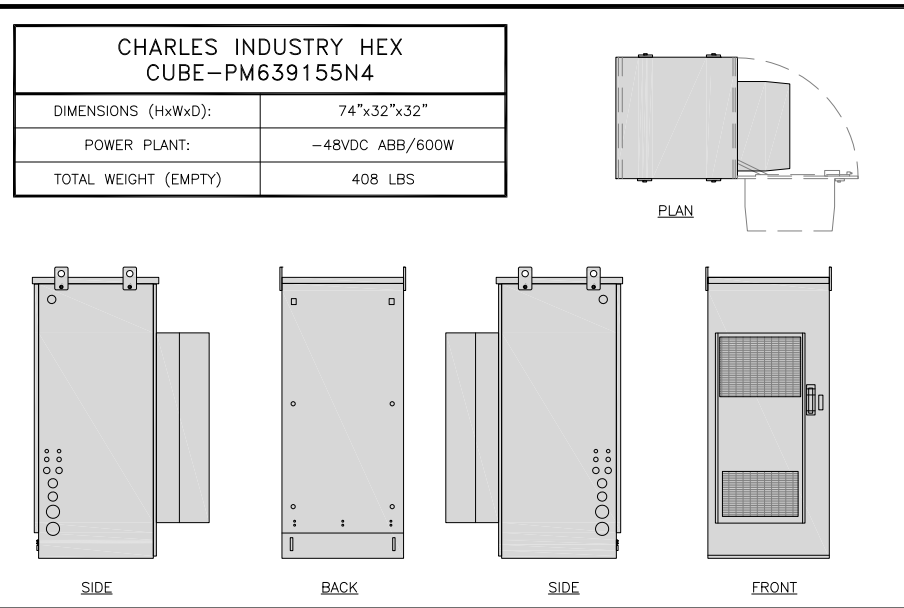
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149424.001.01

DISH Wireless L.L.C.  
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TAUGWONK SPUR RD NO. 2  
STONINGTON, CT 06378

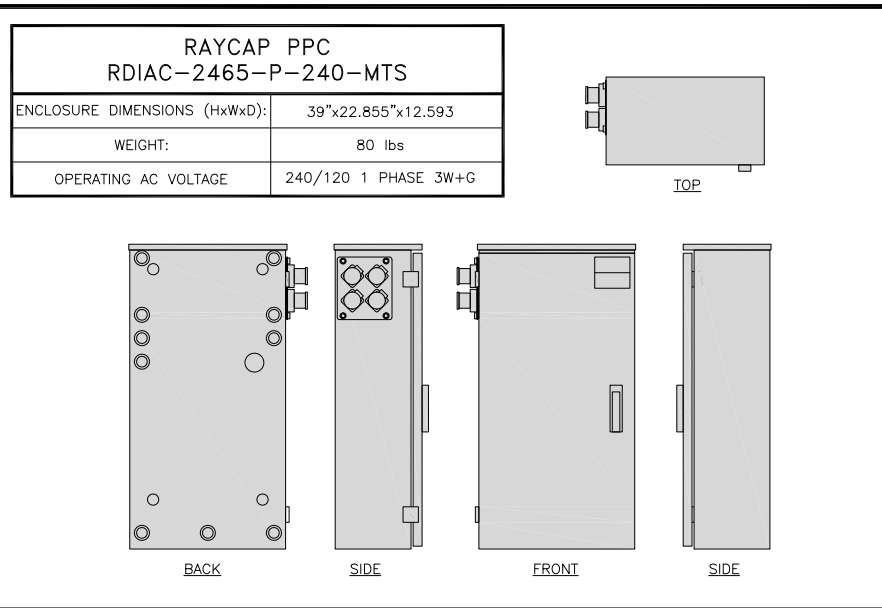
SHEET TITLE  
EQUIPMENT PAD AND  
H-FRAME DETAILS

SHEET NUMBER

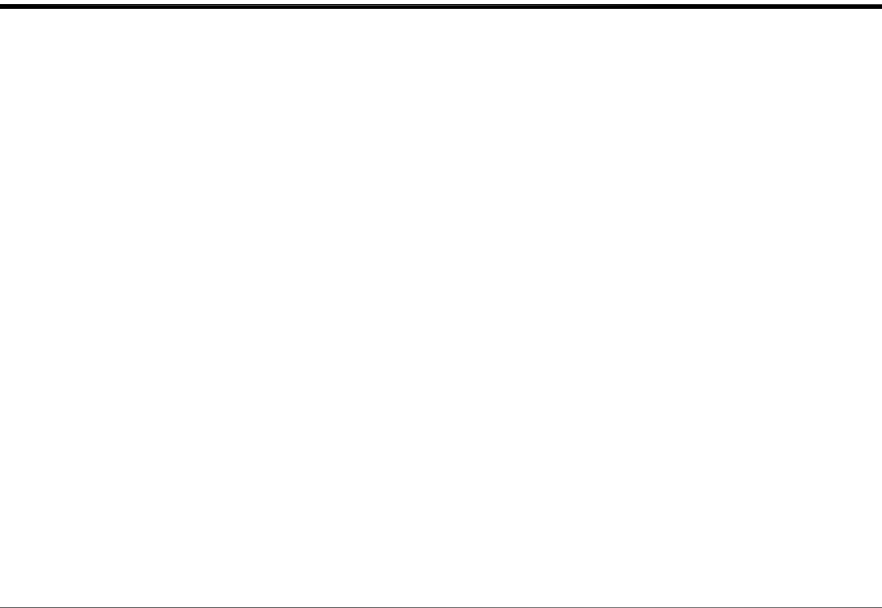
A-3



CABINET DETAIL      NO SCALE      **1**



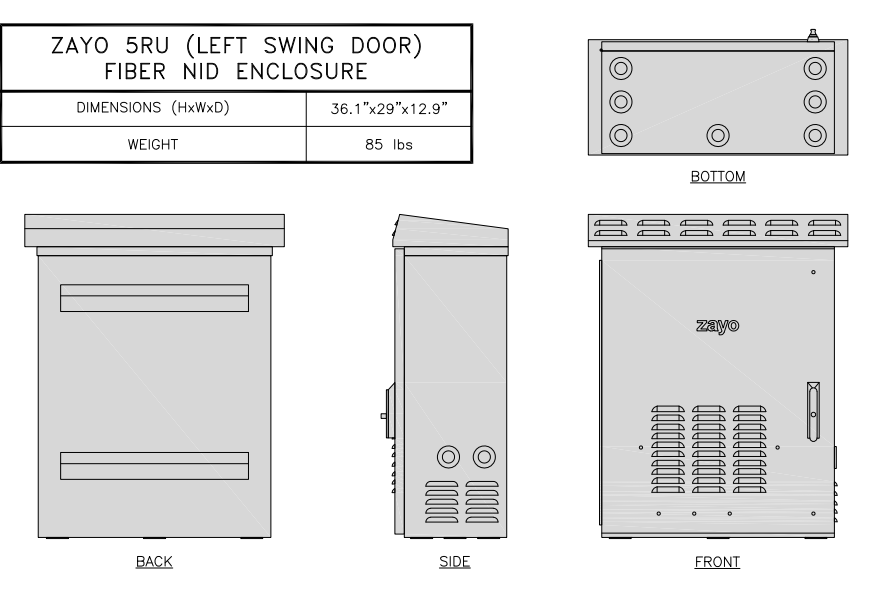
POWER PROTECTION CABINET (PPC) DETAIL      NO SCALE      **2**



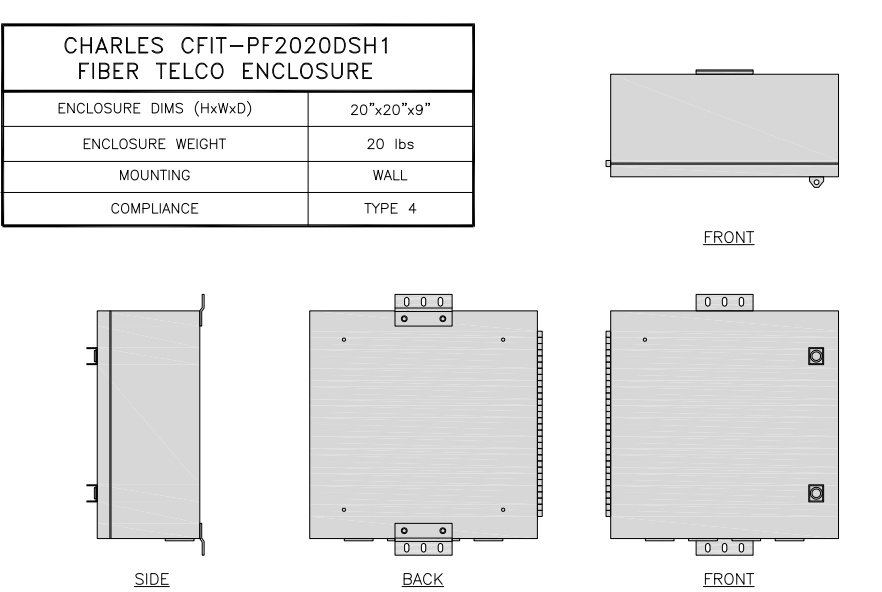
NOT USED      NO SCALE      **3**



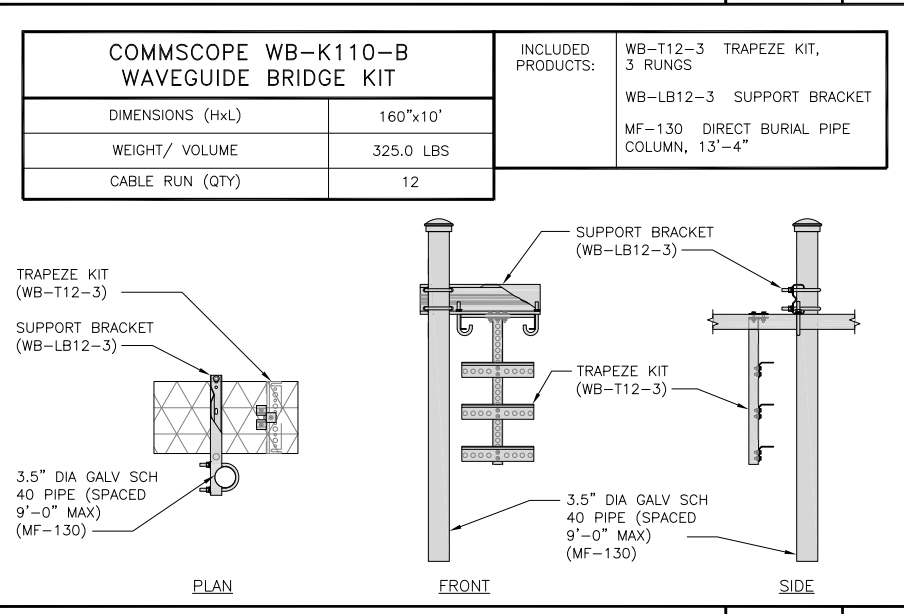
NOT USED      NO SCALE      **4**



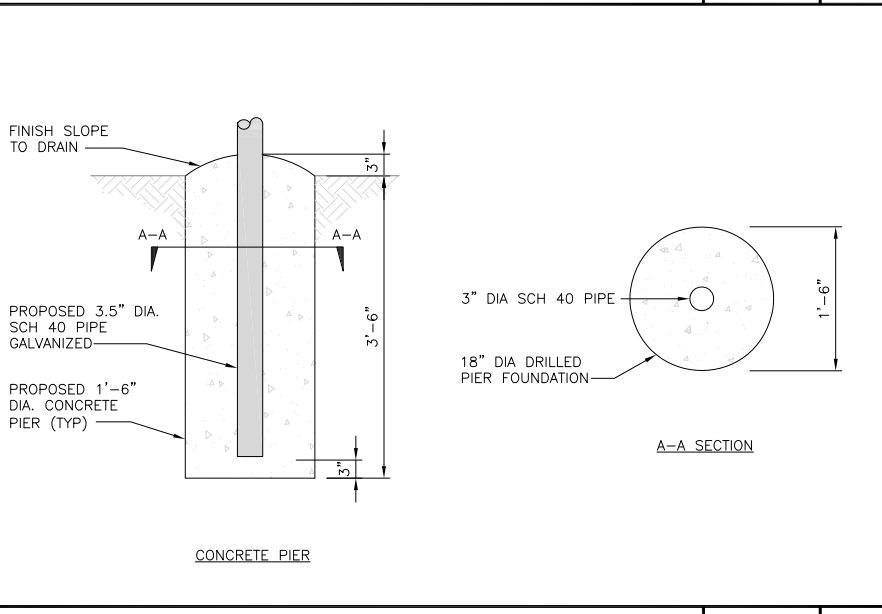
FIBER NID ENCLOSURE DETAIL      NO SCALE      **5**



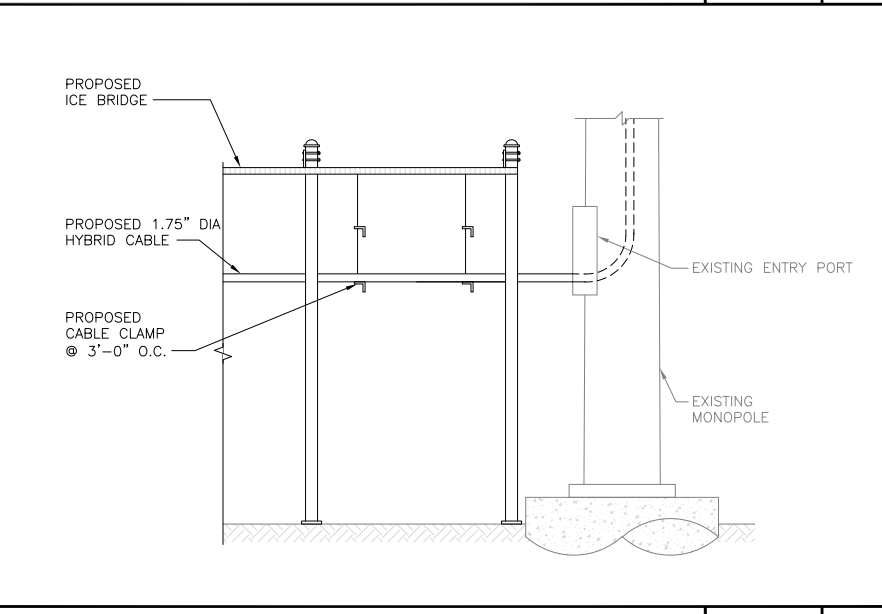
FIBER TELCO ENCLOSURE DETAIL      NO SCALE      **6**



ICE BRIDGE DETAIL      NO SCALE      **7**



TYPICAL ICE BRIDGE CONCRETE PIER DETAIL      NO SCALE      **8**



HYBRID CABLE RUN      NO SCALE      **9**

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LITTLETON, CO 80120

8051 CONGRESS AVENUE  
BOCA RATON, FL 33487

1717 S. BOULDER  
SUITE 300  
TULSA, OK 74119  
PH: (918) 587-4830  
www.btgrp.com

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BER:2386985  
Expires 3/31/23

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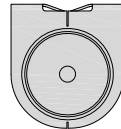
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**149424.001.01**

DISH Wireless L.L.C.  
PROJECT INFORMATION  
**BOBOS00039A**  
TAUGWONK SPUR RD NO. 2  
STONINGTON, CT 06378

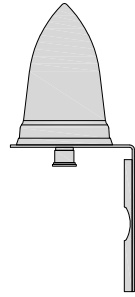
SHEET TITLE  
**EQUIPMENT DETAILS**

SHEET NUMBER  
**A-4**

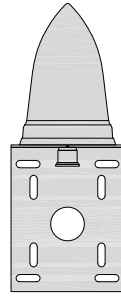
PCTEL GPSGL-TMG-SPI-40NCB	
DIMENSIONS (DIAxH) MM/INCH	81x184mm 3.2"x7.25"
WEIGHT W/ACCESSORIES	075 lbs
CONNECTOR	N-FEMALE
FREQUENCY RANGE	1590 ± 30MHz



TOP



BACK

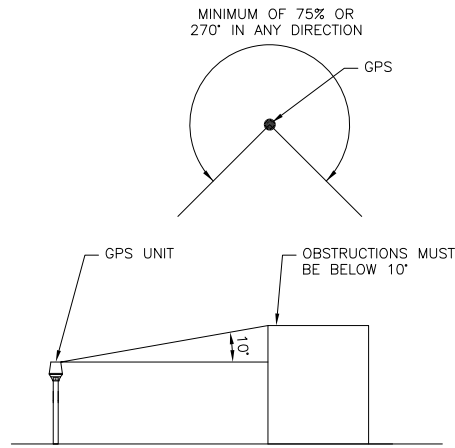


SIDE

GPS DETAIL

NO SCALE

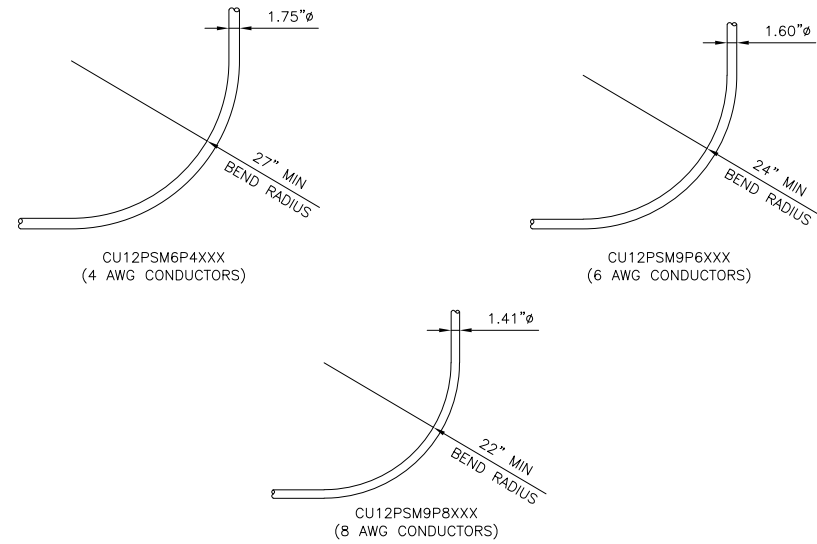
1



GPS MINIMUM SKY VIEW REQUIREMENTS

NO SCALE

2



CABLES UNLIMITED HYBRID CABLE  
MINIMUM BEND RADIUSES

NO SCALE

3

NOT USED

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9

**dish**  
wireless.

5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



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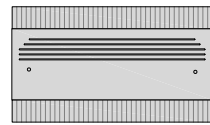
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DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00039A  
TAUGWONK SPUR RD NO. 2  
STONINGTON, CT 06378

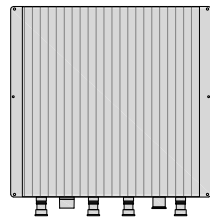
SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER  
**A-5**

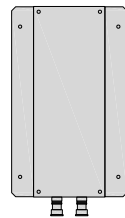
FUJITSU TRIPLE BAND TA08025-B605	
DIMENSIONS (HxWxD)	14.9"x15.7"x9"
WEIGHT	74.95 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



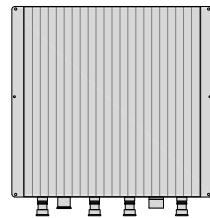
PLAN



BACK

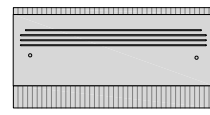


SIDE

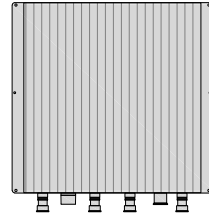


FRONT

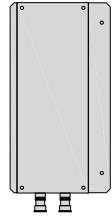
FUJITSU DUAL BAND TA08025-B604	
DIMENSIONS (HxWxD)	14.9"x15.7"x7.8"
WEIGHT	63.9 lbs
CONNECTOR TYPE	4.3-10 RF CONNECTOR
POWER SUPPLY	DC -58~-36V



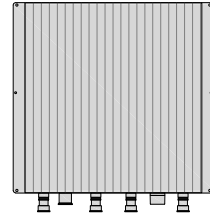
PLAN



BACK

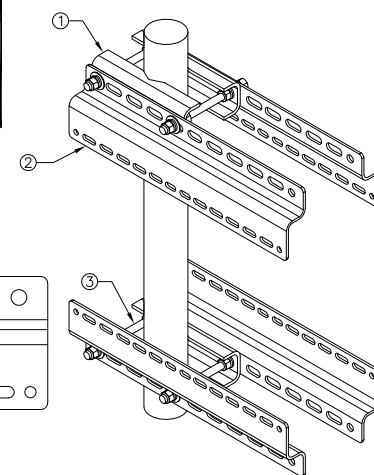


SIDE

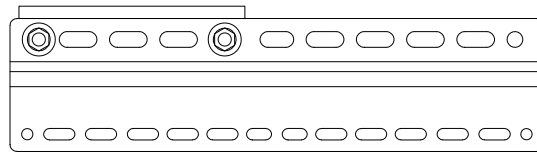


FRONT

SABRE DOUBLE Z-BRACKET C10123155	
DIMENSIONS (HxWxD) (1 BRACKET)	5"x20"x1-13/16"
WEIGHT (FULL ASSEMBLY)	35.79 lbs
PACKAGE QUANTITY	4



