



CITY OF BETHLEHEM  
OFFICE OF THE CITY SOLICITOR

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INTEROFFICE MEMORANDUM

To: Robert G. Vidoni, Esq., City Clerk  
From: William P. Leeson, Esq., City Solicitor  
Re: Second Amendment to Communications Site Lease Agreement  
Lessee Name: MetroPCS Pennsylvania, LLC  
Location: 248 East Garrison Street Tower Site  
Date: February 22, 2021

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Attached is a proposed Resolution and associated Second Amendment to Communications Site Lease Agreement for Council's consideration. The Amendment authorizes the addition of three new antennas on the tower structure, sets the rental increase associated with the additional antennas, and otherwise modifies the lease as provided therein.

Please place this matter on City Council's agenda for review and appropriate action.

  
William P. Leeson, Esq., Solicitor

Cc: Robert J. Donchez, Mayor  
Michael Alkhal, Director, Public Works  
Gregory Cryder, City Electrician

RESOLUTION NO. 2021-\_\_\_\_\_

Authorization for Second Amendment to Communications Site Lease Agreement

BE IT RESOLVED by the Council of the City of Bethlehem that the Mayor and the Controller and/or such other City officials as deemed appropriate by the City Solicitor, are hereby authorized to execute the Second Amendment to Communications Site Lease Agreement between the City of Bethlehem and MetroPCS Pennsylvania, LLC, and such other agreements and documents as are deemed by the City Solicitor to be necessary and/or related thereto, according to the terms and conditions indicated therein and made a part hereof, as it relates to communications equipment on the tower structure located at 248 East Garrison Street.

Sponsored by \_\_\_\_\_  
\_\_\_\_\_

ADOPTED by Council this            day of            , 2021.

\_\_\_\_\_  
President of Council

ATTEST:

\_\_\_\_\_  
City Clerk

## SECOND AMENDMENT TO COMMUNICATIONS SITE LEASE AGREEMENT

This Second Amendment to the COMMUNICATIONS SITE LEASE AGREEMENT (“Second Amendment”) is effective as of the date of execution by the last party to sign by and between City of Bethlehem, a Public Entity, (“Lessor”) and MetroPCS Pennsylvania, LLC, a Delaware limited liability company, (the “Lessee”).

WHEREAS, Lessor and Lessee entered into that certain COMMUNICATIONS SITE LEASE AGREEMENT dated July 8, 2010 (“Lease Agreement”) whereby Lessor leased to Lessee certain portions of the Lessor’s Real Property located at 248 E Garrison Street, Bethlehem, PA 18018 (the “Premises”); and

WHEREAS, Lessor and Lessee entered into that certain FIRST AMENDMENT TO COMMUNICATIONS SITE LEASE AGREEMENT dated December 21, 2018 (“Amendment No. 1”) whereby Lessor leased to Lessee an additional portion of its Real Property located at 248 E Garrison Street, Bethlehem, PA 18018 to accommodate Lessee’s ground area expansion of their leased Premises in exchange for an increase in the monthly rent to be paid by Lessee; and

WHEREAS, it has been determined that Amendment No. 1 incorrectly identified T-Mobile Northeast LLC, a Delaware limited liability company, as successor in interest to MetroPCS Pennsylvania, LLC; and

WHEREAS, Lessor and Lessee desire to ratify and confirm the terms of Amendment No. 1; and

WHEREAS, Lessee desires to add three (3) additional antennas to their leased Premises on the tower structure, as more fully set forth below.

NOW, for good and valuable consideration, Lessor and Lessee agree as follows:

1. Lessor and Lessee hereby ratify and confirm the terms of Amendment No. 1 dated December 21, 2018.
2. The Lease Agreement, as amended, is in full force and effect and neither Lessor nor Lessee is in breach under the terms of the Lease Agreement.
3. Effective upon the full execution of this Second Amendment, Lessor consents to Lessee’s addition of three (3) new antennas on the tower structure, as set forth in Exhibit B-2, attached hereto and incorporated herein.

4. The Rent that Lessee pays Lessor will be increased at the rate of One Hundred Dollars and No Cents (\$100.00) per additional antenna for a total increase of Three Hundred Dollars and No Cents (\$300.00) per month, effective upon the beginning of installation of the additional antennas described and depicted in Exhibit B-2.

5. Except as expressly set forth in this Second Amendment, the Lease Agreement and Amendment No. 1 otherwise are unmodified. To the extent any provision contained in this Second Amendment conflicts with the terms of the Lease Agreement or Amendment No. 1, the terms and provisions of this Second Amendment shall control. Each reference in the Lease Agreement to itself shall be deemed also to refer to this Second Amendment.

6. This Second Amendment may be executed in duplicate counterparts, each of which will be deemed an original. Signed electronic copies of this Amendment will legally bind the Parties to the same extent as originals.

7. Each of the Parties represents and warrants that it has the right, power, legal capacity and authority to enter into and perform its respective obligations under this Second Amendment.

IN WITNESS WHEREOF, the Parties executed this Second Amendment as of the Effective Date.