#	DESCRIPTION
1	PLATE, CHANNEL BRACKET
2	RRH Z BRACKET, 3/16"
3	THREADED ROD ASSEMBLY 1/2"x12"



NOTE:  
OR DISH Wireless L.L.C.  
APPROVED EQUIVALENT

RRH DETAIL

NO SCALE

1

RRH DETAIL

NO SCALE

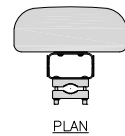
2

RRH MOUNT DETAIL

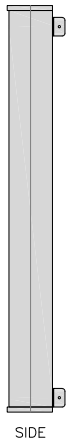
NO SCALE

3

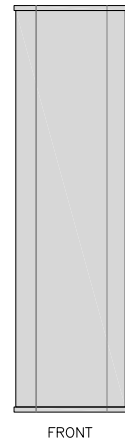
JMA MX08FRO665-21	
DIMENSIONS (HxWxD)	72"x20.0"x8.0"
RF PORTS, CONNECTOR TYPE	8 x 4.3-10 FEMALE
WEIGHT	64.5 lbs
WEIGHT WITH BRACKETS	82.5 lbs



PLAN



SIDE



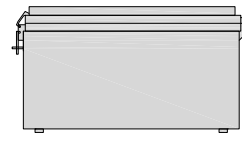
FRONT

ANTENNA DETAIL

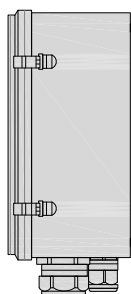
NO SCALE

4

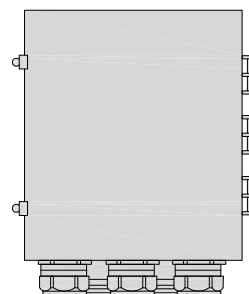
RAYCAP RDIDC-9181-PF-48 DC SURGE PROTECTION (OVP)	
DIMENSIONS (HxWxD)	18.98"x14.39"x8.15"
WEIGHT	21.82 LBS



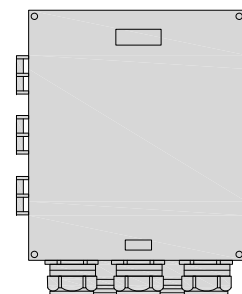
PLAN



SIDE



BACK



FRONT

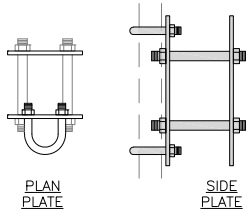
SURGE SUPPRESSION DETAIL (OVP)

NO SCALE

7

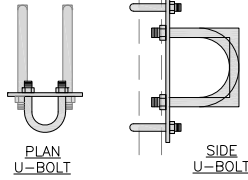
COMMSCOPE XP-2040 CROSSOVER PLATE	
DIMENSIONS (HxW)	10"x12"
WEIGHT	11 lbs

NOTE:  
OR DISH Wireless L.L.C.  
APPROVED EQUIVALENT



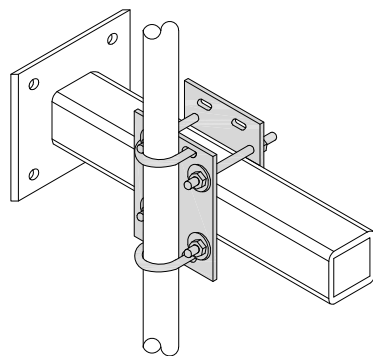
PLAN PLATE

SIDE PLATE



PLAN U-BOLT

SIDE U-BOLT



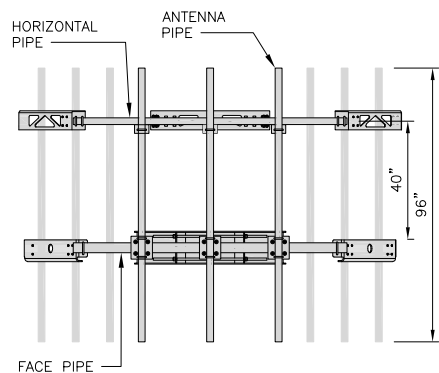
RRH/OVP MOUNT DETAIL

NO SCALE

8

COMMSCOPE MC-PK8-DSH	
FACE WIDTH	96"
WEIGHT	1373.08 lbs
NOTE: 15" TO 38" O.D.	

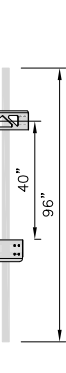
NOTE:  
OR DISH Wireless L.L.C.  
APPROVED EQUIVALENT



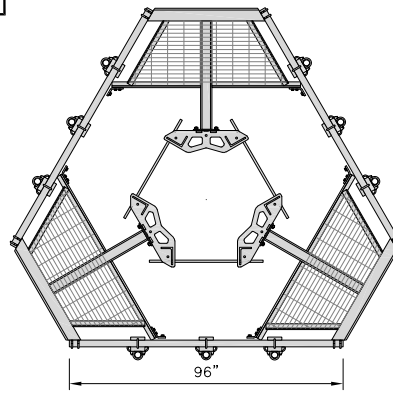
FACE PIPE

HORIZONTAL PIPE

ANTENNA PIPE



96"



96"

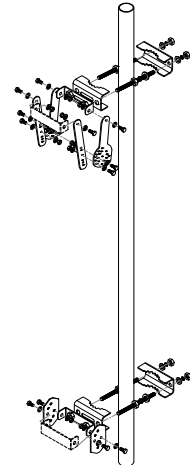
ANTENNA PLATFORM DETAIL

NO SCALE

9

JMA ANTENNA MOUNT BRACKET #91900318	
TOTAL WEIGHT (WITH BRACKETS)	18 lbs (8.18 Kg)
POLE DIAMETER RANGE	2.5" TO 4.5"

NOTE:  
KIT #91900318: TOP AND BOTTOM BRACKETS  
FOR 4-, 6-, AND 8-FOOT ANTENNAS  
ANTENNA BRACKET NOT PART OF KIT



NOTE:  
OR DISH Wireless L.L.C.  
APPROVED EQUIVALENT

ANTENNA BRACKET DETAIL

NO SCALE

6



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CONSTRUCTION DOCUMENTS

SUBMITTALS		
REV	DATE	DESCRIPTION
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2	01/06/23	ISSUED FOR CONSTRUCTION

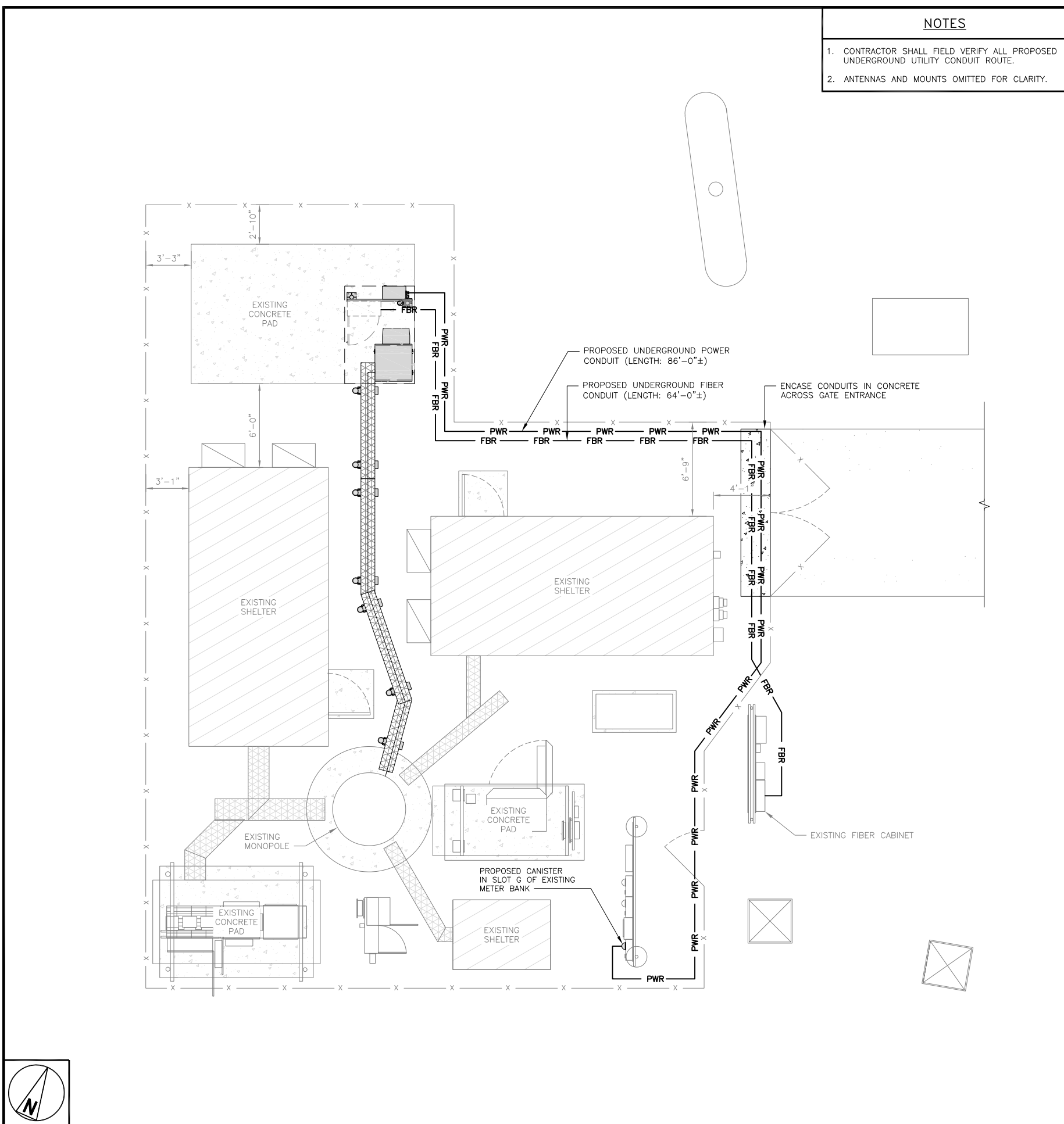
A&E PROJECT NUMBER  
149424.001.01

DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00039A  
TAUGWONK SPUR RD NO. 2  
STONINGTON, CT 06378

SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER

A-6



**NOTES**

1. CONTRACTOR SHALL FIELD VERIFY ALL PROPOSED UNDERGROUND UTILITY CONDUIT ROUTE.
2. ANTENNAS AND MOUNTS OMITTED FOR CLARITY.

DC POWER WIRING SHALL BE COLOR CODED AT EACH END FOR IDENTIFYING +24V AND -48V CONDUCTORS. RED MARKINGS SHALL IDENTIFY +24V AND BLUE MARKINGS SHALL IDENTIFY -48V.

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING A BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. ALL ELECTRICAL WORK SHALL BE DONE IN ACCORDANCE WITH CURRENT NATIONAL ELECTRICAL CODES AND ALL STATE AND LOCAL CODES, LAWS, AND ORDINANCES. PROVIDE ALL COMPONENTS AND WIRING SIZES AS REQUIRED TO MEET NEC STANDARDS.
3. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO CONSTRUCTION.
4. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION CONFLICTS. VERIFY WITH THE MECHANICAL EQUIPMENT CONTRACTOR AND COMPLY AS REQUIRED.
5. CONTRACTOR SHALL PROVIDE ALL BREAKERS, CONDUITS AND CIRCUITS AS REQUIRED FOR A COMPLETE SYSTEM.
6. CONTRACTOR SHALL PROVIDE PULL BOXES AND JUNCTION BOXES AS REQUIRED BY THE NEC ARTICLE 314.
7. CONTRACTOR SHALL PROVIDE ALL STRAIN RELIEF AND CABLE SUPPORTS FOR ALL CABLE ASSEMBLIES. INSTALLATION SHALL BE IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS AND RECOMMENDATIONS.
8. ALL DISCONNECTS AND CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED PHENOLIC NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON, AND PANEL FIELD LOCATIONS FED FROM.
9. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC 250. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULL BOXES, AND ALL DISCONNECT SWITCHES, AND EQUIPMENT CABINETS.
10. ALL NEW MATERIAL SHALL HAVE A U.L. LABEL.
11. PANEL SCHEDULE LOADING AND CIRCUIT ARRANGEMENTS REFLECT POST-CONSTRUCTION EQUIPMENT.
12. CONTRACTOR SHALL BE RESPONSIBLE FOR AS-BUILT PANEL SCHEDULE AND SITE DRAWINGS.
13. ALL TRENCHES IN COMPOUND TO BE HAND DUG.



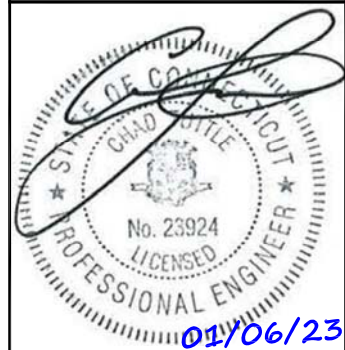
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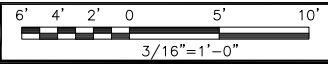
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**149424.001.01**

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PROJECT INFORMATION  
**BOBOS00039A**  
TAUGWONK SPUR RD NO. 2  
STONINGTON, CT 06378

SHEET TITLE  
**ELECTRICAL/FIBER ROUTE  
PLAN AND NOTES**

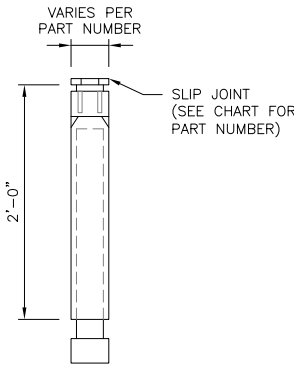
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**E-1**

UTILITY ROUTE PLAN



ELECTRICAL NOTES

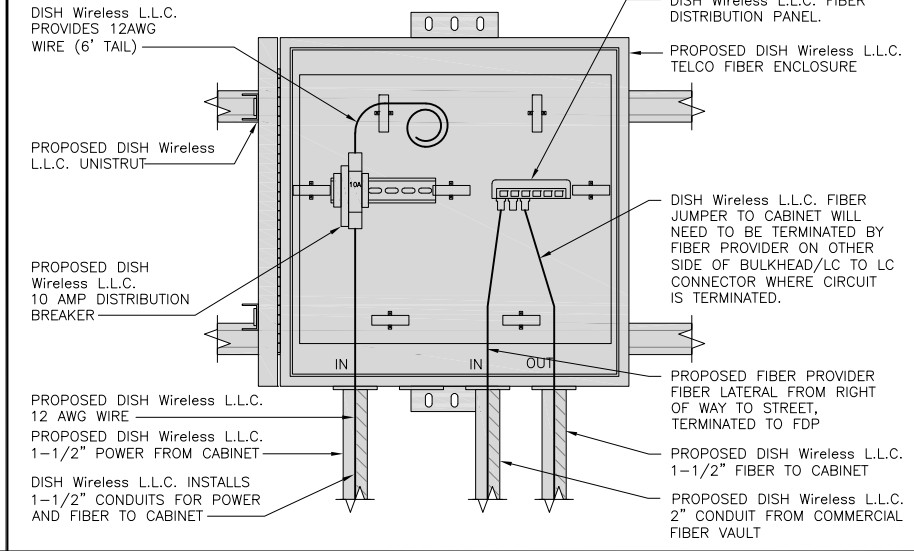
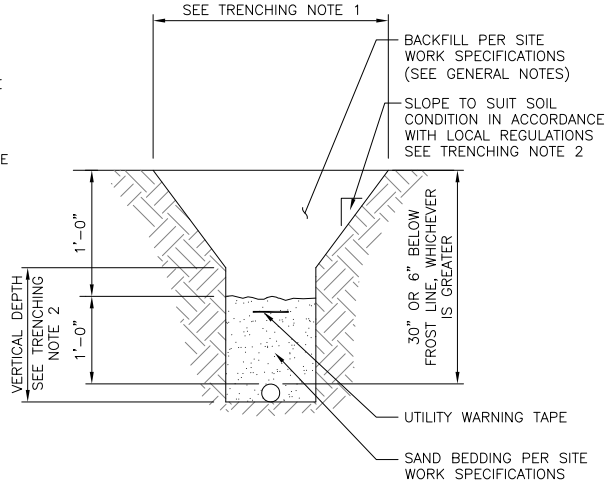
CARLON EXPANSION FITTINGS				
COUPLING END PART#	MALE TERMINAL ADAPTER END PART#	SIZE	STD CTN QTY.	TRAVEL LENGTH
E945D	E945DX	1/2"	20	4"
E945E	E945EX	3/4"	15	4"
E945F	E945FX	1"	10	4"
E945G	E945GX	1 1/4"	5	4"
E945H	E945HX	1 1/2"	5	4"
E945J	E945JX	2"	15	8"
E945K	E945KX	2 1/2"	10	8"
E945L	E945LX	3"	10	8"
E945M	E945MX	3 1/2"	5	8"
E945N	E945NX	4"	5	8"
E945P	E945PX	5"	1	8"
E945R	E945RX	6"	1	8"



NOTE: CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

**TRENCHING NOTES**

- CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
- TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
- ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT NATIONAL ELECTRIC CODE (NEC) OR AS REQUIRED BY THE LOCAL JURISDICTION, WHICHEVER IS THE MOST STRINGENT.



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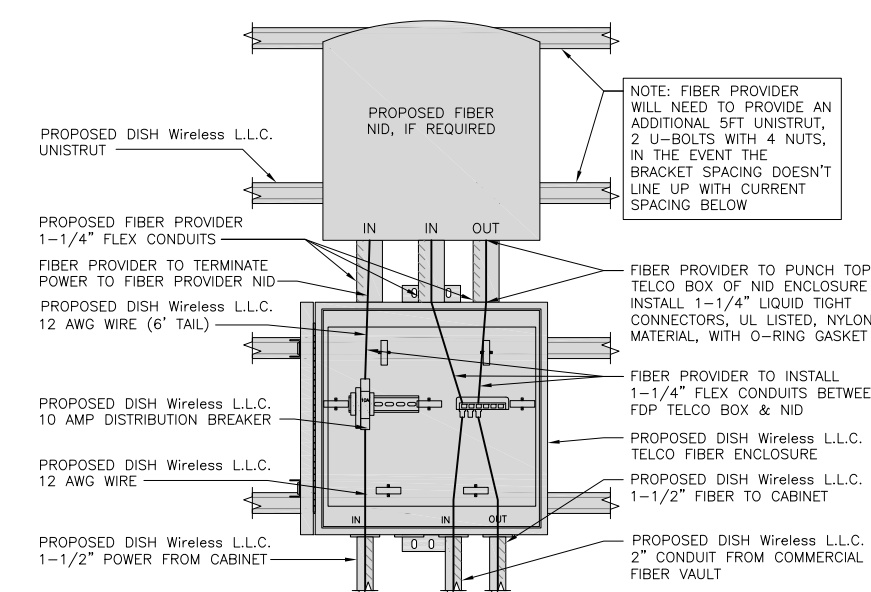
SHEET TITLE  
**ELECTRICAL DETAILS**

SHEET NUMBER  
**E-2**

EXPANSION JOINT DETAIL NO SCALE 1

TYPICAL UNDERGROUND TRENCH DETAIL NO SCALE 2

DARK TELCO BOX – INTERIOR WIRING LAYOUT NO SCALE 3



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL) NO SCALE 4

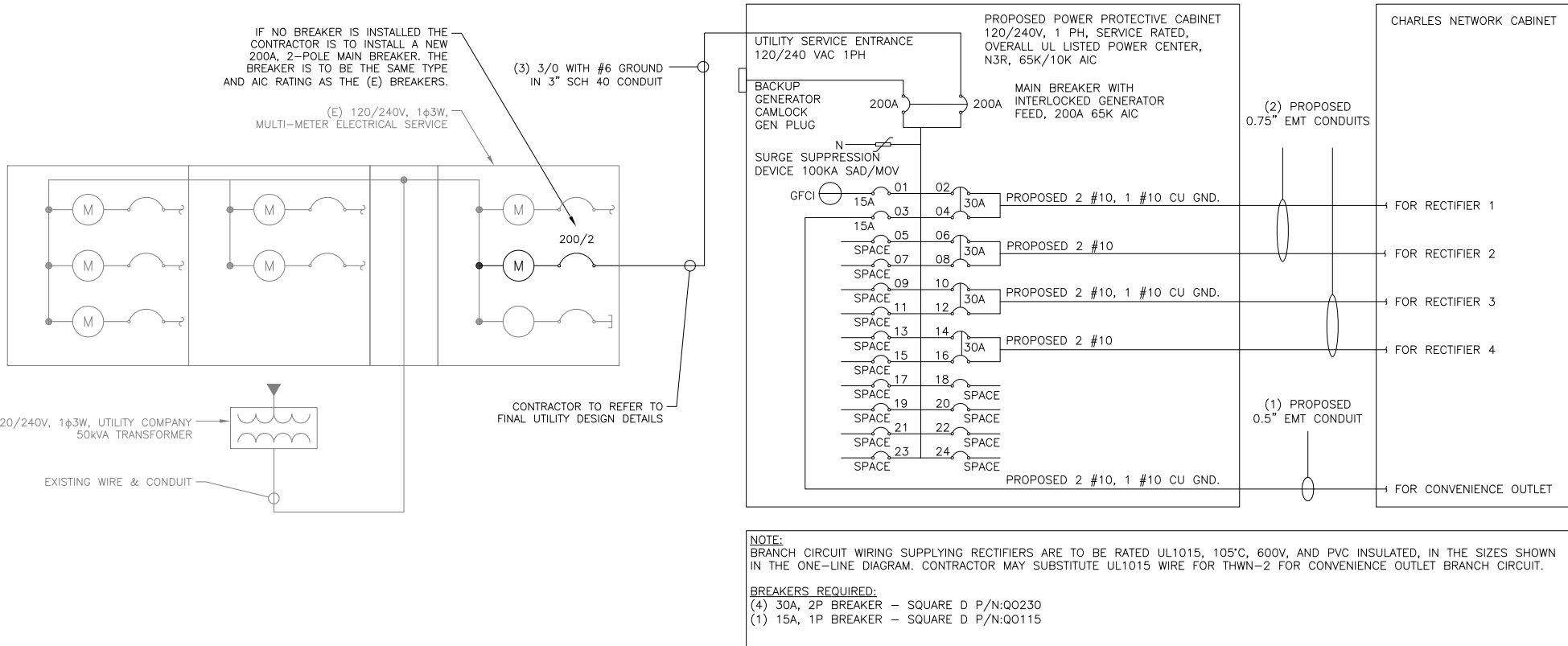
NOT USED NO SCALE 5

NOT USED NO SCALE 6

NOT USED NO SCALE 7

NOT USED NO SCALE 8

NOT USED NO SCALE 9



**NOTE:**  
BRANCH CIRCUIT WIRING SUPPLYING RECTIFIERS ARE TO BE RATED UL1015, 105°C, 600V, AND PVC INSULATED, IN THE SIZES SHOWN IN THE ONE-LINE DIAGRAM. CONTRACTOR MAY SUBSTITUTE UL1015 WIRE FOR THWN-2 FOR CONVENIENCE OUTLET BRANCH CIRCUIT.

**BREAKERS REQUIRED:**  
(4) 30A, 2P BREAKER - SQUARE D P/N:Q0230  
(1) 15A, 1P BREAKER - SQUARE D P/N:Q0115

**NOTES**

THE (2) CONDUITS WITH (4) CURRENT CARRYING CONDUCTORS EACH, SHALL APPLY THE ADJUSTMENT FACTOR OF 80% PER 2014/17 NEC TABLE 310.15(B)(3)(g) OR 2020 NEC TABLE 310.15(C)(1) FOR UL1015 WIRE.

#12 FOR 15A-20A/1P BREAKER: 0.8 x 30A = 24.0A  
#10 FOR 25A-30A/2P BREAKER: 0.8 x 40A = 32.0A  
#8 FOR 35A-40A/2P BREAKER: 0.8 x 55A = 44.0A  
#6 FOR 45A-60A/2P BREAKER: 0.8 x 75A = 60.0A

CONDUIT SIZING: AT 40% FILL PER NEC CHAPTER 9, TABLE 4, ARTICLE 358.  
0.5" CONDUIT - 0.122 SQ. IN AREA  
0.75" CONDUIT - 0.213 SQ. IN AREA  
2.0" CONDUIT - 1.316 SQ. IN AREA  
3.0" CONDUIT - 2.907 SQ. IN AREA

CABINET CONVENIENCE OUTLET CONDUCTORS (1 CONDUIT): USING THWN-2, CU.  
#10 - 0.0211 SQ. IN X 2 = 0.0422 SQ. IN  
#10 - 0.0211 SQ. IN X 1 = 0.0211 SQ. IN <GROUND  
TOTAL = 0.0633 SQ. IN

0.5" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (3) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

RECTIFIER CONDUCTORS (2 CONDUITS): USING UL1015, CU.  
#10 - 0.0266 SQ. IN X 4 = 0.1064 SQ. IN  
#10 - 0.0082 SQ. IN X 1 = 0.0082 SQ. IN <BARE GROUND  
TOTAL = 0.1146 SQ. IN

0.75" EMT CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (5) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC FEED CONDUCTORS (1 CONDUIT): USING THWN, CU.  
3/0 - 0.2679 SQ. IN X 3 = 0.8037 SQ. IN  
#6 - 0.0507 SQ. IN X 1 = 0.0507 SQ. IN <GROUND  
TOTAL = 0.8544 SQ. IN

3.0" SCH 40 PVC CONDUIT IS ADEQUATE TO HANDLE THE TOTAL OF (4) WIRES, INCLUDING GROUND WIRE, AS INDICATED ABOVE.

PPC ONE-LINE DIAGRAM

NO SCALE 1

PROPOSED CHARLES PANEL SCHEDULE										
LOAD SERVED	VOLT AMPS (WATTS)		TRIP	CKT #	PHASE	CKT #	TRIP	VOLT AMPS (WATTS)		LOAD SERVED
	L1	L2						L1	L2	
PPC GFCI OUTLET	180	180	15A	1	A	2	30A	2880	2880	ABB/GE INFINITY RECTIFIER 1
CHARLES GFCI OUTLET			15A	3	B	4	30A	2880	2880	ABB/GE INFINITY RECTIFIER 2
--SPACE--				5	A	6	30A	2880	2880	ABB/GE INFINITY RECTIFIER 3
--SPACE--				7	B	8	30A	2880	2880	ABB/GE INFINITY RECTIFIER 4
--SPACE--				9	A	10				--SPACE--
--SPACE--				11	B	12				--SPACE--
--SPACE--				13	A	14				--SPACE--
--SPACE--				15	B	16				--SPACE--
--SPACE--				17	A	18				--SPACE--
--SPACE--				19	B	20				--SPACE--
--SPACE--				21	A	22				--SPACE--
--SPACE--				23	B	24				--SPACE--
VOLTAGE AMPS	180	180						11520	11520	
200A MCB, 1 $\phi$ , 24 SPACE, 120/240V				L1	L2					
MB RATING: 65,000 AIC				11700	11700					
				98	98					
				98						
				123						

PANEL SCHEDULE

NO SCALE 2

NOT USED

NO SCALE 3



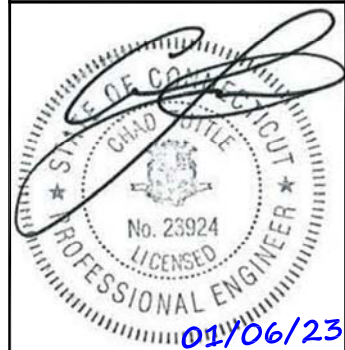
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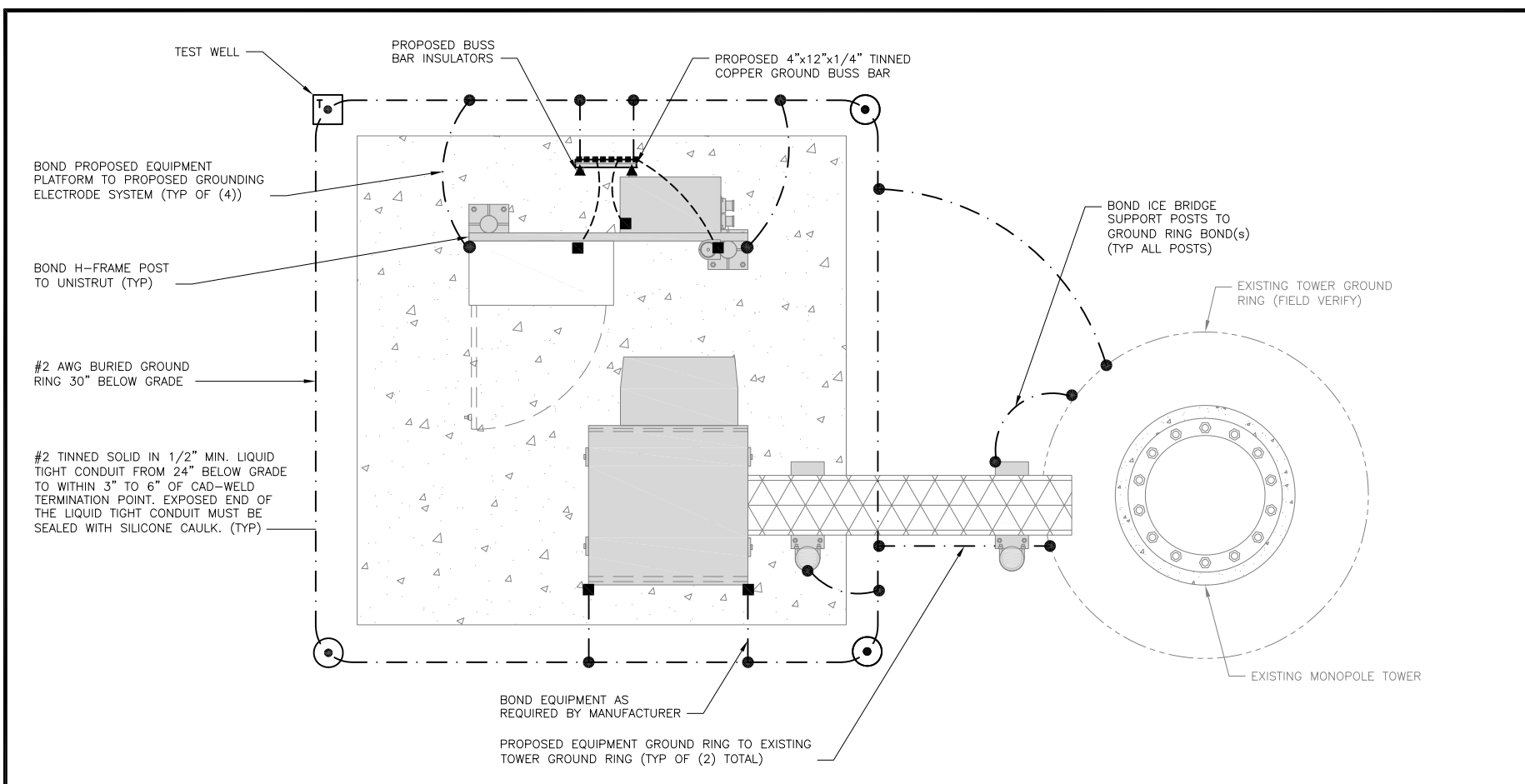
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DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00039A  
TAUGWONK SPUR RD NO. 2  
STONINGTON, CT 06378

SHEET TITLE  
ELECTRICAL ONE-LINE, FAULT  
CALCS & PANEL SCHEDULE

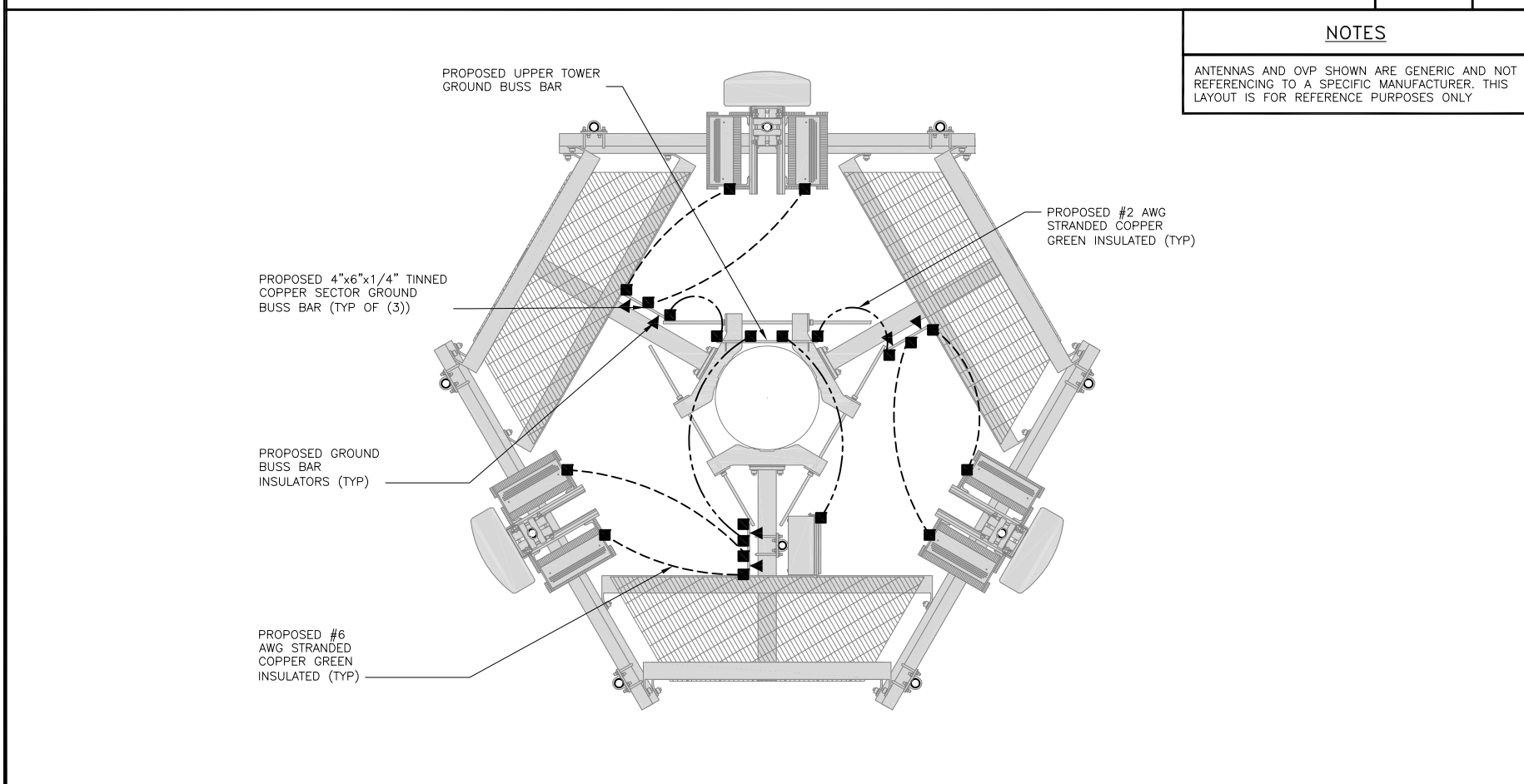
SHEET NUMBER  
**E-3**





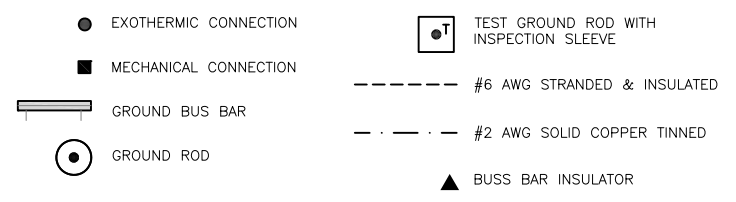
TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE 1



TYPICAL ANTENNA GROUNDING PLAN

NO SCALE 2



GROUNDING LEGEND

- GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
- CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND DISH Wireless L.L.C. GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
- ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

GROUNDING KEY NOTES

- (A) **EXTERIOR GROUND RING:** #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING.
- (B) **TOWER GROUND RING:** THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS.
- (C) **INTERIOR GROUND RING:** #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED GREEN INSULATED CONDUCTOR.
- (D) **BOND TO INTERIOR GROUND RING:** #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING.
- (E) **GROUND ROD:** UL LISTED COPPER CLAD STEEL, MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.
- (F) **CELL REFERENCE GROUND BAR:** POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.
- (G) **HATCH PLATE GROUND BAR:** BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING (2) TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS EACH.
- (H) **EXTERIOR CABLE ENTRY PORT GROUND BARS:** LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AN EXOTHERMIC WELD AND INSPECTION SLEEVE.
- (I) **TELCO GROUND BAR:** BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.
- (J) **FRAME BONDING:** THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.
- (K) **INTERIOR UNIT BONDS:** METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND TO THE INTERIOR GROUND RING.
- (L) **FENCE AND GATE GROUNDING:** METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS.
- (M) **EXTERIOR UNIT BONDS:** METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE.
- (N) **ICE BRIDGE SUPPORTS:** EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING.
- (O) DURING ALL DC POWER SYSTEM CHANGES INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR.
- (P) TOWER TOP COLLECTOR BUSS BAR IS TO BE MECHANICALLY BONDED TO PROPOSED ANTENNA MOUNT COLLAR. REFER TO DISH Wireless L.L.C. GROUNDING NOTES.

GROUNDING KEY NOTES

NO SCALE 3

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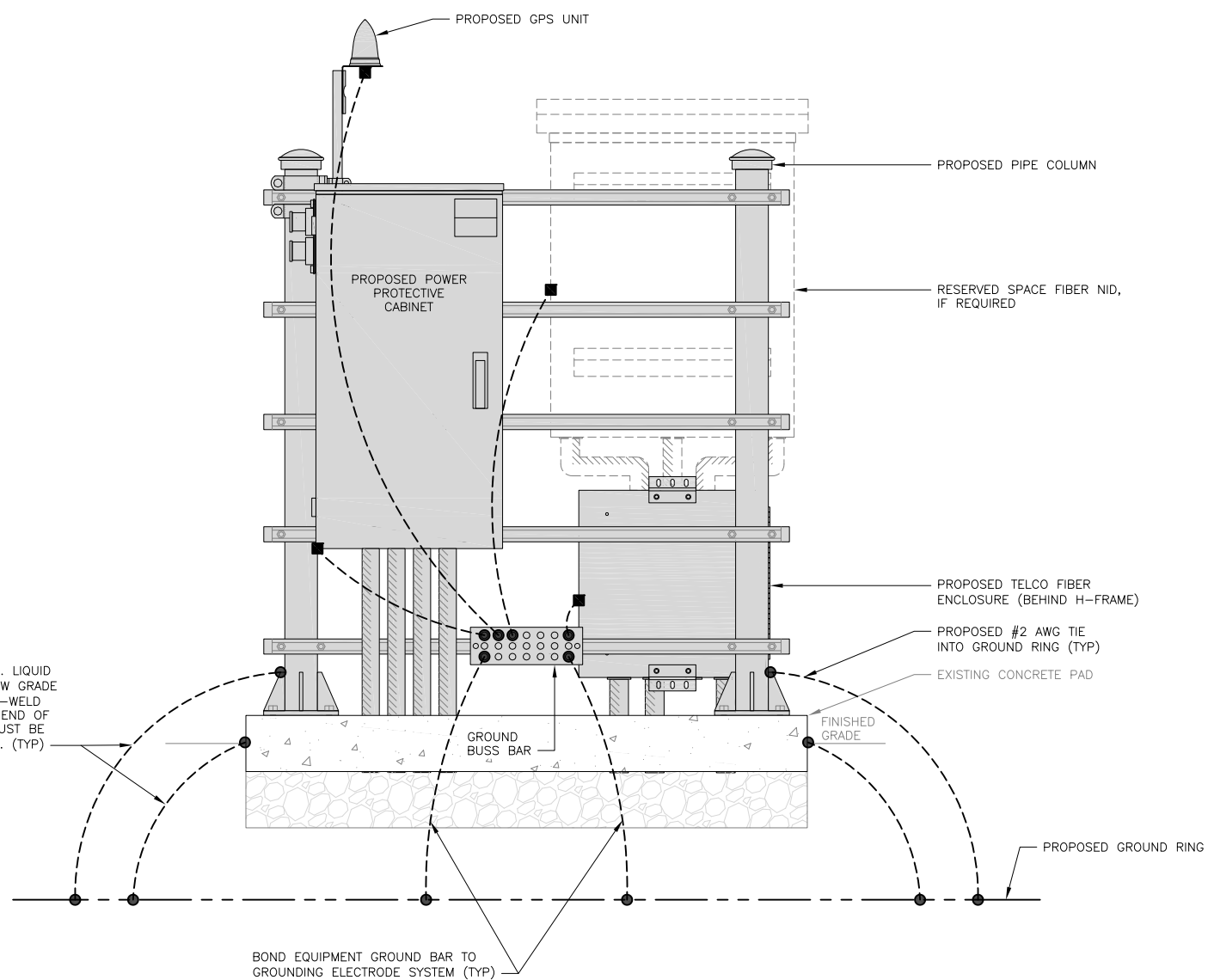
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GROUNDING PLANS AND NOTES