LESSOR:  
City of Bethlehem

LESSEE:  
MetroPCS Pennsylvania, LLC, a Delaware  
Limited Liability Company

By: \_\_\_\_\_

By: \_\_\_\_\_

Print Name: Robert J. Donchez

Print Name: \_\_\_\_\_

Title: Mayor

Title: \_\_\_\_\_

Date: \_\_\_\_\_

Date: \_\_\_\_\_

Attest: \_\_\_\_\_

Print Name: George Yasso

Title: Controller

Date: \_\_\_\_\_

\_\_\_\_\_

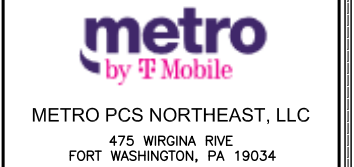
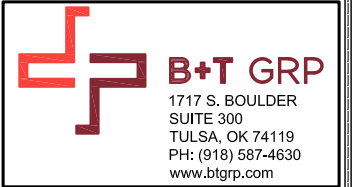
Exhibit B-2



**SITE NAME: BETHLEHEM PUBLIC WORKS**  
**SITE NUMBER: 1NH8860A**

**248 E. GARRISON STREET**  
**BETHLEHEM, PA 18018**

**ANCHOR PROJECT**



1NH8860A

**BETHLEHEM PUBLIC WORKS**

248 E. GARRISON STREET  
 BETHLEHEM, PA 18018

**PROJECT NO:** 143471.001.01  
**CHECKED BY:** FWP

ISSUED FOR:			
REV	DATE	DRWN	DESCRIPTION
A	6/29/20	SMM	FOR REVIEW
0	7/31/20	BEL	FOR CONSTRUCTION
1	9/14/20	JJD	FOR CONSTRUCTION
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B&T ENGINEERING, INC.



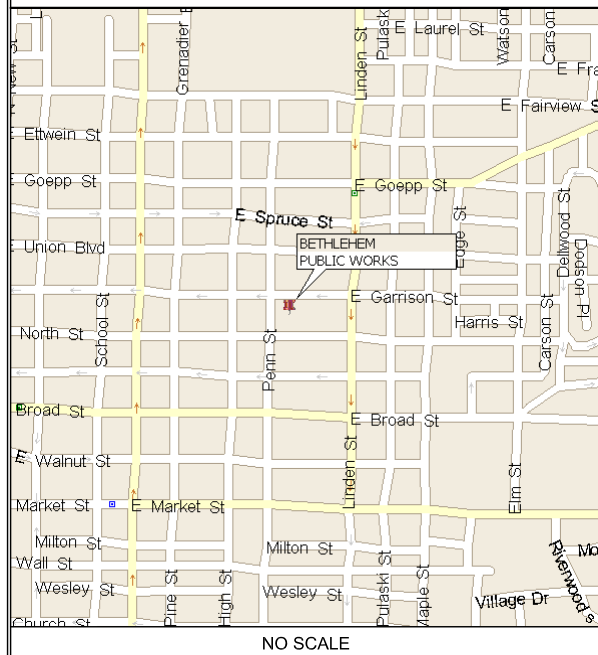
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**SHEET NUMBER:** T-1 **REVISION:** 2

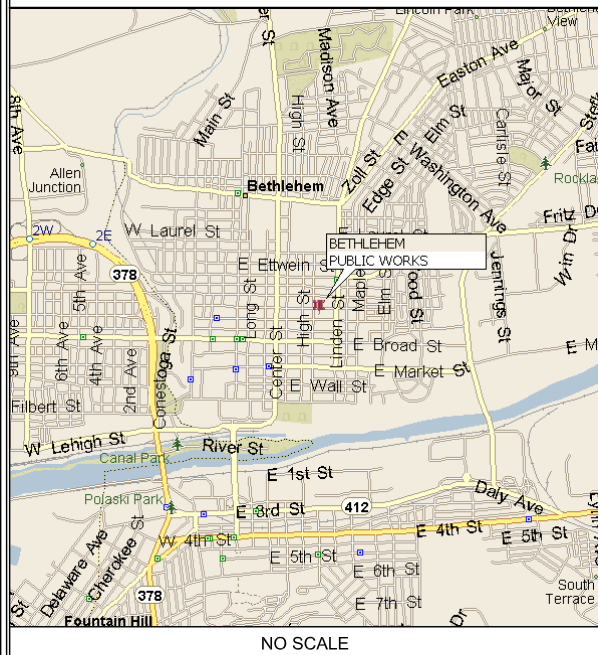
**SITE INFORMATION**

<b>SITE ADDRESS:</b>	248 E. GARRISON STREET BETHLEHEM, PA 18018
<b>NAD83</b>	
<b>LATITUDE:</b>	40.62377780° N
<b>LONGITUDE:</b>	75.37120830° W
<b>TOWER OWNER:</b>	BETHLEHEM CITY
<b>ADDRESS:</b>	247 E NORTH CITY BETHLEHEM, PA 18018
<b>CUSTOMER/APPLICANT:</b>	METRO PCS NORTHEAST LLC 475 VIRGINIA RIVE FORT WASHINGTON, PA 19034
<b>A&amp;E FIRM:</b>	B+T GROUP 1717 S. BOULDER, STE. 300 TULSA, OK 74119
<b>CONTACT:</b>	MIKE PATTEN
<b>PHONE:</b>	(610) 406-1902
<b>OCCUPANCY TYPE:</b>	UNMANNED
<b>A.D.A. COMPLIANCE:</b>	FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION

**AREA MAP**



**LOCATION MAP**



**DRAWING INDEX**

SHEET #	SHEET DESCRIPTION	REV. #
T-1	TITLE SHEET	2
GN-1	GENERAL NOTES	2
A-1	SITE PLAN AND TOWER ELEVATION	2
A-2	AZIMUTH PLAN	2
A-3	EQUIPMENT DETAILS	2
A-4	MOUNT DETAILS	2
E-1	ELECTRICAL NOTES	2
E-2	ONE-LINE DIAGRAMS	2
E-3	GROUNDING DETAILS	2

**DO NOT SCALE DRAWINGS**

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11x17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SEE SHEET GN-1 FOR ADDITIONAL CONSTRUCTION NOTES

**SCOPE OF WORK**

- SCOPE OF WORK FROM RFDS/LOADING TABLE, DATED 6/3/20.
- REMOVE & REPLACE (3) EXISTING MOUNTS PER RECOMMENDATIONS IN MOUNT ANALYSIS BY TOWER ENGINEERING PROFESSIONALS DATED 9/4/20.
  - INSTALL (3) NEW ANTENNAS ON NEW PIPES.
  - INSTALL (3) RRU'S.
  - INSTALL (3) DIPLEXERS.
  - INSTALL (1) SSC 6160 CABINET.
  - INSTALL (1) B160 BATTERY CABINET ON EXISTING RECONFIGURED PAD.
  - THE EXISTING 6102 CABINET IS TO BE SHIFTED TO CREATE THE NEEDED SPACE FOR THE (2) PROPOSED ANCHOR CABINETS.
  - INSTALL (2) 6X12 HCS CABLES.
  - UPGRADE 6102 BREAKER TO 150A.
  - INSTALL (1) NEW 100 BREAKER FOR SSC6160.

**DRIVING DIRECTIONS**

FROM 475 VIRGINIA DRIVE, FORT WASHINGTON, PA 19034: HEAD NORTHWEST ON VIRGINIA DR TOWARD DELAWARE DR. TURN RIGHT ONTO DELAWARE DR. TURN LEFT ONTO COMMERCE DR. TURN LEFT ONTO PENNSYLVANIA AVE. TAKE THE RAMP TO PA-309 N/HWY 309 N. KEEP LEFT AT THE FORK AND FOLLOW SIGNS FOR ROUTE 309 N/I-276/PENNSYLVANIA TURNPIKE/AMBLER. KEEP RIGHT AT THE FORK, FOLLOW SIGNS FOR PA-309 N. KEEP LEFT AT THE FORK AND MERGE ONTO PA-309 N/HWY 309 N. MERGE ONTO PA-309 N/HWY 309 N. TURN RIGHT ONTO PA-378 N. TAKE THE MAIN STREET EXIT. TURN LEFT ONTO MAIN ST. TURN RIGHT ONTO W NORTH ST.

**CODE 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/DWELLING	IBC 2018
STRUCTURAL	IBC 2018
MECHANICAL	IMC 2018
ELECTRICAL	NEC 2014, 2015 IECC, NFPA 70



**CALL PENNSYLVANIA ONE CALL**  
 (800) 242-1776  
 CALL 3 WORKING DAYS  
 BEFORE YOU DIG!



143471.001.01\_1NH8860A\_Bethlehem Public Works MetroPCS 1.25.21.dwg - Sheet:GN-1 - User: fperkins - Jan 25, 2021 - 3:32pm

**GROUNDING NOTES:**


- THE SUBCONTRACTOR SHALL REVIEW AND INSPECT THE EXISTING FACILITY GROUNDING SYSTEM AND LIGHTNING PROTECTION SYSTEM (AS DESIGNED AND INSTALLED) FOR STRICT COMPLIANCE WITH THE NEC (AS ADOPTED BY THE AHJ), THE SITE-SPECIFIC (UL, LPI OR NFPA) LIGHTING PROTECTION CODE AND GENERAL COMPLIANCE WITH TELECORDIA AND TIA GROUNDING STANDARDS. THE SUBCONTRACTOR SHALL REPORT ANY VIOLATION OR ADVERSE FINDING TO THE CONTRACTOR FOR RESOLUTION.
- ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GE'S) SHALL BE BONDED TOGETHER, AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
- THE SUBCONTRACTOR SHALL PERFORM IEEE FALL-OF-POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 & 81) FOR NEW GROUND ELECTRODE SYSTEMS. THE SUBCONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
- 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.
- EACH BTS CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, 6 AWG STRANDED COPPER OR LARGER FOR INDOOR BUS 2 AWG STRANDED COPPER FOR OUTDOOR BTS.
- EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
- APPROVED ANTIOXIDANT COATINGS (I.E. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
- ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
- ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
- MISCELLANEOUS ELECTRICAL AND NON-ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
- METAL CONDUIT SHALL BE MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDED FITTINGS OR BY BINDING ACROSS THE DISCONTINUITY WITH 6 AWS COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
- ALL NEW STRUCTURES WITH A FOUNDATION AND/OR FOOTING HAVING 20' OR MORE OF 1/2" OR GREATER ELECTRICALLY CONDUCTIVE REINFORCING STEEL MUST HAVE IT BONDED TO THE GROUND RING USING AN EXOTHERMIC WELD CONNECTION USING #2 AWG SOLID BAR TINNED COPPER GROUND WIRE, PER NEC 250.50.