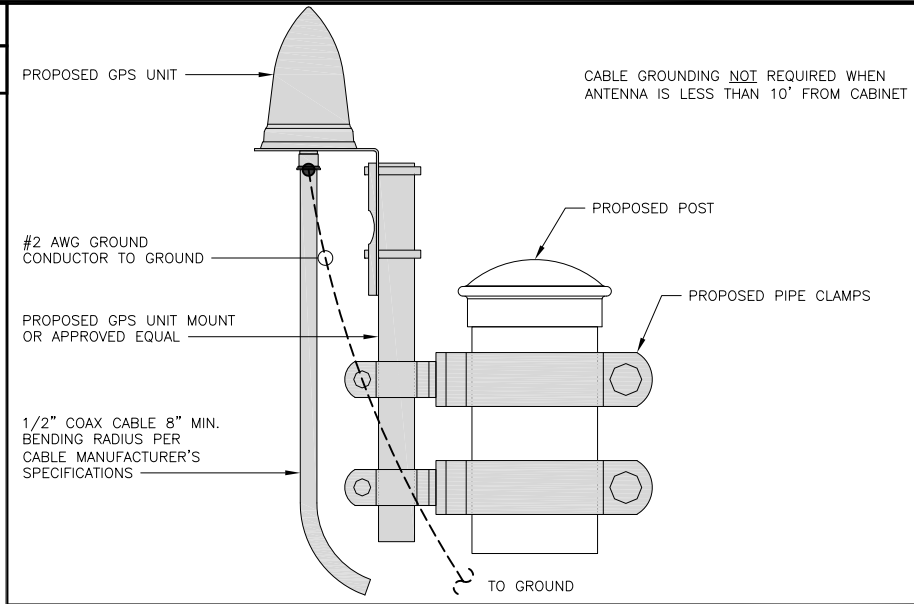
SHEET NUMBER  
**G-1**

**NOTES**  
EQUIPMENT CABINET OMITTED FOR CLARITY



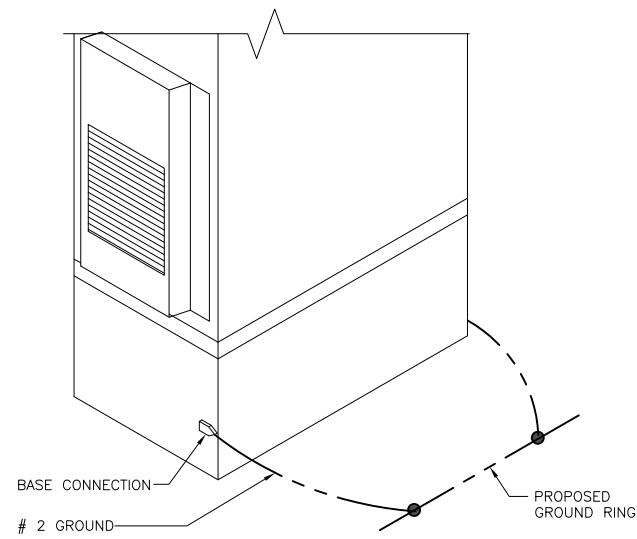
**H-FRAME GROUNDING DETAIL**

NO SCALE 1



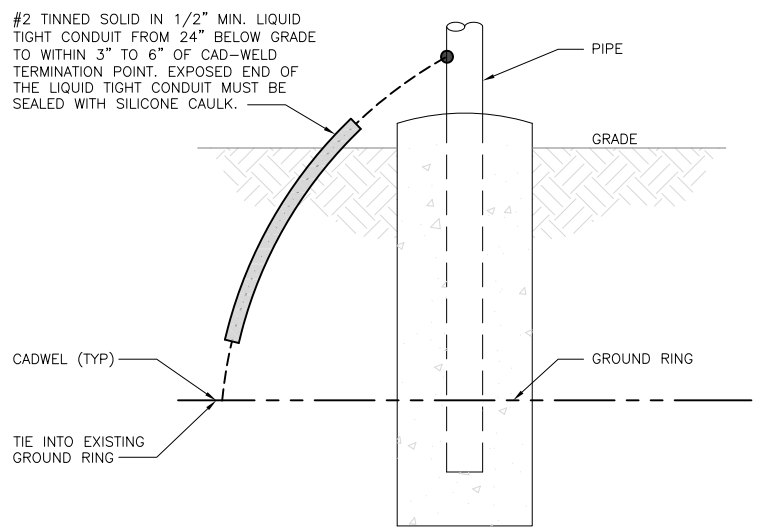
**TYPICAL GPS UNIT GROUNDING**

NO SCALE 2



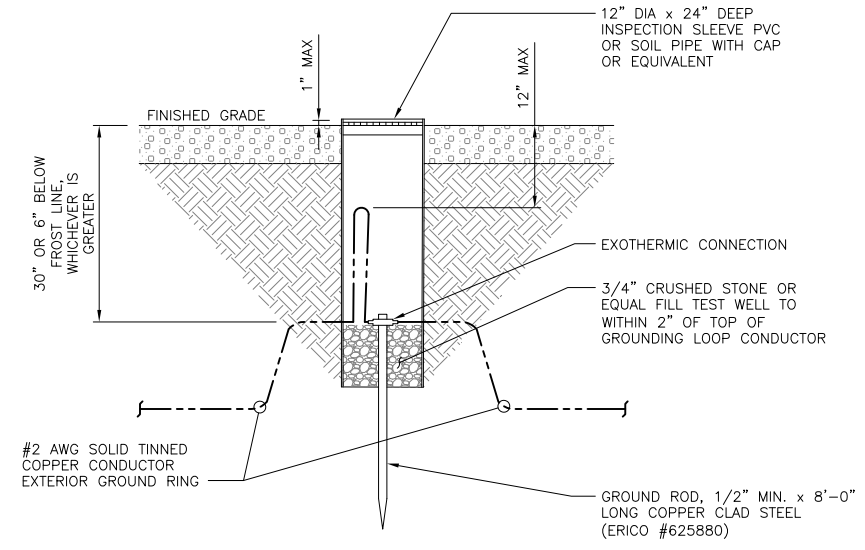
**OUTDOOR CABINET GROUNDING**

NO SCALE 3



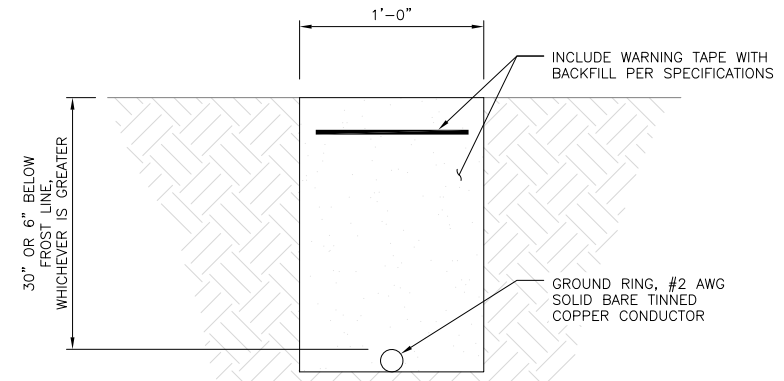
**TRANSITIONING GROUND DETAIL**

NO SCALE 4



**TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE**

NO SCALE 5



**TYPICAL GROUND RING TRENCH**

NO SCALE 6



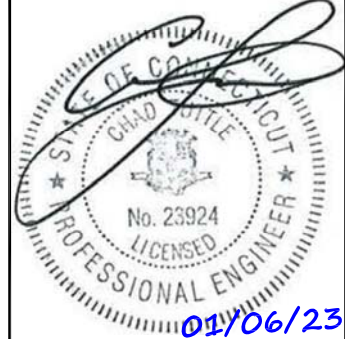
5701 SOUTH SANTA FE DRIVE  
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SUITE 300  
TULSA, OK 74119  
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BER:2386985  
Expires 3/31/23

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DRAWN BY: CHECKED BY: APPROVED BY:  
BLB MRE RMC

RFDS REV #: 1

**CONSTRUCTION DOCUMENTS**

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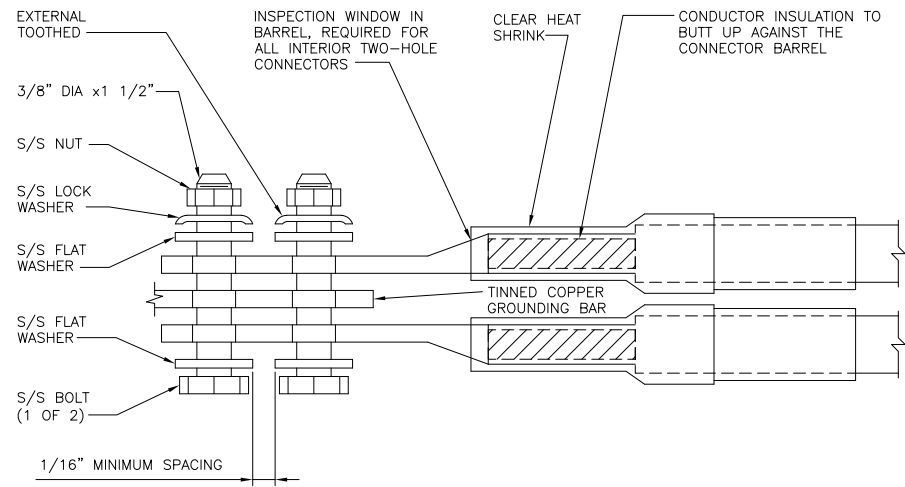
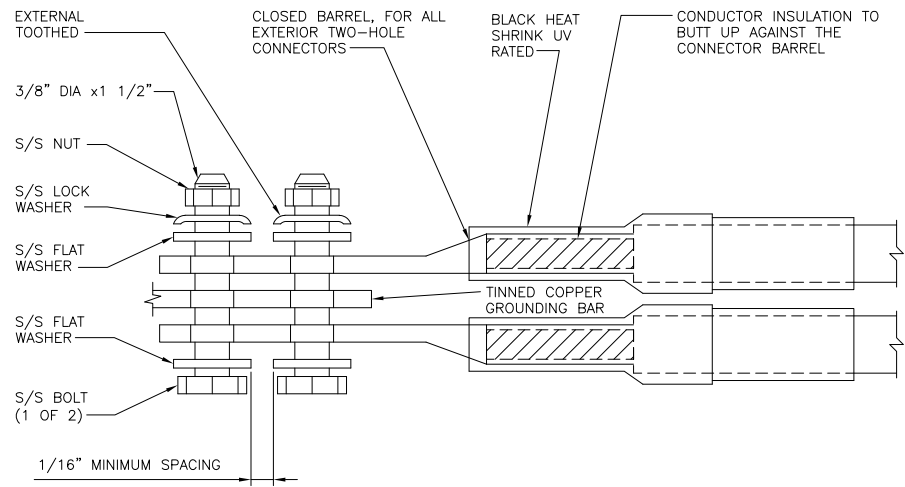
A&E PROJECT NUMBER  
**149424.001.01**

DISH Wireless L.L.C.  
PROJECT INFORMATION  
**BOBOS00039A**  
TAUGWONK SPUR RD NO. 2  
STONINGTON, CT 06378

SHEET TITLE  
**GROUNDING DETAILS**

SHEET NUMBER  
**G-2**

1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR. ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
2. ALL EXTERIOR GROUNDING HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
3. FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
4. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.
5. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.
6. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.
7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.
8. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).



TYPICAL GROUNDING NOTES

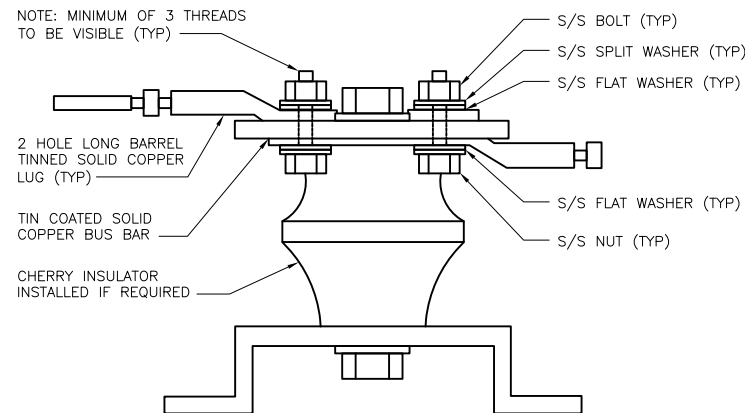
NO SCALE 1

TYPICAL EXTERIOR TWO HOLE LUG

NO SCALE 2

TYPICAL INTERIOR TWO HOLE LUG

NO SCALE 3



LUG DETAIL

NO SCALE 4

NOT USED

NO SCALE 5

NOT USED

NO SCALE 6

NOT USED

NO SCALE 7

NOT USED

NO SCALE 8

NOT USED

NO SCALE 9



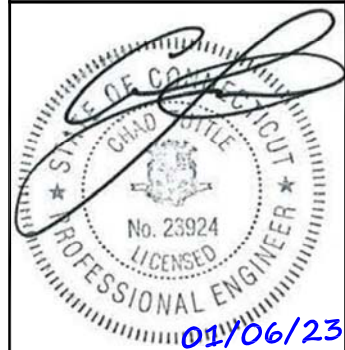
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STONINGTON, CT 06378

SHEET TITLE  
GROUNDING DETAILS

SHEET NUMBER  
**G-3**

**RF JUMPER COLOR CODING**

3/4" TAPE WIDTHS WITH 3/4" SPACING

LOW-BAND RRH -  
(600MHz N71 BASEBAND) +  
(850MHz N26 BAND) +  
(700MHz N29 BAND) - OPTIONAL PER MARKET

ADD FREQUENCY COLOR TO SECTOR BAND  
(CBRS WILL USE YELLOW BANDS)

ALPHA RRH				BETA RRH				GAMMA RRH			
PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT	PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT	PORT 1 + SLANT	PORT 2 - SLANT	PORT 3 + SLANT	PORT 4 - SLANT
RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
ORANGE	ORANGE	RED	RED	ORANGE	ORANGE	BLUE	BLUE	ORANGE	ORANGE	GREEN	GREEN
	WHITE (-) PORT	ORANGE	ORANGE		WHITE (-) PORT	ORANGE	ORANGE		WHITE (-) PORT	ORANGE	ORANGE
			WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT

MID-BAND RRH -  
(AWS BANDS N66+N70)

ADD FREQUENCY COLOR TO SECTOR BAND  
(CBRS WILL USE YELLOW BANDS)

RED	RED	RED	RED	BLUE	BLUE	BLUE	BLUE	GREEN	GREEN	GREEN	GREEN
PURPLE	PURPLE	RED	RED	PURPLE	PURPLE	BLUE	BLUE	PURPLE	PURPLE	GREEN	GREEN
	WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE		WHITE (-) PORT	PURPLE	PURPLE
			WHITE (-) PORT				WHITE (-) PORT				WHITE (-) PORT

**HYBRID/DISCREET CABLES**

INCLUDE SECTOR BANDS BEING SUPPORTED ALONG WITH FREQUENCY BANDS

EXAMPLE 1 - HYBRID, OR DISCREET, SUPPORTS ALL SECTORS, BOTH LOW-BANDS AND MID-BANDS

EXAMPLE 2 - HYBRID, OR DISCREET, SUPPORTS CBRS ONLY, ALL SECTORS

EXAMPLE 1	EXAMPLE 2	EXAMPLE 3
RED	RED	RED
BLUE	BLUE	
GREEN	GREEN	ORANGE
ORANGE	YELLOW	PURPLE
PURPLE		

CONTRACTOR TO REFER TO FINAL CONSTRUCTION RFDS FOR ALL RF DETAILS. FINAL RFDS IS IN NEXSYSONE.

**FIBER JUMPERS TO RRHs**

LOW-BAND RRH FIBER CABLES HAVE SECTOR STRIPE ONLY

LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH
RED	RED	BLUE	BLUE	GREEN	GREEN
	PURPLE		PURPLE		PURPLE

**POWER CABLES TO RRHs**

LOW-BAND RRH POWER CABLES HAVE SECTOR STRIPE ONLY

LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH	LOW BAND RRH	HIGH BAND RRH
RED	RED	BLUE	BLUE	GREEN	GREEN
	PURPLE		PURPLE		PURPLE

**RET MOTORS AT ANTENNAS**

ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"	ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"	ANTENNA 1 LOW BAND/ "IN"	ANTENNA 1 HIGH BAND/ "IN"
RED	RED	BLUE	BLUE	GREEN	GREEN
	PURPLE		PURPLE		PURPLE

**MICROWAVE RADIO LINKS**

LINKS WILL HAVE A 1.5-2 INCH WHITE WRAP WITH THE AZIMUTH COLOR OVERLAPPING IN THE MIDDLE. ADD ADDITIONAL SECTOR COLOR BANDS FOR EACH ADDITIONAL MW RADIO.

MICROWAVE CABLES WILL REQUIRE P-TOUCH LABELS INSIDE THE CABINET TO IDENTIFY THE LOCAL AND REMOTE SITE ID'S

FORWARD AZIMUTH OF 0-120 DEGREES		FORWARD AZIMUTH OF 120-240 DEGREES		FORWARD AZIMUTH OF 240-360 DEGREES	
PRIMARY	SECONDARY	PRIMARY	SECONDARY	PRIMARY	SECONDARY
WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
RED	RED	BLUE	BLUE	GREEN	GREEN
WHITE	WHITE	WHITE	WHITE	WHITE	WHITE
	RED		BLUE		GREEN
	WHITE		WHITE		WHITE

LOW BANDS (N71+N26)  
OPTIONAL - (N29)



AWS  
(N66+N70+H-BLOCK)



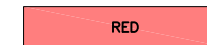
CBRS TECH  
(3 GHz)



NEGATIVE SLANT PORT  
ON ANT/RRH



ALPHA SECTOR



BETA SECTOR



GAMMA SECTOR



COLOR IDENTIFIER

NO SCALE

2

NOT USED

NO SCALE

3

RF CABLE COLOR CODES

NO SCALE

1

NOT USED

NO SCALE

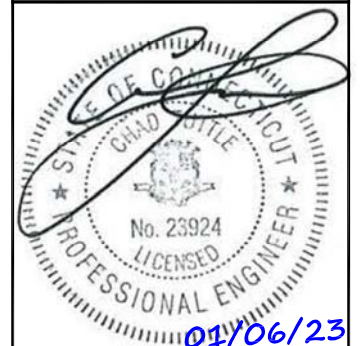
4



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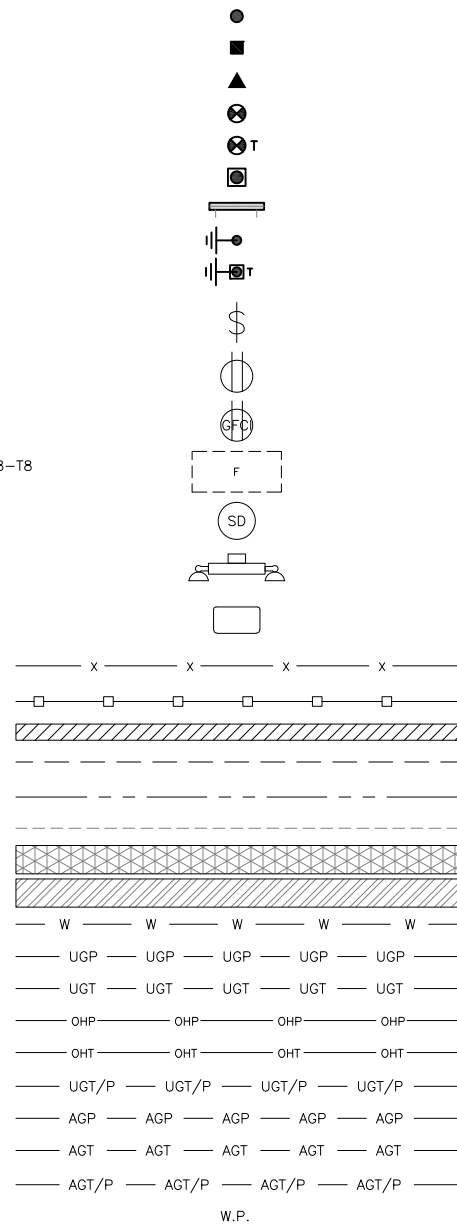
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DISH Wireless L.L.C.  
PROJECT INFORMATION  
BOBOS00039A  
TAUGWONK SPUR RD NO. 2  
STONINGTON, CT 06378

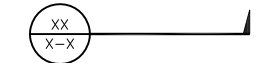
SHEET TITLE  
RF  
CABLE COLOR CODES

SHEET NUMBER  
**RF-1**

EXOTHERMIC CONNECTION  
 MECHANICAL CONNECTION  
 BUSS BAR INSULATOR  
 CHEMICAL ELECTROLYTIC GROUNDING SYSTEM  
 TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM  
 EXOTHERMIC WITH INSPECTION SLEEVE  
 GROUNDING BAR  
 GROUND ROD  
 TEST GROUND ROD WITH INSPECTION SLEEVE  
 SINGLE POLE SWITCH  
 DUPLEX RECEPTACLE  
 DUPLEX GFCI RECEPTACLE  
 FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48-T8  
 SMOKE DETECTION (DC)  
 EMERGENCY LIGHTING (DC)  
 SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW  
 LED-1-25A400/51K-SR4-120-PE-DDBTXD  
 CHAIN LINK FENCE  
 WOOD/WROUGHT IRON FENCE  
 WALL STRUCTURE  
 LEASE AREA  
 PROPERTY LINE (PL)  
 SETBACKS  
 ICE BRIDGE  
 CABLE TRAY  
 WATER LINE  
 UNDERGROUND POWER  
 UNDERGROUND TELCO  
 OVERHEAD POWER  
 OVERHEAD TELCO  
 UNDERGROUND TELCO/POWER  
 ABOVE GROUND POWER  
 ABOVE GROUND TELCO  
 ABOVE GROUND TELCO/POWER  
 WORKPOINT



SECTION REFERENCE



DETAIL REFERENCE



**LEGEND**

AB ANCHOR BOLT  
 ABV ABOVE  
 AC ALTERNATING CURRENT  
 ADDL ADDITIONAL  
 AFF ABOVE FINISHED FLOOR  
 AFG ABOVE FINISHED GRADE  
 AGL ABOVE GROUND LEVEL  
 AIC AMPERAGE INTERRUPTION CAPACITY  
 ALUM ALUMINUM  
 ALT ALTERNATE  
 ANT ANTENNA  
 APPROX APPROXIMATE  
 ARCH ARCHITECTURAL  
 ATS AUTOMATIC TRANSFER SWITCH  
 AWG AMERICAN WIRE GAUGE  
 BATT BATTERY  
 BLDG BUILDING  
 BLK BLOCK  
 BLKG BLOCKING  
 BM BEAM  
 BTC BARE TINNED COPPER CONDUCTOR  
 BOF BOTTOM OF FOOTING  
 CAB CABINET  
 CANT CANTILEVERED  
 CHG CHARGING  
 CLG CEILING  
 CLR CLEAR  
 COL COLUMN  
 COMM COMMON  
 CONC CONCRETE  
 CONSTR CONSTRUCTION  
 DBL DOUBLE  
 DC DIRECT CURRENT  
 DEPT DEPARTMENT  
 DF DOUGLAS FIR  
 DIA DIAMETER  
 DIAG DIAGONAL  
 DIM DIMENSION  
 DWG DRAWING  
 DWL DOWEL  
 EA EACH  
 EC ELECTRICAL CONDUCTOR  
 EL ELEVATION  
 ELEC ELECTRICAL  
 EMT ELECTRICAL METALLIC TUBING  
 ENG ENGINEER  
 EQ EQUAL  
 EXP EXPANSION  
 EXT EXTERIOR  
 EW EACH WAY  
 FAB FABRICATION  
 FF FINISH FLOOR  
 FG FINISH GRADE  
 FIF FACILITY INTERFACE FRAME  
 FIN FINISH(ED)  
 FLR FLOOR  
 FDN FOUNDATION  
 FOC FACE OF CONCRETE  
 FOM FACE OF MASONRY  
 FOS FACE OF STUD  
 FOW FACE OF WALL  
 FS FINISH SURFACE  
 FT FOOT  
 FTG FOOTING  
 GA GAUGE  
 GEN GENERATOR  
 GFCI GROUND FAULT CIRCUIT INTERRUPTER  
 GLB GLUE LAMINATED BEAM  
 GLV GALVANIZED  
 GPS GLOBAL POSITIONING SYSTEM  
 GND GROUND  
 GSM GLOBAL SYSTEM FOR MOBILE  
 HDG HOT DIPPED GALVANIZED  
 HDR HEADER  
 HGR HANGER  
 HVAC HEAT/VENTILATION/AIR CONDITIONING  
 HT HEIGHT  
 IGR INTERIOR GROUND RING

IN INCH  
 INT INTERIOR  
 LB(S) POUND(S)  
 LF LINEAR FEET  
 LTE LONG TERM EVOLUTION  
 MAS MASONRY  
 MAX MAXIMUM  
 MB MACHINE BOLT  
 MECH MECHANICAL  
 MFR MANUFACTURER  
 MGB MASTER GROUND BAR  
 MIN MINIMUM  
 MISC MISCELLANEOUS  
 MTL METAL  
 MTS MANUAL TRANSFER SWITCH  
 MW MICROWAVE  
 NEC NATIONAL ELECTRIC CODE  
 NM NEWTON METERS  
 NO. NUMBER  
 # NUMBER  
 NTS NOT TO SCALE  
 OC ON-CENTER  
 OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION  
 OPNG OPENING  
 P/C PRECAST CONCRETE  
 PCS PERSONAL COMMUNICATION SERVICES  
 PCU PRIMARY CONTROL UNIT  
 PRC PRIMARY RADIO CABINET  
 PP POLARIZING PRESERVING  
 PSF POUNDS PER SQUARE FOOT  
 PSI POUNDS PER SQUARE INCH  
 PT PRESSURE TREATED  
 PWR POWER CABINET  
 QTY QUANTITY  
 RAD RADIUS  
 RECT RECTIFIER  
 REF REFERENCE  
 REINF REINFORCEMENT  
 REQ'D REQUIRED  
 RET REMOTE ELECTRIC TILT  
 RF RADIO FREQUENCY  
 RMC RIGID METALLIC CONDUIT  
 RRH REMOTE RADIO HEAD  
 RRU REMOTE RADIO UNIT  
 RWY RACEWAY  
 SCH SCHEDULE  
 SHT SHEET  
 SIAD SMART INTEGRATED ACCESS DEVICE  
 SIM SIMILAR  
 SPEC SPECIFICATION  
 SQ SQUARE  
 SS STAINLESS STEEL  
 STD STANDARD  
 STL STEEL  
 TEMP TEMPORARY  
 THK THICKNESS  
 TMA TOWER MOUNTED AMPLIFIER  
 TN TOE NAIL  
 TOA TOP OF ANTENNA  
 TOC TOP OF CURB  
 TOF TOP OF FOUNDATION  
 TOP TOP OF PLATE (PARAPET)  
 TOS TOP OF STEEL  
 TOW TOP OF WALL  
 TVSS TRANSIENT VOLTAGE SURGE SUPPRESSION  
 TYP TYPICAL  
 UG UNDERGROUND  
 UL UNDERWRITERS LABORATORY  
 UNO UNLESS NOTED OTHERWISE  
 UMTS UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM  
 UPS UNINTERRUPTIBLE POWER SYSTEM (DC POWER PLANT)  
 VIF VERIFIED IN FIELD  
 W WIDE  
 W/ WITH  
 WD WOOD  
 WP WEATHERPROOF  
 WT WEIGHT

**ABBREVIATIONS**



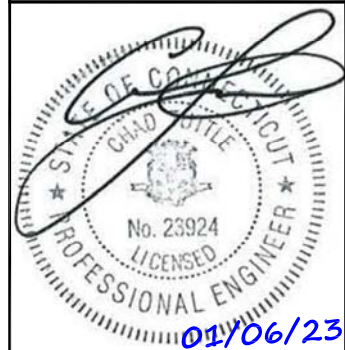
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 TAUGWONK SPUR RD NO. 2  
 STONINGTON, CT 06378

SHEET TITLE  
**LEGEND AND ABBREVIATIONS**

SHEET NUMBER  
**GN-1**

SITE ACTIVITY REQUIREMENTS:

- NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH Wireless L.L.C. AND TOWER OWNER NOC & THE DISH Wireless L.L.C. AND TOWER OWNER CONSTRUCTION MANAGER.
- "LOOK UP" – DISH Wireless L.L.C. AND TOWER OWNER SAFETY CLIMB REQUIREMENT:  
THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH Wireless L.L.C. AND DISH Wireless L.L.C. AND TOWER OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
- PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
- ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH Wireless L.L.C. AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA-322 (LATEST EDITION).
- ALL SITE WORK TO COMPLY WITH DISH Wireless L.L.C. AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH Wireless L.L.C. AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA-1019-A-2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH Wireless L.L.C. AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.
- ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
- ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
- CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH Wireless L.L.C. AND TOWER OWNER, AND/OR LOCAL UTILITIES.
- THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
- THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER'S EQUIPMENT AND TOWER AREAS.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
- THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
- CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
- NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

- FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:  
CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION  
CARRIER:DISH Wireless L.L.C.  
TOWER OWNER:TOWER OWNER
- THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
- THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
- NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
- SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND TOWER OWNER.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
- CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
- THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR'S EXPENSE TO THE SATISFACTION OF DISH Wireless L.L.C. AND TOWER OWNER
- CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER'S DESIGNATED LOCATION.
- CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.



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A&E PROJECT NUMBER  
**149424.001.01**

DISH Wireless L.L.C.  
PROJECT INFORMATION  
**BOBOS00039A**  
**TAUGWONK SPUR RD NO. 2**  
**STONINGTON, CT 06378**

SHEET TITLE  
**GENERAL NOTES**

SHEET NUMBER  
**GN-2**

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
- CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
- ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:  
 #4 BARS AND SMALLER 40 ksi  
 #5 BARS AND LARGER 60 ksi
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:
  - CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"
  - CONCRETE EXPOSED TO EARTH OR WEATHER:
    - #6 BARS AND LARGER 2"
    - #5 BARS AND SMALLER 1-1/2"
  - CONCRETE NOT EXPOSED TO EARTH OR WEATHER:
    - SLAB AND WALLS 3/4"
    - BEAMS AND COLUMNS 1-1/2"
- A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.

ELECTRICAL INSTALLATION NOTES:

- ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
- CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
- WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
- ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
  - ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
  - ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
- EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR-CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2" PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
- ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID'S).
- PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
- TIE WRAPS ARE NOT ALLOWED.
- ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI-CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
- POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI-CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN-2, XHHW, XHHW-2, THW, THW-2, RHW, OR RHW-2 INSULATION UNLESS OTHERWISE SPECIFIED.
- ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP-STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
- RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
- ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.

- ELECTRICAL METALLIC TUBING (EMT) OR METAL-CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
- SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
- LIQUID-TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID-TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
- CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION-TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
- CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
- WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
- SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
- CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON-PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER-ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
- EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY-COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.
- METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY-COATED OR NON-CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
- THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
- THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
- INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C.".
- ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.



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DISH Wireless L.L.C.  
PROJECT INFORMATION  
**BOBOS00039A**  
**TAUGWONK SPUR RD NO. 2**  
**STONINGTON, CT 06378**

SHEET TITLE  
**GENERAL NOTES**

SHEET NUMBER  
**GN-3**

**GROUNDING NOTES:**

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES'S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON-METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4" NON-METALLIC, FLEXIBLE CONDUIT FROM 24" BELOW GRADE TO WITHIN 3" TO 6" OF CAD-WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.



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SHEET TITLE  
**GENERAL NOTES**

SHEET NUMBER  
**GN-4**



# Exhibit D

## **Structural Analysis Report**



**Tower Engineering Solutions**

Phone (972) 483-0607, Fax (972) 975-9615  
1320 Greenway Drive, Suite 600, Irving, Texas 75038

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## Structural Analysis Report

**Existing 190 ft SUMMIT Monopole**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT00235-B**

**Customer Site Name: Stony Brook**

**Carrier Name: Dish Wireless (App#: 160702-2)**

**Carrier Site ID / Name: BOBOS00039A / 0**

**Site Location: Taugwonk Spur Road No. 2**

**Stonington, Connecticut**

**New London County**

**Latitude: 41.382249**

**Longitude: -71.903444**

**Analysis Result:**

**Max Structural Usage: 76.4% [Pass]**

**Max Foundation Usage: 76.6% [Pass]**

**Additional Usage Caused by New Mount/Mount Modification: N/A**



**Report Prepared By: Jacob C. Ehrmann**



**Tower Engineering Solutions**

Phone (972) 483-0607, Fax (972) 975-9615  
1320 Greenway Drive, Suite 600, Irving, Texas 75038

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## **Structural Analysis Report**

**Existing 190 ft SUMMIT Monopole**

**Customer Name: SBA Communications Corp**

**Customer Site Number: CT00235-B**

**Customer Site Name: Stony Brook**

**Carrier Name: Dish Wireless (App#: 160702-2)**

**Carrier Site ID / Name: BOBOS00039A / 0**

**Site Location: Taugwonk Spur Road No. 2**

**Stonington, Connecticut**

**New London County**

**Latitude: 41.382249**

**Longitude: -71.903444**

### **Analysis Result:**

**Max Structural Usage: 76.4% [Pass]**

**Max Foundation Usage: 76.6% [Pass]**

**Additional Usage Caused by New Mount/Mount Modification: N/A**

**Report Prepared By: Jacob C. Ehrmann**

## Introduction

The purpose of this report is to summarize the analysis results on the 190 ft SUMMIT Monopole to support the proposed antennas and transmission lines in addition to those currently installed. Any modification listed under Sources of Information was assumed completed and was included in this analysis.

## Sources of Information

<b>Tower Drawings</b>	Original Drawings from Summit Manufacturing Inc, Job#: 3535 Dated: 05/14/1998 Monopole Tower Report by FDH Job#: 08-10050T Dated: 12/29/2008 Structural Analysis by FDH, Project#:15BEFV1400(R1) Dated:02/23/2015, Revised:06/17/2017
<b>Foundation Drawing</b>	Foundation Design by Paul J Ford and Company Project#: 29298-318 Dated: 05/06/1998
<b>Geotechnical Report</b>	Geotechnical Report by SAGE Environmental Inc, Project#: S598 Dated:04/22/98
<b>Modification Drawings</b>	N/A

## Analysis Criteria

The comprehensive analysis was performed in accordance with the requirements and stipulations of the TIA-222-H. In accordance with this standard, the structure was analyzed using **TESPoles**, a proprietary analysis software. The program considers the structure as an elastic 3-D model with second-order effects and temperature effects incorporated in the analysis. The analysis was performed using multiple wind directions.

<b>Wind Speed Used in the Analysis:</b>	130.0 mph (3-Sec. Gust) (Ultimate wind speed)
<b>Wind Speed with Ice:</b>	50 mph (3-Sec. Gust) with 1" radial ice concurrent
<b>Service Load Wind Speed:</b>	60 mph + 0" Radial ice
<b>Standard/Codes:</b>	TIA-222-H / 2021 IBC / 2022 Connecticut State Building Code
<b>Exposure Category:</b>	C
<b>Risk Category:</b>	II
<b>Topographic Category:</b>	1
<b>Crest Height:</b>	0 ft
<b>Seismic Parameters:</b>	$S_5 = 0.182$ , $S_1 = 0.051$

This structural analysis is based upon the tower being classified as a Risk Category II; however, if a different classification is required subsequent to the date hereof, the tower classification will be changed to meet such requirement and a new structural analysis will be run.

## Existing Antennas, Mounts and Transmission Lines

The table below summarizes the antennas, mounts and transmission lines that were considered in the analysis as existing on the tower.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
1	194.0	1	Telwave ANT150D3 Dipole	Direct Mount	(1) 7/8"	SPD
2	190.0	-	-	Low Profile Platform	-	-
7	172.5	3	Ericsson - Air21 B2A/B4P - Panel	(1) 13' LP Platform w/Site Pro PRK-1245	(12) 1 5/8" (1) 1 5/8" Fiber	T-Mobile
8		3	Ericsson - AIR 21 B4A/B2P - Panel			
9		3	Commscope LNX-6515DS- Panel			
10		3	Ericsson KRY 112 144/1			
11		3	Ericsson S11B12			
12	158.5	1	RFS PD458-2N Omni	(2) Standoffs at 150	(3) 7/8"	CL&P
13	156.0	1	RFS 114202C Omni			
14	153.0	1	Telewave ANT450D6 Omni	Low Profile Platform at 158.5'	-	
15	145.0	6	ALU 800 Mhz	Low Profile Platform with (1) SitePro HRK14-U Handrail Kit, (1) SitePro PRK-SFS-H-L V-brace Kit, (1) SitePro PRK-1245L reinforcement kit, (6) SitePro SCX1-K Brackets, (3) Pipe2.0STD x 4' long corner braces and (3) Pipe2.0STD x 14' horizontal rails	(3) 1.9" Fiber	T-Mobile Sprint
16		3	Commscope VV-65A-R1 - Panel			
17		3	RFS APXVAALL24_43-U-NA20 - Panel			
18		3	Ericsson AIR6449 B41 - Panel			
19		3	Ericsson 4460 B25 + B66			
20		3	Ericsson 4480 B71 + B85			
21	129.5	1	RFS 220-7N Omni	(3) Standoffs at 120.0'	(3) 7/8"	CL&P
22	124.7	1	RFS/220-3AN -Omni			
23	123.0	1	Telewave ANT450D6 Omni			
24	46.5	1	GPS	(1) 4' Standoff	(1) 1/2"	T-Mobile Sprint

## Proposed Carrier's Final Configuration of Antennas, Mounts and Transmission Lines

Information pertaining to the proposed carrier's final configuration of antennas and transmission lines was provided by SBA Communications Corp. The proposed antennas and lines are listed below.

Items	Elevation (ft)	Qty.	Antenna Descriptions	Mount Type & Qty.	Transmission Lines	Owner
3	182.0	3	JMA Wireless MX08FRO665-21- Panel	Commscope MC-PK8-C (Platform w/HRK)	(1) 1.75" Hybrid	Dish Wireless
4		3	Fujitsu TA08025-B605- RRH			
5		3	Fujitsu TA08025-B604- RRH			
6		1	Raycap RDIDC-9181-PF-48- OVP			

See the attached coax layout for the line placement considered in the analysis.

## **Analysis Results**

The results of the structural analysis, performed for the wind and ice loading and antenna equipment as defined above, are summarized as the following:

	Pole shafts	Anchor Bolts	Base Plate
Max. Usage:	<b>76.4%</b>	<b>76.1%</b>	<b>61.8%</b>
Pass/Fail	<b>Pass</b>	<b>Pass</b>	<b>Pass</b>

## **Foundations**

	Moment (Kip-Ft)	Shear (Kips)	Axial (Kips)
Analysis Reactions	6593.3	51.1	70.0

Two foundation design options were included in the referenced foundation design document. Since it is not known which option was installed, both designs were analyzed using the supplied documents and soils report and both were found adequate. Therefore, no modification to the foundation will be required.

## **Service Load Condition (Rigidity):**

Operational characteristics of the tower are found to be within the limits prescribed by TIA-222 for the installed antennas. The maximum twist/sway at the elevation of the proposed equipment is 1.3050 degrees under the operational wind speed as specified in the Analysis Criteria.

## **Conclusions**

Based on the analysis results, the existing structure and its foundation were found to be adequate to safely support the existing and proposed equipment and meet the minimum requirements per the TIA-222 Standard under the design basic wind speed as specified in the Analysis Criteria.

## Standard Conditions

1. This analysis was performed based on the information supplied to **(TES) Tower Engineering Solutions, LLC**. Verification of the information provided was not included in the Scope of Work for **TES**. The accuracy of the analysis is dependent on the accuracy of the information provided.
2. The structural analysis was performance based upon the evidence available at the time of this report. All information provided by the client is considered to be accurate.
3. The analyses will be performed based on the codes as specified by the client or based on the best knowledge of the engineering staff of **TES**. In the absence of information to the contrary, all work will be performed in accordance with the latest relevant revision of ANSI/TIA-222. If wind speed and/or ice loads are different from the minimum values recommended by the ANSI/TIA-222 standard or other codes, **TES** should be notified in writing and the applicable minimum values provided by the client.
4. The configuration of the existing mounts, antennas, coax and other appurtenances were supplied by the customer for the current structural analysis. **TES** has not visited the tower site to verify the adequacy of the information provided. If there is any discrepancy found in the report regarding the existing conditions, **TES** should be notified immediately to evaluate the effect of the discrepancy on the analysis results.
5. The client will assume responsibility for rework associated with the differences in initially provided information, including tower and foundation information, existing and/or proposed equipment and transmission lines.
6. If a feasibility analysis was performed, final acceptance of changed conditions shall be based upon a rigorous structural analysis.