**GENERAL NOTES:**


- FOR THE PURPOSE OF CONSTRUCTION DRAWINGS, THE FOLLOWING DEFINITIONS SHALL APPLY:  
 CONTRACTOR: T.B.D.  
 SUBCONTRACTOR: GENERAL CONTRACTOR (CONSTRUCTION)  
 OWNER: METRO PCS
- PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING SUBCONTRACTOR 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 CONTRACTOR.
- ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. SUBCONTRACTOR 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.
- DRAWINGS PROVIDED HERE ARE NOT TO BE SCALED AND ARE INTENDED TO SHOW OUTLINE ONLY.
- UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
- "KITTING LIST" SUPPLIED WITH THE BID PACKAGE IDENTIFIES ITEMS THAT WILL BE SUPPLIED BY CONTRACTOR. ITEMS NOT INCLUDED IN THE BILL OF MATERIALS AND KITTING LIST SHALL BE SUPPLIED BY THE SUBCONTRACTOR.
- THE SUBCONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIAL IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS, UNLESS SPECIFICALLY STATED OTHERWISE.
- IF THE SPECIFIED EQUIPMENT CANNOT BE INSTALL AS SHOWN ON THESE DRAWINGS, THE SUBCONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION SPACE FOR APPROVAL BY THE CONTRACTOR.
- SUBCONTRACTOR SHALL DETERMINE ACTUAL ROUTING OF CONDUIT, POWER AND T1 CABLES AND GROUNDING CABLES AS SHOWN ON THE POWER, GROUNDING AND TELCO PLAN DRAWINGS. SUBCONTRACTOR SHALL UTILIZE EXISTING TRAYS AND/OR SHALL ADD NEW TRAYS AS NECESSARY, SUBCONTRACTOR SHALL CONFIRM THE ACTUAL ROUTING WITH THE CONTRACTOR.
- THE SUBCONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT SUBCONTRACTOR'S EXPENSE TO THE SATISFACTION OF OWNER.
- SUBCONTRACTOR 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.
- SUBCONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION.
- ALL CONCRETE REPAIR WORK SHALL BE DONE IN ACCORDANCE WITH AMERICAN CONCRETE INSTITUTE (ACI) 301.
- ANY NEW CONCRETE NEEDED FOR THE CONSTRUCTION SHALL BE AIR-ENTRAINED AND SHALL HAVE 4000 PSI STRENGTH AT 28 DAYS. ALL CONCRETE WORK SHALL BE DONE IN ACCORDANCE WITH ACI 318 CODE REQUIREMENTS.
- ALL STRUCTURAL STEEL WORK SHALL BE DETAILED, FABRICATED AND ERECTED IN ACCORDANCE WITH AISC SPECIFICATIONS. ALL STRUCTURAL STEEL SHALL BE ASTM A36 (Fy = 36 ksi) UNLESS NOTED OTHERWISE, PIPES SHALL BE ASTM A53 TYPE E (Fy = 36 ksi). ALL STEEL EXPOSED TO WETHER SHALL BE HOT DIPPED GALVANIZED. TOUCH-UP ALL SCRATCHES AND OTHER MARKS IN THE FIELD AFTER STEEL IS ERECTED USING A COMPATIBLE ZINC RICH PAINT.
- CONSTRUCTION SHALL COMPLY WITH UMS SPECIFICATIONS AND "GENERAL CONSTRUCTION SERVICES FOR CONSTRUCTION OF METRO PCS SITES."
- SUBCONTRACTOR SHALL VERIFY ALL EXISTING DIMENSIONS AND CONDITIONS PRIOR TO COMMENCING ANY WORK. ALL DIMENSIONS OF EXISTING CONSTRUCTION SHOWN ON THE DRAWINGS MUST BE VERIFIED. SUBCONTRACTOR SHALL NOTIFY THE CONTRACTOR OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIAL OR PROCEEDING WITH CONSTRUCTION.
- THE EXISTING CELL SITE IS IN FULL COMMERCIAL OPERATION. ANY CONSTRUCTION WORK BY SUBCONTRACTOR SHALL NOT DISRUPT THE EXISTING NORMAL OPERATION. ANY WORK ON EXISTING EQUIPMENT MUST BE COORDINATED WITH CONTRACTOR. ALSO, WORK SHOULD BE SCHEDULED FOR AN APPROPRIATE MAINTENANCE WINDOW, USUALLY IN LOW TRAFFIC PERIODS AFTER MIDNIGHT.
- SINCE THE CELL SITE IS ACTIVE, AL SAFETY PRECAUTIONS MUST BE TAKEN WHEN WORKING AROUND HIGH LEVELS OF ELECTROMAGNETIC RADIATION, EQUIPMENT SHOULD BE SHUTDOWN PRIOR TO PERFORMING ANY WORK THAT COULD EXPOSE THE WORKERS TO DANGER. PERSONAL RF EXPOSURE MONITORS ARE ADVISED TO BE WORN TO ALERT IF ANY DANGEROUS EXPOSURE LEVELS.
- APPLICABLE BUILDING CODES:  
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH ALL APPLICABLE NATIONAL, STATE AND LOCAL CODES AS ADOPTED BY THE LOCAL AUTHORITY HAVING JURISDICTION (AHJ) FOR THE LOCATION. THE EDITION OF THE AHJ ADOPTED CODES AND STANDARDS IN EFFECT ON THE DATE OF CONTRACT AWARD SHALL GOVERN THE DESIGN.  
 BUILDING CODE: IBC 20XX  
 ELECTRICAL CODE: NEC 20XX  
  