# Usage Diagram - Max Ratio 76.42% at 0.0ft

**Structure:** CT00235-B-SBA  
**Site Name:** Stony Brook  
**Height:** 190.00 (ft)  
**Base Elev:** 0.000 (ft)

**Code:** EIA/TIA-222-H  
**Exposure:** C  
**Gh:** 1.1

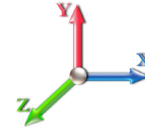
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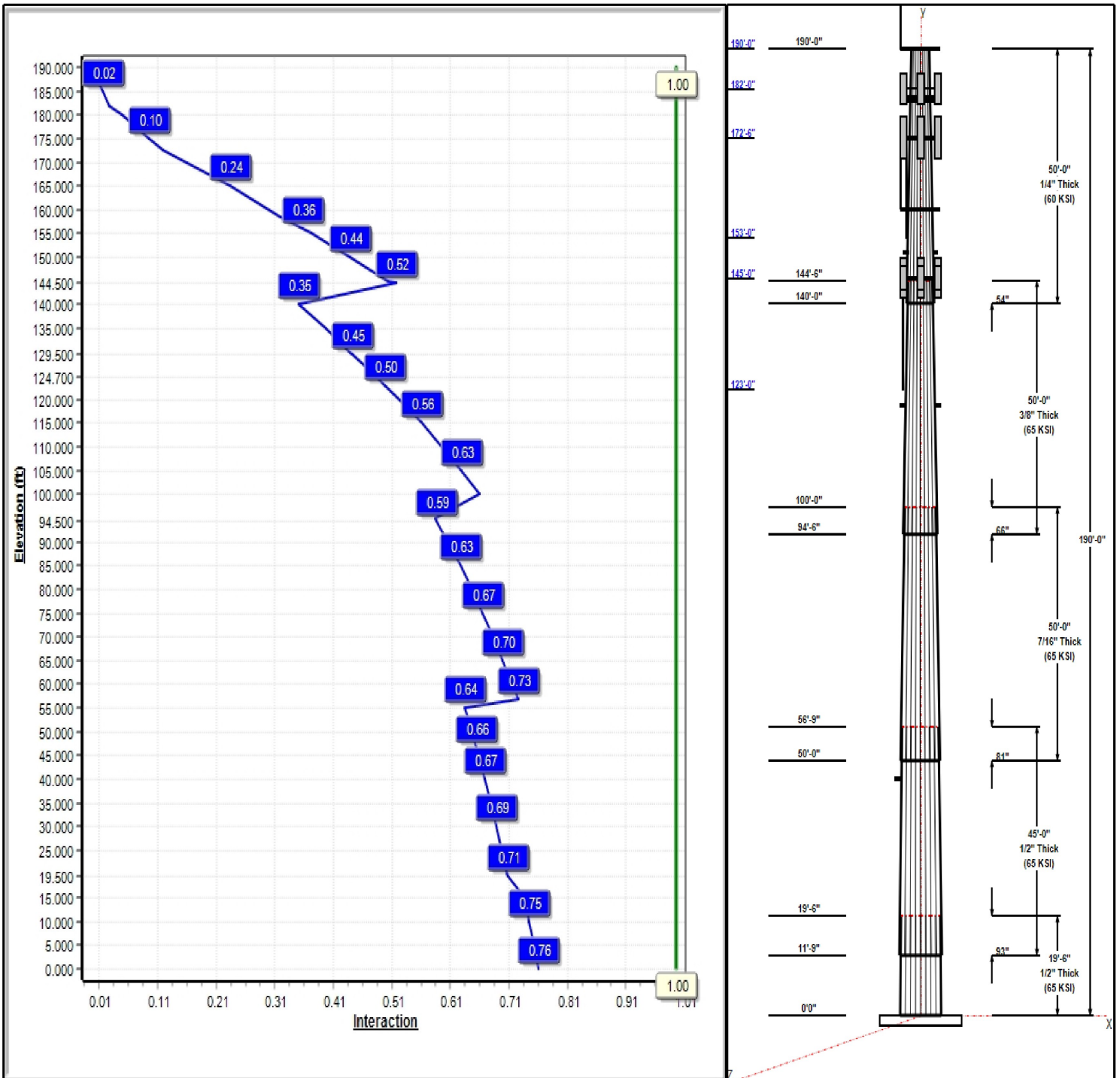
Dead Load Factor: 1.20  
 Wind Load Factor: 1.00

**Load Case : 1.2D + 1.0W 130 mph Wind**



**Iterations:** 26

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## Structure: CT00235-B-SBA

**Type:** Tapered  
**Site Name:** Stony Brook  
**Height:** 190.00 (ft)  
**Base Elev:** 0.00 (ft)

**Base Shape:** 18 Sided  
**Taper:** 0.22003

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### Shaft Properties

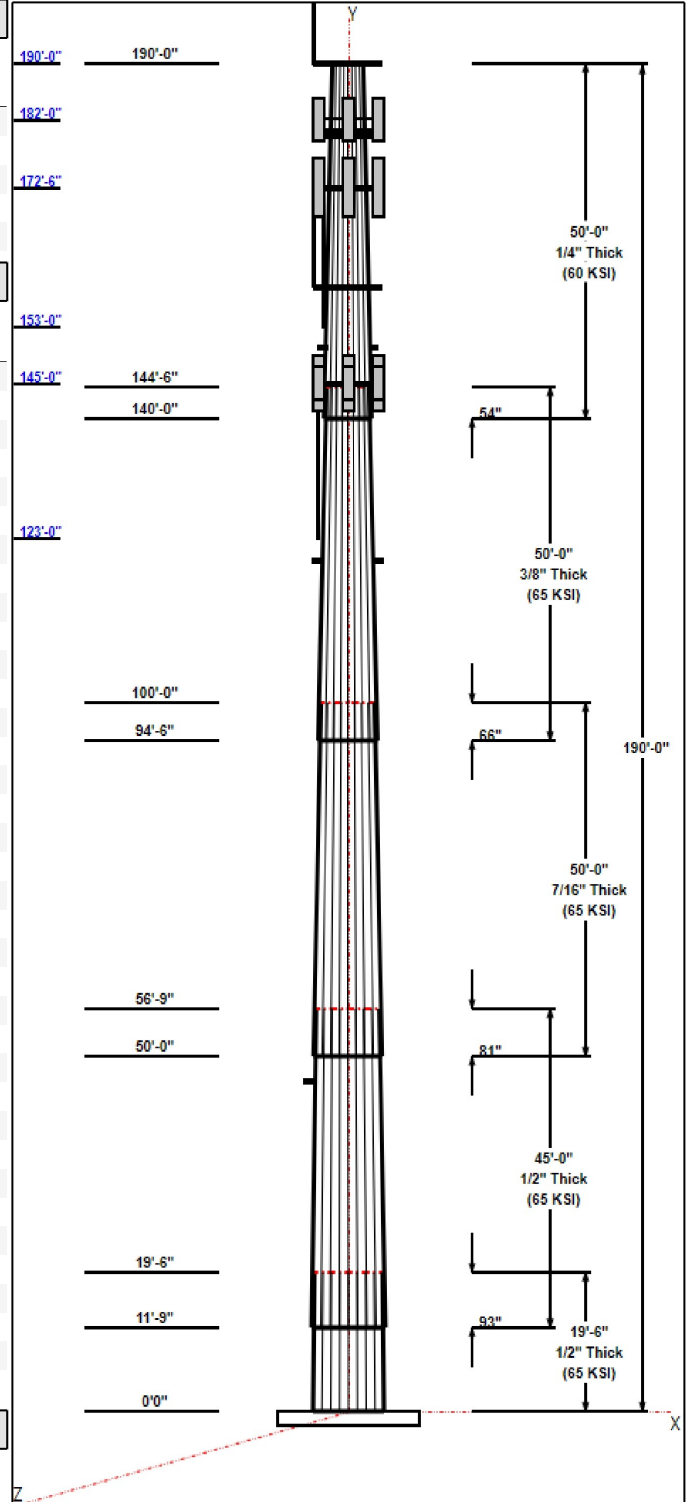
Seq	Length (ft)	Top (in)	Bottom (in)	Thick (in)	Joint Type	Taper	Grade (ksi)
1	19.50	58.39	62.68	0.500		0.22003	65
2	45.00	51.19	61.09	0.500	Slip	0.22003	65
3	50.00	42.55	53.55	0.438	Slip	0.22003	65
4	50.00	33.51	44.51	0.375	Slip	0.22003	65
5	50.00	24.00	35.00	0.250	Slip	0.22003	60

### Discrete Appurtenances

Attach Elev (ft)	Force Elev (ft)	Qty	Description	Carrier
190.00	190.00	1	Low Profile Platform	--
190.00	195.00	1	ANT150D3	SPD
182.00	182.00	3	MX08FRO665-21	Dish Wireless
182.00	182.00	1	MC-PK8-DSH	Dish Wireless
182.00	182.00	3	TA08025-B605	Dish Wireless
182.00	182.00	3	TA08025-B604	Dish Wireless
182.00	182.00	1	RDIDC-9181-PF-48	Dish Wireless
172.50	172.50	1	PRK-1245	T-Mobile
172.50	172.50	1	Low Profile Platform	T-Mobile
172.50	172.50	3	LNx-6515DS	T-Mobile
172.50	172.50	3	S11B12	T-Mobile
172.50	172.50	3	Air21 B2A/B4P	T-Mobile
172.50	172.50	3	AIR 21 B4A/B2P	T-Mobile
172.50	172.50	3	Ericsson KRY 112 144/1	T-Mobile
158.50	158.50	1	T-Arm	CL&P
158.50	165.15	1	PD458-2N	CL&P
156.00	162.30	1	114202C	CL&P
153.00	156.00	1	ANT450D6-9	CL&P
150.00	150.00	2	3 ft Standoff	CL&P
145.00	145.00	1	Low Profile Platform-flat	T-Mobile Sprint
145.00	145.00	1	HRK14	T-Mobile Sprint
145.00	145.00	1	PRK-1245 (kicker kit)	T-Mobile Sprint
145.00	145.00	1	(3) SFS-H-L (V-Braces)	T-Mobile Sprint
145.00	145.00	1	Horizontal Rail & SCX1-K	T-Mobile Sprint
145.00	145.00	3	VV-65A-R1	T-Mobile Sprint
145.00	145.00	3	APXVAALL24_43-U-NA20	T-Mobile Sprint
145.00	145.00	3	AIR6449 B41	T-Mobile Sprint
145.00	145.00	3	4460 Radio	T-Mobile Sprint
145.00	145.00	3	4480 Radio	T-Mobile Sprint
145.00	145.00	6	800 MHz RRUs	T-Mobile Sprint
129.50	139.00	1	220-7N Omni	CL&P
124.70	135.05	1	220-3AN	CL&P
123.00	126.00	1	ANT450D6-9	CL&P
120.00	120.00	3	3 ft Standoff	CL&P
46.50	46.50	1	3 ft Standoff	T-Mobile Sprint
46.50	46.50	1	GPS	T-Mobile Sprint

### Linear Appurtenances

Elev From (ft)	Elev To (ft)	Placement	Description	Carrier
0.00	190.00	Inside	7/8" Coax	SPD
0.00	182.00	Inside	1.75" Hybrid	Dish Wireless
0.00	172.50	Inside	1 5/8" Coax	T-Mobile
0.00	172.50	Inside	1 5/8" Fiber	T-Mobile
0.00	158.50	Inside	7/8" Coax	CL&P



**Structure: CT00235-B-SBA**

<b>Type:</b> Tapered	<b>Base Shape:</b> 18 Sided	12/29/2022
<b>Site Name:</b> Stony Brook	<b>Taper:</b> 0.22003	
<b>Height:</b> 190.00 (ft)		
<b>Base Elev:</b> 0.00 (ft)		Page: 3



0.00	145.00	Inside	1.9" Fiber	T-Mobile Sprint
0.00	120.00	Inside	7/8" Coax	CL&P
0.00	46.50	Outside	1/2" GPS Line	T-Mobile Sprint

**Anchor Bolts**

Qty	Specifications	Grade (ksi)	Arrangement
24	2.25" 18J	75.0	Cluster

**Base Plate**

Thickness (in)	Specifications (in)	Grade (ksi)	Geometry
3.5000	71.0	50.0	Clipped

**Reactions**

Load Case	Moment (FT-Kips)	Shear (Kips)	Axial (Kips)
1.2D + 1.0W 130 mph Wind	6593.3	51.1	70.0
0.9D + 1.0W 130 mph Wind	6518.6	51.0	52.5
1.2D + 1.0Di + 1.0Wi 50 mph Wind	1582.2	12.2	88.5
1.2D + 1.0Ev + 1.0Eh	134.2	0.9	72.4
0.9D + 1.0Ev + 1.0Eh	135.5	0.9	54.8
1.0D + 1.0W 60 mph Wind	1249.3	9.7	58.4

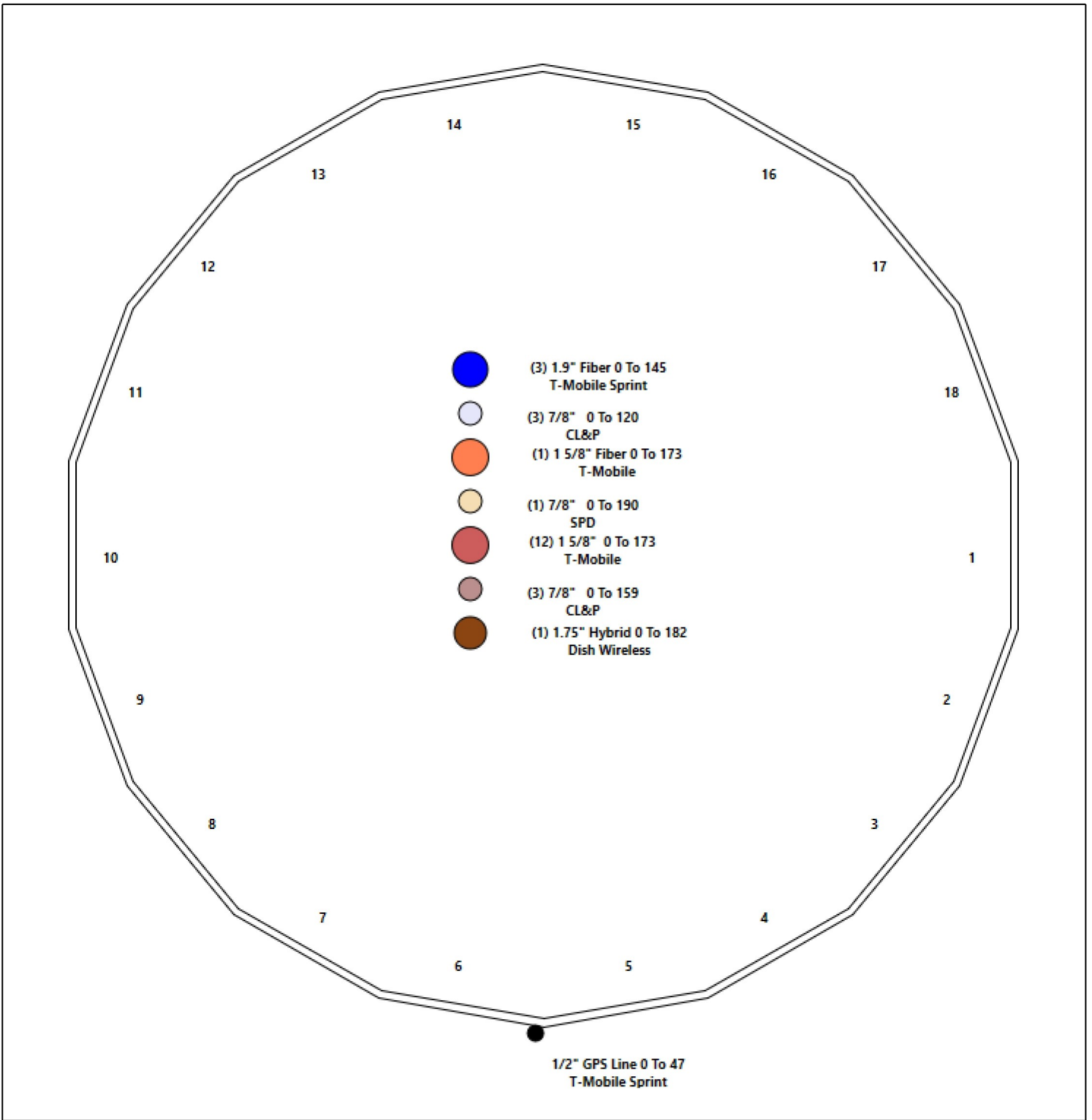
# Structure: CT00235-B-SBA - Coax Line Placement

**Type:** Monopole  
**Site Name:** Stony Brook  
**Height:** 190.00 (ft)

12/29/2022



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## Final Analysis Summary

<b>Structure:</b> CT00235-B-SBA	<b>Code:</b> TIA-222-H	12/29/2022
<b>Site Name:</b> Stony Brook	<b>Exposure:</b> C	
<b>Height:</b> 190.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II
		Page: 50



### Reactions

Load Case	Shear FX (kips)	Shear FZ (kips)	Axial FY (kips)	Moment MX (ft-kips)	Moment MY (ft-kips)	Moment MZ (ft-kips)
1.2D + 1.0W 130 mph Wind	51.1	0.00	69.98	0.00	0.00	6593.25
0.9D + 1.0W 130 mph Wind	51.0	0.00	52.46	0.00	0.00	6518.64
1.2D + 1.0Di + 1.0Wi 50 mph Wind	12.2	0.00	88.50	0.00	0.00	1582.25
1.2D + 1.0Ev + 1.0Eh	0.9	0.00	72.36	0.00	0.00	134.19
0.9D + 1.0Ev + 1.0Eh	0.9	0.00	54.83	0.00	0.00	135.53
1.0D + 1.0W 60 mph Wind	9.7	0.00	58.39	0.00	0.00	1249.32

### Max Stresses

Load Case	Pu FY (-) (kips)	Vu FX (-) (kips)	Tu MY (-) (ft-kips)	Mu MZ (ft-kips)	Mu MX (ft-kips)	Resultant Moment (ft-kips)	phi Pn (kips)	phi Vn (kips)	phi Tn (ft-kips)	phi Mn (ft-kips)	Elev (ft)	Stress Ratio
1.2D + 1.0W 130 mph Wind	-69.98	-51.08	0.00	-6593.2	0.00	-6593.2	6843.68	1731.7	8934.17	8754.18	0.00	0.764
0.9D + 1.0W 130 mph Wind	-52.46	-51.05	0.00	-6518.6	0.00	-6518.6	6843.68	1731.7	8934.17	8754.18	0.00	0.753
1.2D + 1.0Di + 1.0Wi 50 mph Wind	-88.50	-12.25	0.00	-1582.2	0.00	-1582.2	6843.68	1731.7	8934.17	8754.18	0.00	0.194
1.2D + 1.0Ev + 1.0Eh	-72.36	-0.85	0.00	-134.19	0.00	-134.19	6843.68	1731.7	8934.17	8754.18	0.00	0.026
0.9D + 1.0Ev + 1.0Eh	-54.83	-0.87	0.00	-135.53	0.00	-135.53	6843.68	1731.7	8934.17	8754.18	0.00	0.023
1.0D + 1.0W 60 mph Wind	-58.39	-9.73	0.00	-1249.3	0.00	-1249.3	6843.68	1731.7	8934.17	8754.18	0.00	0.151

## Base Plate Summary

<b>Structure:</b> CT00235-B-SB	<b>Code:</b> TIA-222-H	12/29/2022
<b>Site Name:</b> Stony Brook	<b>Exposure:</b> C	
<b>Height:</b> 190.00 (ft)	<b>Crest Height:</b> 0.00	
<b>Base Elev:</b> 0.000 (ft)	<b>Site Class:</b> D - Stiff Soil	
<b>Gh:</b> 1.1	<b>Topography:</b> 1	<b>Struct Class:</b> II
		Page: 51



Reactions	Base Plate	Anchor Bolts
Original Design	<b>Yield (ksi):</b> 50.00	<b>Bolt Circle:</b> 70.00
<b>Moment (kip-ft):</b> 5800.00	<b>Width (in):</b> 71.00	<b>Number Bolts:</b> 24.00
<b>Axial (kip):</b> 60.00	<b>Style:</b> Clipped	<b>Bolt Type:</b> 2.25" 18J
<b>Shear (kip):</b> 43.00	<b>Polygon Sides:</b> 4.00	<b>Bolt Diameter (in):</b> 2.25
Analysis (1.2D + 1.0W)	<b>Clip Length (in):</b> 13.00	<b>Yield (ksi):</b> 75.00
<b>Moment (kip-ft):</b> 6593.25	<b>Effective Len (in):</b> 8.22	<b>Ultimate (ksi):</b> 100.00
<b>Axial (kip):</b> 69.98	<b>Moment (kip-in):</b> 700.14	<b>Arrangement:</b> Clustered
<b>Shear (kip):</b> 51.08	<b>Allow Stress (ksi):</b> 67.50	<b>Cluster Dist (in):</b> 6.00
	<b>Applied Stress (ksi):</b> 41.85	<b>Start Angle (deg):</b> 45.00
	<b>Stress Ratio:</b> 0.62	Compression
		<b>Force (kip):</b> 191.29
		<b>Allowable (kip):</b> 268.39
		<b>Ratio:</b> 0.71
		Tension
		<b>Force (kip):</b> 185.46
		<b>Allowable (kip):</b> 243.75
		<b>Ratio:</b> 0.76



# Monopole Mat Foundation Design

Date  
12/29/2022

<b>Customer Name:</b>	Dish Wireless	<b>TIA Standard:</b>	TIA-222-H
<b>Site Name:</b>		<b>Structure Height (Ft.):</b>	190
<b>Site Number:</b>	CT00235-B-SBA	<b>Engineer Name:</b>	J. Tibbetts
<b>Engr. Number:</b>	137371	<b>Engineer Login ID:</b>	

**Foundation Info Obtained from:**

Drawings/Calculations
Monopole
Analysis

**Structure Type:**

**Analysis or Design?**

**Base Reactions (Factored):**

Axial Load (Kips):	70.0	Shear Force (Kips):	51.1
Uplift Force (Kips):	0.0	Moment (Kips-ft):	6593.3

Allowable overstress %: 5.0%

**Foundation Geometries:**

		Mods required -Yes/No ?:	No
Diameter of Pier (ft.):	8.0	Depth of Base BG (ft.):	11.0
Pier Height A. G. (ft.):	0.50	Thickness of Pad (ft):	4.00
Length of Pad (ft.):	24.5	Width of Pad (ft.):	24.5
Final Length of pad (ft)	24.5	Final width of pad (ft):	24.5

**Material Properties and Rebar Info:**

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield (ksi):	60	
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	48	Tie Spacing (in):	12.0	
Pad Rebar Yield (Ksi):	60	Pad Steel Rebar Size (#):	11	
Concrete Cover (in.):	3	Unit Weight of Concrete:	150.0	pcf

Rebar at the bottom of the concrete pad:

Qty. of Rebar in Pad (L):	29	Qty. of Rebar in Pad (W):	29
---------------------------	----	---------------------------	----

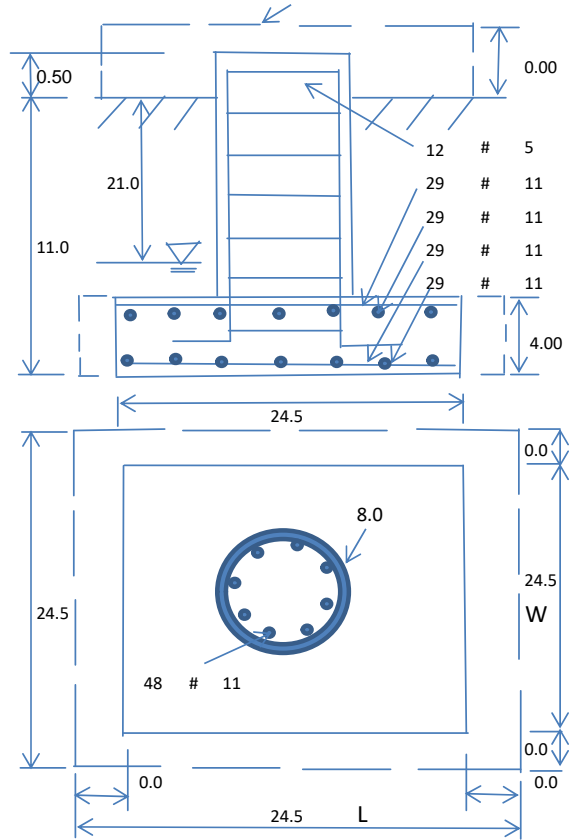
Rebar at the top of the concrete pad:

Qty. of Rebar in Pad (L):	29	Qty. of Rebar in Pad (W):	29
---------------------------	----	---------------------------	----

Apply 1.35 factor for e/w Per G: 1.35

**Soil Design Parameters:**

Soil Unit Weight (pcf):	130.0	Soil Buoyant Weight:	50.0	Pcf		
Water Table B.G.S. (ft):	21.0	Unit Weight of Water:	62.4	pcf	Angle from Top of Pad:	30
Ultimate Bearing Pressure (psf):	8000	Ultimate Skin Friction:	0	Psf	Angle from Bottm of Pad:	25
Consider Friction for O.T.M. (Y/N):	No	Consider Friction for bearing (Y/N):	Yes		Angle from Bottm of Pad:	25
Consider soil hor. resist. for OTM.:	Yes	Reduction factor on the maximum soil bearing pressure:	1.00			



**Foundation Analysis and Design:**

Uplift Strength Reduction Factor:	0.75	Compression Strength Reduction Factor:	0.75
Total Dry Soil Volume (cu. Ft.):	3849.89	Total Dry Soil Weight (Kips):	500.49
Total Buoyant Soil Volume (cu. Ft.):	0.00	Total Buoyant Soil Weight (Kips):	0.00
Total Effective Soil Weight (Kips):	500.49	Weight from the Concrete Block at Top (K):	0.00
Total Dry Concrete Volume (cu. Ft.):	2777.99	Total Dry Concrete Weight (Kips):	416.70
Total Buoyant Concrete Volume (cu. Ft.):	0.00	Total Buoyant Concrete Weight (Kips):	0.00
Total Effective Concrete Weight (Kips):	416.70	Total Vertical Load on Base (Kips):	987.18

**Check Soil Capacities:**

Calculated Maxium Net Soil Pressure under the base (psf):	4598	< Allowable Factored Soil Bearing (psf):	6000	0.77	OK!
Allowable Foundation Overturning Resistance (kips-ft.):	10969.5	> Design Factored Momont (kips-ft):	6354	0.58	OK!
Factor of Safety Against Overturning (O. R. Moment/Design Moment):	1.73				OK!

Load/  
Capacity  
Ratio

**Check the capacities of Reinforcing Concrete:**

Strength reduction factor (Flexure and axial tension): 0.90      Strength reduction factor (Shear): 0.75  
 Strength reduction factor (Axial compression): 0.65      Wind Load Factor on Concrete Design: 1.00

Load/  
Capacity  
Ratio

**(1) Concrete Pier:**

Vertical Steel Rebar Area (sq. in./each):	1.56	Tie / Stirrup Area (sq. in./each):	0.31		
Calculated Moment Capacity (Mn,Kips-Ft):	13572.9	> Design Factored Moment (Mu, Kips-F	6976.6	0.51	OK!
Calculated Shear Capacity (Kips):	832.8	> Design Factored Shear (Kips):	51.1	0.06	OK!
Calculated Tension Capacity (Tn, Kips):	4043.5	> Design Factored Tension (Tu Kips):	0.0	0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9498.6	> Design Factored Axial Load (Pu Kips):	70.0	0.01	OK!
Moment & Axial Strength Combination:	0.51	OK! Check Tie Spacing (Design/Required):	1		OK!
Pier Reinforcement Ratio:	0.010	Reinforcement Ratio is satisfied per ACI			

**(2).Concrete Pad:**

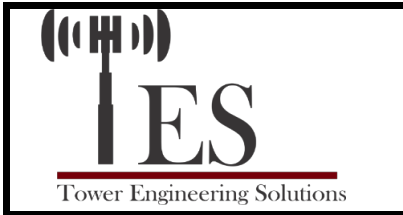
One-Way Design Shear Capacity (L-Direction, Kips):	1070.3	> One-Way Factored Shear (L-D. Kips):	302.0	0.28	OK!
One-Way Design Shear Capacity (W-Direction, Kips):	1070.3	> One-Way Factored Shear (W-D., Kips)	302.0	0.28	OK!
One-Way Design Shear Capacity (Corner-Corner. Kips):	841.5	> One-Way Factored Shear (C-C, Kips):	293.8	0.35	OK!
Lower Steel Pad Reinforcement Ratio (L-Direct. ):	0.0035	OK! Lower Steel Pad Reinf. Ratio (W-Direc	0.0035		
Lower Steel Pad Moment Capacity (L-Direction. Kips-ft):	8652.6	> Moment at Bottom ( L-Dir. K-Ft):	1818.6	0.21	OK!
Lower Steel Pad Moment Capacity (W-Direction. Kips-ft):	8652.6	> Moment at Bottom ( W-Dir. K-Ft):	1818.6	0.21	OK!
Lower Steel Pad Moment Capacity (Corner-Corner,K-ft):	12080.1	> Moment at Bottom ( C-C Dir. K-Ft):	2571.9	0.21	OK!
Upper Steel Pad Reinforcement Ratio (L-Direct. ):	0.0035	OK! Upper Steel Reinf. Ratio (W-Dir. ):	0.0035		
Upper Steel Pad Moment Capacity (L-Direc. Kips-ft):	8652.6	> Moment at the top ( L-Dir K-Ft):	875.1	0.10	OK!
Upper Steel Pad Moment Capacity (W-Direc. Kips-ft):	8652.6	> Moment at the top (W-Dir K-Ft):	875.1	0.10	OK!
Upper Steel Pad Moment Capacity (Corner-Corner. K-ft):	12080.1	> Moment at the top (C-C Dir. K-Ft):	827.6	0.07	OK!

**(3).Check Punching Shear Capacity due to Moment in the Pier:**

Moment transferred by punching shear:	2637.3	k-ft.	Max. factored shear stress $v_{u,CD}$ :	4.5	Psi
Max. factored shear stress $v_{u,AB}$ :	10.0	Psi	Factored shear Strength $\phi v_n$ :	164.3	Psi
Max. factored shear stress $v_u$ :	10.0	Psi	Check Usage of Punching Shear Capacity:	0.06	OK!

**(4).Check Bending Capacity of the Pad Within the Effective Slab Width:**

Overturning moment to be transferred by flexure:	1978.0	k-ft.	Effective Width for resisting OT moment:	20.0	ft.
Calculated number of Rebar in Effective width:	24		Actual number of Rebar in Effective width:	13	
Steel Pad Moment Capacity ( L-Direc. Kips-ft):	3953.2	k-ft.	Check Usage of the Flexure Capacity:	0.50	OK!



Pier Foundation Design For Monopole			Date
			12/29/2022
Customer Name:	Dish Wireless	EIA/TIA Standard:	TIA-222-H
Site Name:		Structure Height (Ft.):	190
Site Number:	CT00235-B-SBA	Engineer Name:	J. Tibbetts
Engr. Number:	137371	Engineer Login ID:	

**Foundation Info Obtained from:**

Drawings/Calculations	Monopole
Analysis	

Acceptable overstress (  $\sigma$  ) = 5.0%

**Structure Type:**

**Analysis or Design?**

**Base Reactions (Factored):**

Axial Load (Kips):	70.0	Shear Force (Kips):	51.1
Uplift Force (Kips):	0.0	Moment (Kips-ft):	6593.3

**Foundation Geometries:**

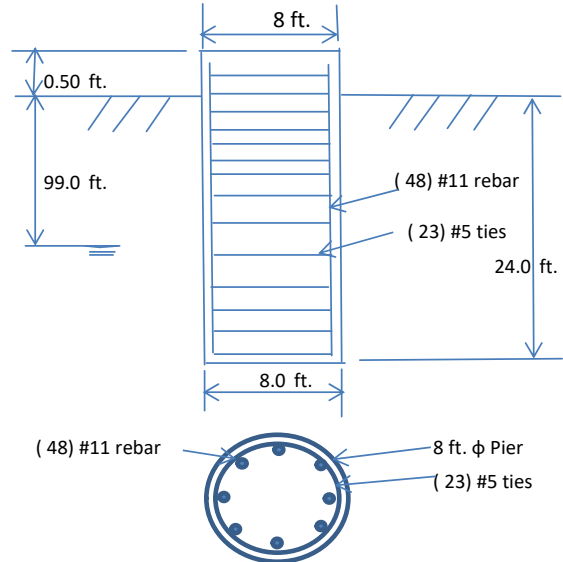
Diameter of Pier (ft.):	8.0	Depth of Base B. G. S. :	24.0 ft.
Pier Height A. G. (ft.):	0.50		

**Material Properties and Rebar Info:**

Concrete Strength (psi):	3000	Steel Elastic Modulus:	29000	ksi
Vertical bar yield (ksi)	60	Tie steel yield strength:	60	ksi
Vertical Rebar Size #:	11	Tie / Stirrup Size #:	5	
Qty. of Vertical Rebars:	48	Tie Spacing:	18.0	in.
Concrete Cover (in.):	4	Concrete unit weight:	150.0	pcf

**Soil Design Parameters:**

Water Table B.G.S. (ft):	99.0	Unit weight of water:	62.4	psf
Ratio of Uplift/Axial Skin Friction:	1.0	Pullout failure Angle:	30	(°)
Skin Frictions are to be obtained from:		Soil Report		



**Monopole Pier Foundation**

Depth of Layers (ft)		$\gamma_{soil}$ (pcf)	$\phi$ (°)	Cohesion (psf)	Ultimate Skin Friction (psf)	Ultimate Bearing (psf)	Soil Types					
Top	Bottom											
0.0	4.0	140	0				Sand					
4.0	17.0	140	36				Sand					
17.0	20.5	140	36			16000	Sand					
20.5	25.5	140	36			16000	Sand					

Soil weight Increase Factor for bouyant soils (1.0 to 1.15): 1.1

**Foundation Analysis and Design:**

Uplift Strength Reduction Factor:	0.75	Soil Bearing Strength Reduction Factor:	0.75
Total Dry Soil Volume from Conical Failure (cu. Ft.):	8979	Dry Soil Weight from Conical Failure:	1257 Kips
Total Buoyant Soil Volume from Conical Failure (cu. Ft.):	0	Buoyant Soil Weight from Conical Failure (Kips):	0 Kips
Total Dry Concrete Volume (cu. Ft.):	1232	Total Dry Concrete Weight:	184.7 Kips
Total Buoyant Concrete Volume (cu. Ft.):	0.0	Total Buoyant Concrete Weight:	0.00 Kips
Total Effective Concrete Weight (Kips):	184.7	Total Effective Soil Weight:	1257.1 Kips
Total Effective Vertical Load on Base (Kips):	85.8		



**Check Soil Capacities:**

Allowable Foundation Overturning Resistance (kips-ft):	10417.4	>	Design Factored Moment (kips-ft):	7448	Usage	0.71	OK!
Factor of Safety of Passive Soil Resistance against Moment:	1.40						OK!

**Check the capacities of Reinforcing Concrete:**

Strength reduction factor (Flexure and axial tension):	0.90		Strength reduction factor (Shear):	0.75			
Strength reduction factor (Axial compression):	0.65		Wind Load Factor on Concrete Design:	1.00			

Reinforcing Concrete Pier:

Vertical Steel Rebar Area (sq. in./each):	1.56		Tie / Stirrup Area (sq. in./each):	0.31	Usage		
Calculated Moment Capacity (Mn, Kips-Ft):	13515.8	>	Design Factored Moment (Mu, K-Ft):	6825.0		0.50	OK!
Calculated Shear Capacity (Kips):	1274.2	>	Design Factored Shear (Kips):	676.0		0.53	OK!
Calculated Tension Capacity (Tn, Kips):	4043.5	>	Design Factored Tension (Tu Kips):	0.0		0.00	OK!
Calculated Compression Capacity (Pn, Kips):	9499	>	Design Factored Axial Load (Pu Kips):	70.0		0.01	OK!
Moment & Axial Strength Combination:	0.50	OK!	Max. Allowable Tie/Stirrup Spacing:	7.75			in.
Pier Reinforcement Ratio:	0.010		Reinforcement Ratio is satisfied per ACI				

# Exhibit E

## **Mount Analysis**



January 9, 2023

Sherri Knapik  
SBA Network Services  
134 Flanders Road, Suite 125  
Westborough, MA 01581  
(508) 251-0720 x 3805

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

**Subject:** **Appurtenance Mount Analysis Report**

**Carrier Designation:** **Dish Wireless Co-Locate**  
**Site Number:** BOBOS00039A  
**Site Name:** N/A

**SBA Network Services Designation:** **Site Number:** CT00235-B  
**Site Name:** Stony Brook  
**Application Number:** 160702, v2

**Engineering Firm Designation:** **B+T Group Project Number:** 149424.004.01 Rev 1

**Site Data:** **Taugwonk Spur Road No. 2, Stonington, CT, 06378, New London County**  
**Latitude 41.38201°, Longitude -71.90358°**  
**Monopole**  
**8 ft. Platform Mount**

Dear Ms. Knapik,

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:

Proposed Equipment	<b>Sufficient Capacity</b>
Note: See Table 1 for the final loading configuration	<b>(Passing at 68.6%)</b>

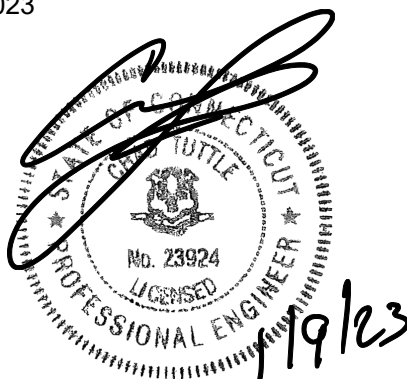
This analysis utilizes an ultimate 3-second gust wind speed of 128 mph as required by the 2022 Connecticut State Building Code. Applicable Standard references and design criteria are listed in Section 2 - Analysis Criteria.

We at B+T Group appreciate the opportunity of providing our continuing professional services to you and SBA Network Services. 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: Harrison Holmlund

Respectfully submitted by: B&T Engineering, Inc.  
COA: PEC.0001564 Expires: 2/1/2023

Chad E. Tuttle, P.E.



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### 4) ANALYSIS RESULTS

Table 3 – Mount Component Stresses vs. Capacity

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### 6) APPENDIX A

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### 7) APPENDIX B

Additional Calculations

## 1) INTRODUCTION

The mount consists of Commscope Platform mount (Part #MC-PK8-C) at 182 ft., attached to monopole at Taugwonk Spur Road No. 2, Stonington, CT, 06378, New London County. The proposed antenna loading information was obtained from SBA Network Services. 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 128 mph with no ice and 50 mph with 1 inch escalated ice thickness. Exposure Category C and Risk Category II were used in this analysis. In addition, the platform 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 500-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 Equipment Information**

Loading	RAD Center Elev. (ft.)	Position	Qty.	Description	Note
Proposed	182	1	3	JMA Wireless MX08FRO665-21	1
			3	Fujitsu TA08025-B605	2
			3	Fujitsu TA08025-B604	
		--	1	Raycap RDIDC-9181-PF-48	3

Note:

- (1) Proposed Antenna to be installed on the Proposed Mount Pipe.
- (2) Proposed Equipment to be installed directly behind the Antenna.
- (3) Proposed Equipment to be installed on the Mount.

**Table 2 - Documents Provided**

Documents	Remarks	Reference	Source
SBA Application	Proposed Loading	Date: 07/12/2021	SBA Network Services
Previous MA	B+T Group	Date: 06/22/2021	On File

## 3) ANALYSIS PROCEDURE

### 3.1) Analysis Method

RISA-3D (Version 19.0.3), 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.
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.

The following assumptions have been included in the analysis of the mount

Component	Section	Length	Note
Antenna Mounting Pipes	2" Std. Pipe	8'-0"	All Positions, All Sectors

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**

Notes	Component	Elevation (ft.)	% Capacity	Pass / Fail
-	Main Horizontals	182	13.3	Pass
-	Support Rails	182	65.8	Pass
-	Support Tubes	182	68.6	Pass
-	Support Channels	182	38.1	Pass
-	Support Angles	182	44.1	Pass
-	Connection Angles	182	32.6	Pass
-	Mount Pipes	182	52.9	Pass
-	Connection Plates	182	25.7	Pass

#### 5) RECOMMENDATIONS

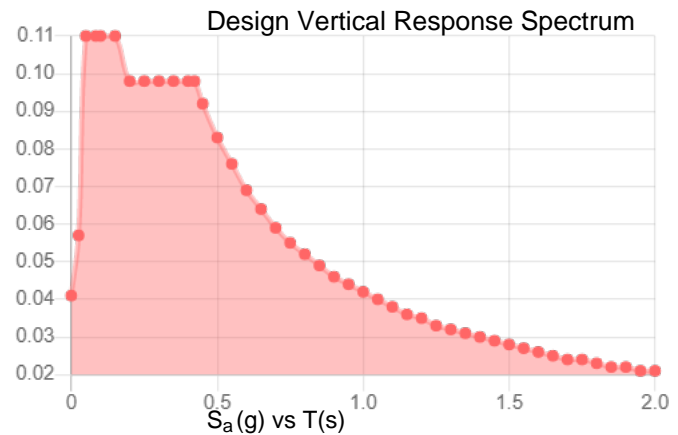
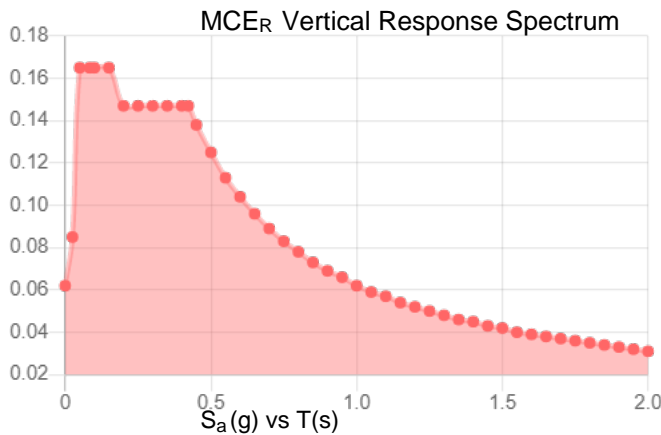
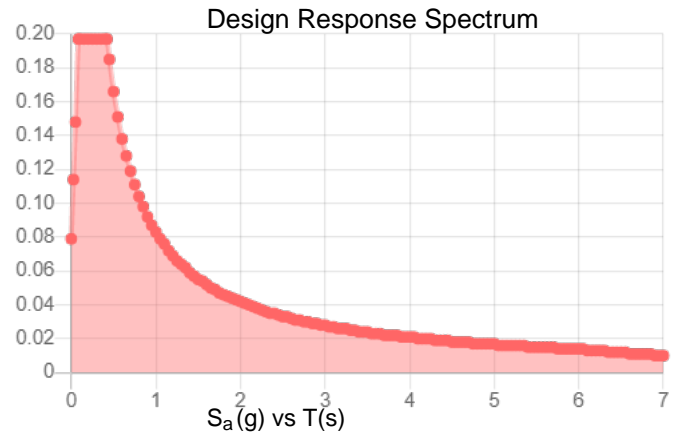
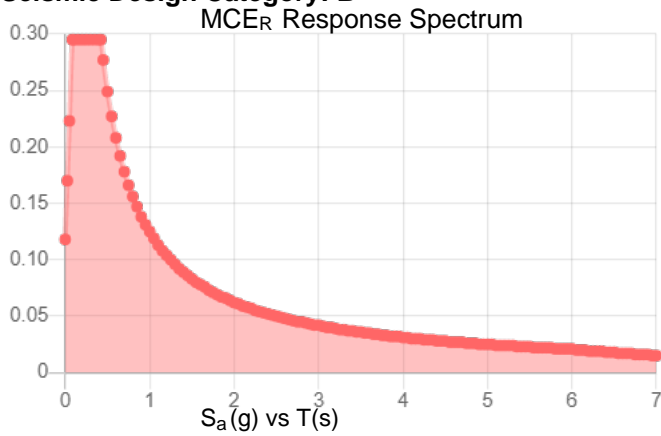
The Commscope Platform mount (Part #MC-PK8-C) has sufficient capacity to carry the proposed loads and is in compliance with the ANSI/TIA-222-H standard for the proposed loading. (Refer to the RISA output for the specific members).