 SUBCONTRACTOR'S WORK SHALL COMPLY WITH THE LATEST EDITION OF THE FOLLOWING STANDARDS:  
  
 AMERICAN CONCRETE INSTITUTE (ACI) 318;  
 BUILDING CODE REQUIREMENTS FOR STRUCTURAL CONCRETE.  
  
 AMERICAN INSTITUTE OF STEEL CONSTRUCTION (AISC)  
  
 MANUAL OF STEEL CONSTRUCTION; ASD, FOURTEENTH EDITION  
  
 TELECOMMUNICATIONS INDUSTRY ASSOCIATION (TIA) 222-G;  
 STRUCTURAL STANDARDS FOR STEEL  
  
 ANTENNA TOWER AND ANTENNA SUPPORTING STRUCTURES;  
 REFER TO ELECTRICAL DRAWINGS FOR SPECIFIC ELECTRICAL STANDARDS

FOR ANY CONFLICTS BETWEEN SECTIONS OF LISTED CODES AND STANDARDS REGARDING MATERIAL, METHOD OF CONSTRUCTION OR OTHER REQUIREMENTS, THE MOST RESTRICTIVE REQUIREMENT SHALL GOVERN. WHERE THERE IS CONFLICT BETWEEN A GENERAL REQUIREMENT AND A SPECIFIC REQUIREMENT, THE SPECIFIC REQUIREMENT SHALL GOVERN.

ABBREVIATIONS					
AGL	ABOVE GRADE LEVEL	GC	GENERAL CONTRACTOR	REF.	REFERENCE
AWG	AMERICAN WIRE GAUGE	MAX.	MAXIMUM	REQ.	REQUIRED
BCW	BARE COPPER WIRE	MGB	MASTER GROUND BAR	RF	RADIO FREQUENCY
BTS	BASE TRANSCEIVER STATION	MIN.	MINIMUM	T.B.D.	TO BE DETERMINED
(E)	EXISTING	(N)	PROPOSED	T.B.R.	TO BE REMOVED
EG	EQUIPMENT GROUND	N.T.S.	NOT TO SCALE	T.B.R.R.	TO BE REMOVED AND REPLACED
EGR	EQUIPMENT GROUND RING	RE:	REFERENCE	(TYP)	TYPICAL



**B+T GRP**  
 1717 S. BOULDER  
 SUITE 300  
 TULSA, OK 74119  
 PH: (918) 587-4630  
 www.btgrp.com



METRO PCS NORTHEAST, LLC  
 475 VIRGINIA RIVE  
 FORT WASHINGTON, PA 19034



complete wireless solutions  
 COLONIAL PARK COMMONS II, SUITE 200  
 576 COLONIAL PARK DRIVE  
 ROSWELL, GA 30075

1NH8860A

**BETHLEHEM  
 PUBLIC WORKS**


248 E. GARRISON STREET  
 BETHLEHEM, PA 18018

PROJECT NO: 143471.001.01  
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**ISSUED FOR:**