**Site Soil Class:**

**Results:**

$S_s$ :	0.184	$S_{D1}$ :	0.083
$S_1$ :	0.052	$T_L$ :	6
$F_a$ :	1.6	PGA :	0.101
$F_v$ :	2.4	PGA <sub>M</sub> :	0.161
$S_{MS}$ :	0.295	$F_{PGA}$ :	1.599
$S_{M1}$ :	0.125	$I_e$ :	1
$S_{DS}$ :	0.197	$C_v$ :	0.7

**Seismic Design Category: B**



**Data Accessed:** Mon Jan 09 2023

**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: 1.00 in.  
Concurrent Temperature: 15 F  
Gust Speed 50 mph

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

**Date Accessed:** Mon Jan 09 2023

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

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 7 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 7 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.

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# Exhibit F

## **Power Density/RF Emissions Report**



# Radio Frequency Emissions Analysis Report



**Site ID: BOBOS00039A**

SBA - Taugwonk Spur Road  
Taugwonk Spur Road No. 2  
Stonington, CT 06378

**December 13, 2022**

**Fox Hill Telecom Project Number: 222025**

Site Compliance Summary	
Compliance Status:	<b>COMPLIANT</b>
Site total MPE% of FCC general population allowable limit:	<b>7.31 %</b>

December 13, 2022

Dish Wireless  
5701 South Santa Fe Drive  
Littleton, CO 80120

### Emissions Analysis for Site: **BOBOS00039A – SBA - Taugwonk Spur Road**

Fox Hill Telecom, Inc (“Fox Hill”) was directed to analyze the proposed radio installation for Dish Wireless, LLC (Dish) facility located at **Taugwonk Spur Road No. 2, Stonington, CT**, for the purpose of determining whether the emissions from the Proposed Dish radio and antenna installation located on this property are within specified federal limits.

All information used in this report was analyzed as a percentage of current Maximum Permissible Exposure (% MPE) as listed in the FCC OET Bulletin 65 Edition 97-01 and ANSI/IEEE Std C95.1. The FCC regulates Maximum Permissible Exposure in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The number of  $\mu\text{W}/\text{cm}^2$  calculated at each sample point is called the power density. The exposure limit for power density varies depending upon the frequencies being utilized. Wireless Carriers and Paging Services use different frequency bands each with different exposure limits, therefore it is necessary to report results and limits in terms of percent MPE rather than power density.

All results were compared to the FCC (Federal Communications Commission) radio frequency exposure rules, 47 CFR 1.1307(b)(1) – (b)(3), to determine compliance with the Maximum Permissible Exposure (MPE) limits for General Population/Uncontrolled environments as defined below.

General population/uncontrolled exposure limits apply to situations in which the general population may be exposed or in which persons who are exposed as a consequence of their employment may not be made fully aware of the potential for exposure or cannot exercise control over their exposure. Therefore, members of the general population would always be considered under this category when exposure is not employment related, for example, in the case of a telecommunications tower that exposes persons in a nearby residential area.

Population exposure to radio frequencies is regulated and enforced in units of microwatts per square centimeter ( $\mu\text{W}/\text{cm}^2$ ). The general population exposure limit for the 600 MHz band is approximately 400  $\mu\text{W}/\text{cm}^2$ . The general population exposure limit for the 1900 MHz (PCS) and 2100 MHz (AWS / AWS-4) bands is 1000  $\mu\text{W}/\text{cm}^2$ . Because each carrier will be using different frequency bands, and each frequency band has different exposure limits, it is necessary to report percent of MPE rather than power density.



Occupational/controlled exposure limits apply to situations in which persons are exposed as a consequence of their employment and in which those persons who are exposed have been made fully aware of the potential for exposure and can exercise control over their exposure. Occupational/controlled exposure limits also apply where exposure is of a transient nature as a result of incidental passage through a location where exposure levels may be above general population/uncontrolled limits (see below), as long as the exposed person has been made fully aware of the potential for exposure and can exercise control over his or her exposure by leaving the area or by some other appropriate means.

Additional details can be found in FCC OET 65.

## CALCULATIONS

Calculations were performed for the proposed upgrades to the T-MOBILE antenna facility located at **Taugwonk Spur Road No. 2, Stonington, CT**, using the equipment information listed below. All calculations were performed per the specifications under FCC OET 65 for far field modeling calculations.

In OET-65, plane wave power densities in the Far Field of an antenna are calculated by considering antenna gain and reflective waves that would contribute to exposure.

Since the radiation pattern of an antenna has developed in the **Far Field** region the power gain in specific directions needs to be considered in exposure predictions to yield an Effective Radiated Power (ERP) in each specific direction from the antenna. Also, since the vertical radiation pattern of the antenna is considered, the exposure calculations would most likely be reduced significantly at ground level, resulting in a more realistic estimate of the actual exposure levels. To determine a worst-case scenario at each point along the calculation radials, each point was calculated using the antenna gain value at each angle of incident and compared against the result using an isotropic radiator at the antenna height with the greater of the two used to yield the more pessimistic far field value for each point along the calculation radial.

Additionally, to model a truly "worst case" prediction of exposure levels at or near a surface, such as at ground-level or on a rooftop, reflection off the surface of antenna radiation power can be assumed, resulting in a potential 1.6 times increase in power density in calculating far field power density values.

With these factors Considered, the worst case **Far Field prediction model** utilized in this analysis is determined by the following equation:

Equation 9 per FCC OET65 for Far Field Modeling

$$S = \frac{33.4 \text{ ERP}}{R^2}$$

S = Power Density (in  $\mu\text{w}/\text{cm}^2$ )

ERP = Effective Radiated Power from antenna (watts)

R = Distance from the antenna (meters)

Predicted far field power density values for all carriers identified in this report were calculated 6 feet above the ground level and are displayed as a percentage of the applicable FCC standards. All emissions values for other carriers were calculated using the same Far Field model outlined above, using industry standard radio configurations and frequency band selection based upon available licenses in this geographic area for emissions contribution estimates.

For each Dish sector the following channel counts, frequency bands and power levels were utilized as shown in *Table 1*:

Technology	Frequency Band	Channel Count	Transmit Power per Channel (W)
5G	n71 (600 MHz)	4	61.5
5G	n70 (AWS-4 / 1995-2020)	4	40
5G	n66 (AWS-4 / 2180-2200)	4	40

*Table 1: Channel Data Table*



The following **Dish** antennas listed in *Table 2* were used in the modeling for transmission in the 600 MHz (n71) frequency band and the 2100 MHz (AWS 4) frequency bands at 1995-2020 MHz (n70) and 2180-2200 MHz (n66). This is based on feedback from Dish regarding anticipated antenna selection. Maximum gain values for all antennas are listed in the Inventory and Power Data table below.

Sector	Antenna Number	Antenna Make / Model	Antenna Centerline (ft)
A	1	JMA MX08FRO665-21	182
B	1	JMA MX08FRO665-21	182
C	1	JMA MX08FRO665-21	182

*Table 2: Antenna Data*

All calculations were done with respect to uncontrolled / general population threshold limits.



## RESULTS

Per the calculations completed for the proposed **Dish** configurations *Table 3* shows resulting emissions power levels and percentages of the FCC’s allowable general population limit.

Antenna ID	Antenna Make / Model	Frequency Bands	Antenna Gain (dBd)	Channel Count	Total TX Power (W)	ERP (W)	MPE %
Antenna A1	JMA MX08FRO665-21	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	12.15 / 15.95 / 16.25	12	566	17,079.80	1.11
Sector A Composite MPE%							<b>1.11</b>
Antenna B1	JMA MX08FRO665-21	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	12.15 / 15.95 / 16.25	12	566	17,079.80	1.11
Sector B Composite MPE%							<b>1.11</b>
Antenna C1	JMA MX08FRO665-21	n71 (600 MHz) / n70 (AWS-4 / 1995-2020) / n66 (AWS-4 / 2180-2200)	12.15 / 15.95 / 16.25	12	566	17,079.80	1.11
Sector C Composite MPE%							<b>1.11</b>

*Table 3: Dish Emissions Levels*



The Following table (*Table 4*) shows all additional carriers on site and their emissions contribution estimates, along with the newly calculated **Dish** far field emissions contributions per this report. FCC OET 65 specifies that for carriers utilizing directional antennas that the highest recorded sector value be used for composite site emissions values due to their greatly reduced emissions contributions in the directions of the adjacent sectors. For this site, all three sectors have the same configuration yielding the same results on all three sectors. *Table 5* below shows a summary for each **Dish** Sector as well as the composite emissions value for the site.

<b>Site Composite MPE%</b>	
<b>Carrier</b>	<b>MPE%</b>
Dish – Max Per Sector Value	<b>1.11 %</b>
T-Mobile	1.45 %
Sprint	1.18 %
Public Safety	0.04 %
CL&P (114')	1.54 %
CL&P (116')	0.73 %
CL&P (120')	0.66 %
CL&P (150')	0.23 %
CL&P (155')	0.37 %
<b>Site Total MPE %:</b>	<b>7.31 %</b>

*Table 4: All Carrier MPE Contributions*

Dish Sector A Total:	1.11 %
Dish Sector B Total:	1.11 %
Dish Sector C Total:	1.11 %
<b>Site Total:</b>	<b>7.31 %</b>

*Table 5: Site MPE Summary*

Table 6 below details a breakdown by frequency band and technology for the MPE power values for the maximum calculated **Dish** sector(s). For this site, all three sectors have the same configuration yielding the same results on all three sectors.

Dish _ Frequency Band / Technology Max Power Values (Per Sector)	# Channels	Watts ERP (Per Channel)	Height (feet)	Total Power Density ( $\mu\text{W}/\text{cm}^2$ )	Frequency (MHz)	Allowable MPE ( $\mu\text{W}/\text{cm}^2$ )	Calculated % MPE
Dish n71 (600 MHz) 5G	4	1,008.96	182	0.76	n71 (600 MHz)	400	0.19%
Dish n70 (AWS-4 / 1995-2020) 5G	4	1,574.20	182	1.90	n70 (AWS-4 / 1995-2020)	1000	0.19%
Dish n66 (AWS-4 / 2180-2200) 5G	4	1,686.79	182	7.30	n66 (AWS-4 / 2180-2200)	1000	0.73%
<b>Total:</b>							<b>1.11%</b>

*Table 6: Dish Maximum Sector MPE Power Values*



## Summary

All calculations performed for this analysis yielded results that were **within** the allowable limits for general population exposure to RF Emissions.

The anticipated maximum composite contributions from the Dish facility as well as the site composite emissions value with regards to compliance with FCC's allowable limits for general population exposure to RF Emissions are shown here:

Dish Sector	Power Density Value (%)
Sector A:	1.11 %
Sector B:	1.11 %
Sector C:	1.11 %
Dish Maximum Total (per sector):	1.11 %
Site Total:	7.31 %
Site Compliance Status:	<b>COMPLIANT</b>

The anticipated composite emissions value for this site, assuming all carriers present, is **7.31 %** of the allowable FCC established general population limit sampled at the ground level. This is based upon the far field calculations performed for all carriers identified in this report.

FCC guidelines state that if a site is found to be out of compliance (over allowable thresholds), that carriers over a 5% contribution to the composite value will require measures to bring the site into compliance. For this facility, the composite values calculated were well within the allowable 100% threshold standard per the federal government.

Scott Heffernan  
Principal RF Engineer  
**Fox Hill Telecom, Inc**  
Worcester, MA 01609  
(978)660-3998

# Exhibit G

## **Letter of Authorization**

## SBA Letter of Authorization

CT - CONNECTICUT SITING COUNCIL

Melanie A. Bachman

Executive Director

Connecticut Siting Council

10 Franklin Square

New Britain, CT 06051

Re: Tower Share Application

SBA COMMUNICATIONS CORPORATION hereby authorizes DISH Wireless LLC, including their Agent, to act as our Agent in the processing of all zoning applications, building permits and approvals through the CONNECTICUT SITING COUNCIL for existing wireless communications towers.


SBA COMMUNICATIONS CORPORATION

134 Flanders Road, Suite 125

Westboro, MA 01581

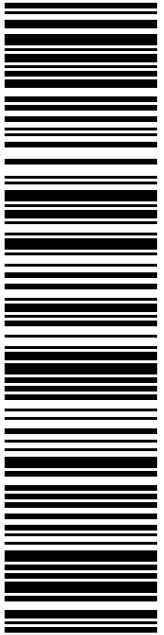
# Exhibit H

## Recipient Mailings



DANIELLE CHESEBROUGH  
FIRST SELECTMAN- TOWN OF STONINGTON  
152 ELM ST  
STONINGTON CT 06378-1139

**USPS TRACKING #**



**9405 5036 9930 0482 3202 82**

**P**

USPS.com 9405 5036 9930 0482 3202 82 0096 5000 0010 6378  
**US POSTAGE \$9.65**  
 Flat Rate Env  
**U.S. POSTAGE PAID**  
 Click-N-Ship®

Mailed from 01566 986765568559425


DEBORAH CHASE  
NORTHEAST SITE SOLUTIONS  
STE 1  
420 MAIN ST  
STURBRIDGE MA 01566-1359

Expected Delivery Date: 02/18/23  
Ref#: SBDS-00039  
**0000**

**C001**

**PRIORITY MAIL®**

Electronic Rate Approved #038555749



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3. Adhere your label to the package. A self-adhesive label is recommended. If tape or glue is used, DO NOT TAPE OVER BARCODE. Be sure all edges are secure.
4. To mail your package with PC Postage®, you may schedule a Package Pickup online, hand to your letter carrier, take to a Post Office™, or drop in a USPS collection box.
5. Mail your package on the "Ship Date" you selected when creating this label.

### Click-N-Ship® Label Record


**USPS TRACKING # :**  
**9405 5036 9930 0482 3202 82**


Trans. #: 582821855	Priority Mail® Postage: <b>\$9.65</b>
Print Date: 02/16/2023	Total: <b>\$9.65</b>
Ship Date: 02/16/2023	
Expected Delivery Date: 02/18/2023	

**From:** DEBORAH CHASE      Ref#: SBDS-00039  
 NORTHEAST SITE SOLUTIONS  
 STE 1  
 420 MAIN ST  
 STURBRIDGE MA 01566-1359

**To:** DANIELLE CHESEBROUGH  
 FIRST SELECTMAN- TOWN OF STONINGTON  
 152 ELM ST  
 STONINGTON CT 06378-1139

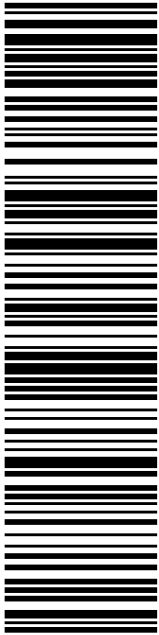
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KEITH BYRNES  
TOWN PLANNER- STONINGTON  
152 ELM ST  
STONINGTON CT 06378-1139

**USPS TRACKING #**



**9405 5036 9930 0482 3203 05**

DEBORAH CHASE  
NORTHEAST SITE SOLUTIONS  
STE 1  
420 MAIN ST  
STURBRIDGE MA 01566-1359

Expected Delivery Date: 02/18/23  
Ref#: SBDS-00039  
**0000**

**C001**

**P**


USPS.com 9405 5036 9930 0482 3203 05 0096 5000 0010 6378  
**\$9.65**  
US POSTAGE  
Flat Rate Envoy

02/16/2023

**U.S. POSTAGE PAID**

Click-N-Ship®

Mailed from 01566 986765568558472




**UNITED STATES POSTAL SERVICE®**

**Click-N-Ship®**

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Trans. #: 582821855	Priority Mail® Postage: <b>\$9.65</b>
Print Date: 02/16/2023	Total: <b>\$9.65</b>
Ship Date: 02/16/2023	
Expected Delivery Date: 02/18/2023	

**From:** DEBORAH CHASE Ref#: SBDS-00039  
NORTHEAST SITE SOLUTIONS  
STE 1  
420 MAIN ST  
STURBRIDGE MA 01566-1359


**To:** KEITH BYRNES  
TOWN PLANNER- STONINGTON  
152 ELM ST  
STONINGTON CT 06378-1139

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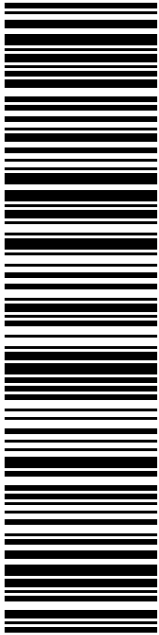
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SBA COMMUNICATIONS CORPORATION  
STE 125  
13 FLANDERS RD  
WESTBOROUGH MA 01581

**USPS TRACKING #**




**9405 5036 9930 0482 3203 12**

DEBORAH CHASE  
NORTHEAST SITE SOLUTIONS  
STE 1  
420 MAIN ST  
STURBRIDGE MA 01566-1359

**PRIORITY MAIL®**


Expected Delivery Date: 02/17/23  
Ref#: SBDS-00039  
**0000**

**R005**



**Click-N-Ship®**

usps.com 9405 5036 9930 0482 3203 12 0096 5000 0010 1581  
**US POSTAGE \$9.65**  
 Flat Rate Envoy  
**U.S. POSTAGE PAID**  
 Click-N-Ship®  
 Mailed from 01566 986765586557204  
 02/16/2023





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**9405 5036 9930 0482 3203 12**

Trans. #: 582821855	Priority Mail® Postage: <b>\$9.65</b>
Print Date: 02/16/2023	Total: <b>\$9.65</b>
Ship Date: 02/16/2023	
Expected Delivery Date: 02/17/2023	


**From:** DEBORAH CHASE      Ref#: SBDS-00039  
 NORTHEAST SITE SOLUTIONS  
 STE 1  
 420 MAIN ST  
 STURBRIDGE MA 01566-1359

**To:** SBA COMMUNICATIONS CORPORATION  
 STE 125  
 13 FLANDERS RD  
 WESTBOROUGH MA 01581

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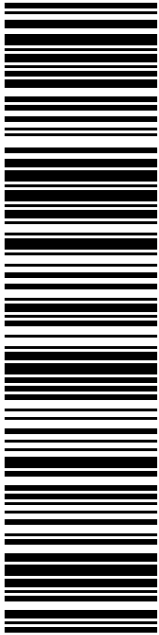


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DAMATO INVESTMENTS LLC  
183 QUARRY RD  
MILFORD CT 06460-2867

**USPS TRACKING #**



**9405 5036 9930 0482 3203 43**

**P**

USPS.com 9405 5036 9930 0482 3203 43 0096 5000 0020 6460  
**US POSTAGE \$9.65**  
 Flat Rate Env  
 U.S. POSTAGE PAID  
 Click-N-Ship®

02/16/2023 Mailed from 01566 98676556855149


DEBORAH CHASE  
NORTHEAST SITE SOLUTIONS  
STE 1  
420 MAIN ST  
STURBRIDGE MA 01566-1359

Expected Delivery Date: 02/18/23  
Ref#: SBDS-00039  
**0000**

**C039**

**PRIORITY MAIL®**

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### Click-N-Ship® Label Record

**USPS TRACKING # :**  
**9405 5036 9930 0482 3203 43**

Trans. #: 582821855 Print Date: 02/16/2023 Ship Date: 02/16/2023 Expected Delivery Date: 02/18/2023	Priority Mail® Postage: <b>\$9.65</b> Total: <b>\$9.65</b>
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**From:** DEBORAH CHASE  
 NORTHEAST SITE SOLUTIONS  
 STE 1  
 420 MAIN ST  
 STURBRIDGE MA 01566-1359

**To:** DAMATO INVESTMENTS LLC  
 183 QUARRY RD  
 MILFORD CT 06460-2867

Ref#: SBDS-00039

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BOBOS00039A SBA  
DISH



LINCOLN MALL  
560 LINCOLN ST STE 8  
WORCESTER, MA 01605-1925  
(800)275-8777

02/17/2023

10:57 AM

Product	Qty	Unit Price	Price
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Prepaid Mail	1		\$0.00
Westborough, MA 01581			
Weight: 0 lb 2.00 oz			
Acceptance Date:			
Fri 02/17/2023			
Tracking #:			
9405 5036 9930 0482 3203 12			

Prepaid Mail	1		\$0.00
Stonington, CT 06378			
Weight: 0 lb 12.90 oz			
Acceptance Date:			
Fri 02/17/2023			
Tracking #:			
9405 5036 9930 0482 3203 05			

Prepaid Mail	1		\$0.00
Stonington, CT 06378			
Weight: 0 lb 13.00 oz			
Acceptance Date:			
Fri 02/17/2023			
Tracking #:			
9405 5036 9930 0482 3202 82			

Prepaid Mail	1		\$0.00
Milford, CT 06460			
Weight: 0 lb 12.90 oz			
Acceptance Date:			
Fri 02/17/2023			
Tracking #:			
9405 5036 9930 0482 3203 43			

Grand Total:			\$0.00
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