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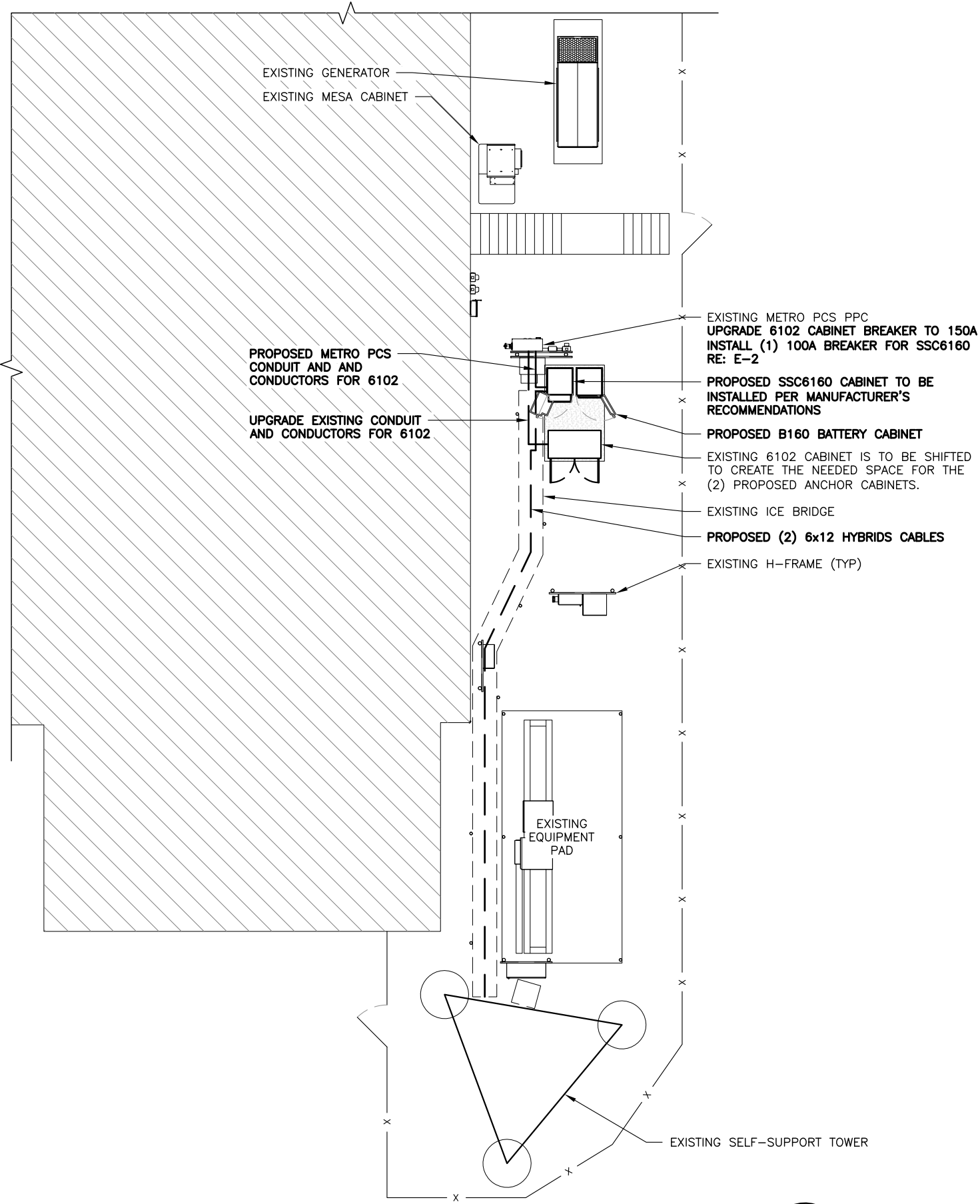


1/25/21

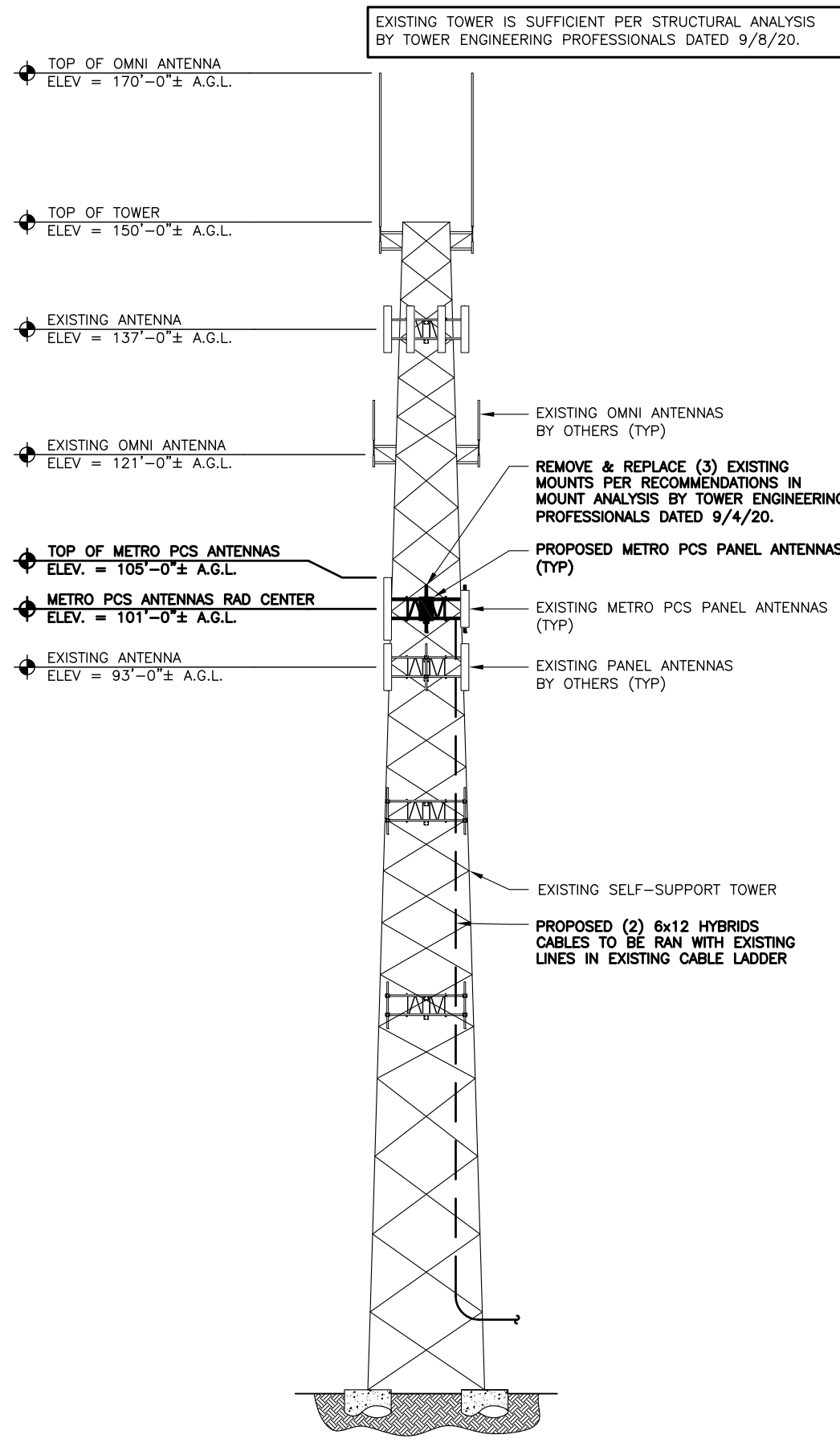
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SHEET NUMBER: **GN-1** REVISION: **2**

143471.001\_1\_1NH8860A\_Bethlehem Public Works MetroPCS 1.25.21.dwg - Sheet: A-1 - User: fperkins - Jan 25, 2021 - 3:32pm



**1** OVERALL SITE PLAN  
SCALE: 0' 4' 8' 16' 32'



**2** TOWER ELEVATION  
SCALE: N.T.S.

**B+T GRP**  
1717 S. BOULDER  
SUITE 300  
TULSA, OK 74119  
PH: (918) 587-4630  
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**METRO PCS NORTHEAST, LLC**  
475 VIRGINIA RIVE  
FORT WASHINGTON, PA 19034

**complete wireless solutions**  
COLONIAL PARK COMMONS II, SUITE 200  
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ROSWELL, GA 30075

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1/25/21

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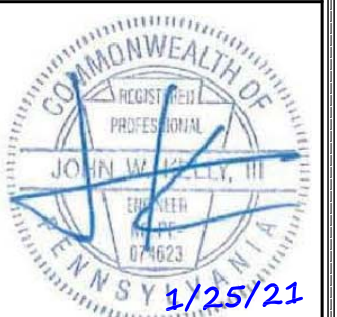
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SHEET NUMBER: REVISION:

**A-2** **2**

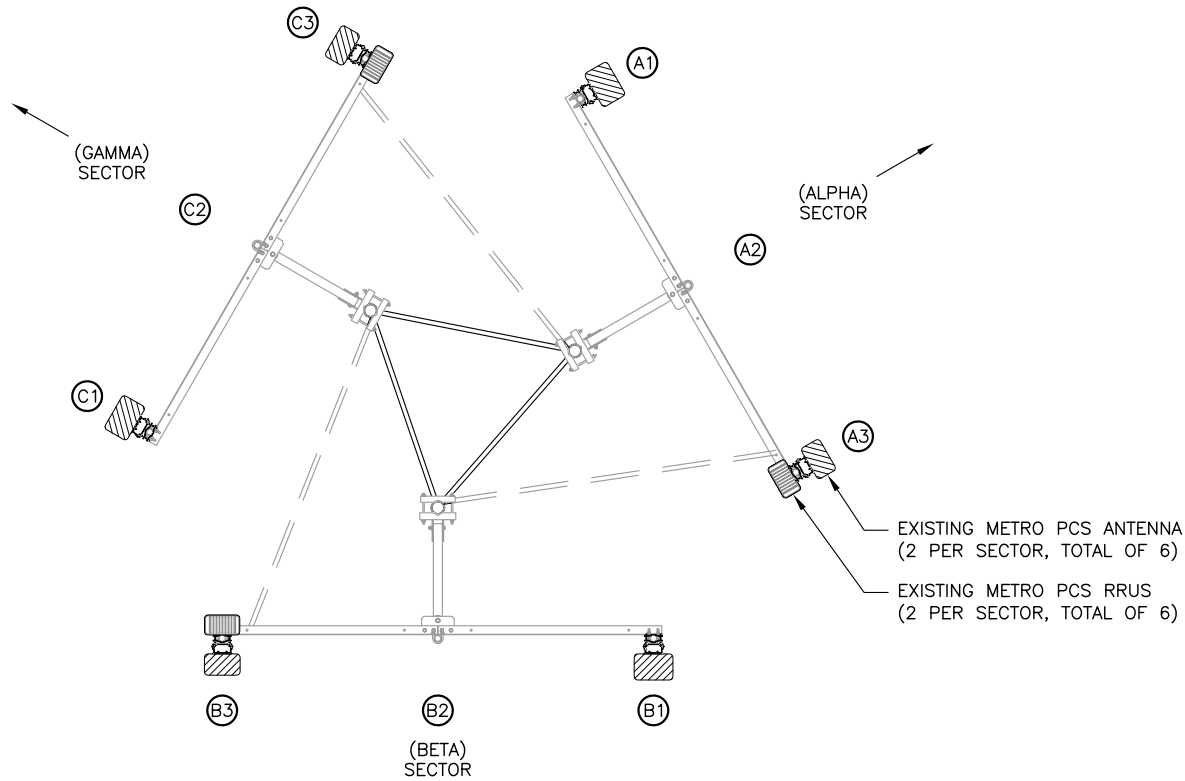
**CONTRACTOR NOTE:**  
 REFER TO LATEST RFDS BEFORE  
 BEGINNING CONSTRUCTION.

**EXISTING ANTENNA SCHEDULE**

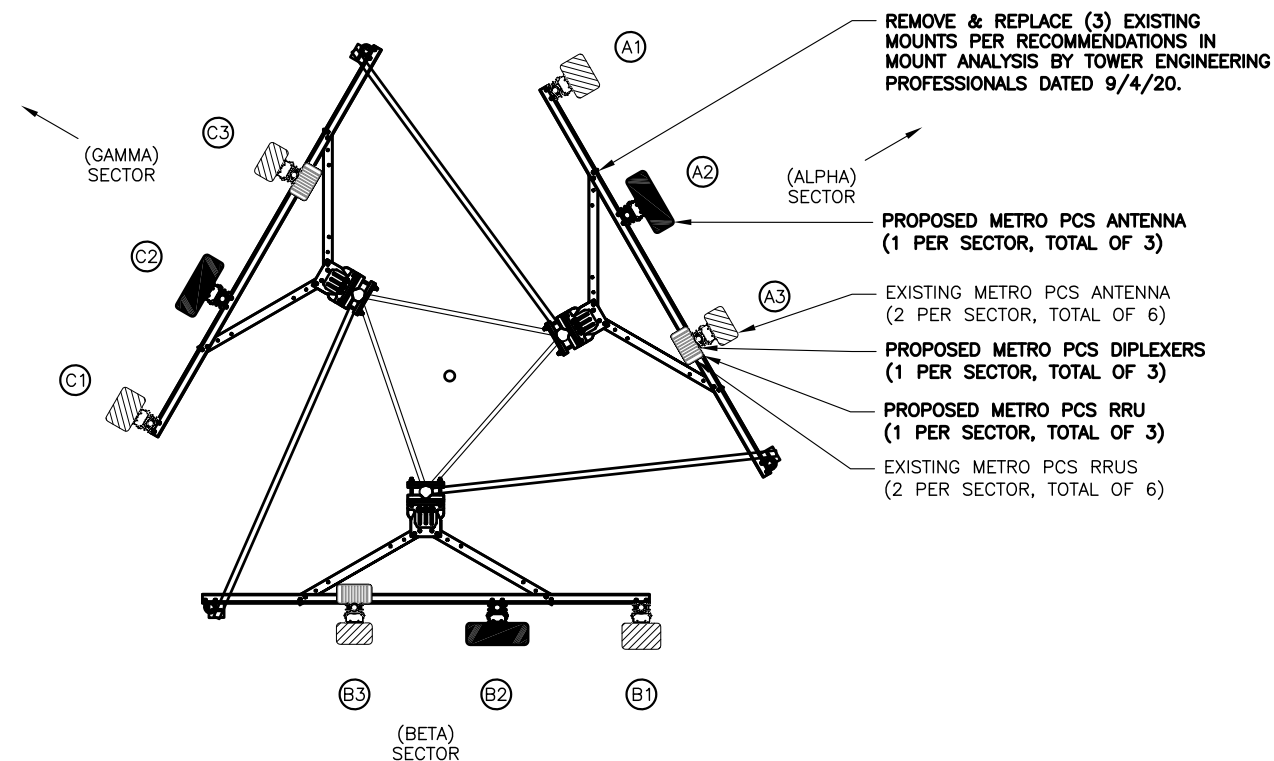
SECTOR	POSITION (FROM BEHIND)	ANTENNA MODEL	AZIMUTH	RAD CENTER	TMA/RRU	CABLE TYPE
ALPHA	A1	AIR32 B66_B2A	60°	101'-0"	-	(3) 1 5/8" COAX (1) 6x12 HYBRID
	A2	-	-	-	-	
	A3	RFS-APXVAARR24_43-U-NA20	60°	101'-0"	(1) 4449 B71+B85 (1) RRUS11 B4	
BETA	B1	AIR32 B66_B2A	180°	101'-0"	-	(3) 1 5/8" COAX (1) 6x12 HYBRID
	B2	-	-	-	-	
	B3	RFS-APXVAARR24_43-U-NA20	180°	101'-0"	(1) 4449 B71+B85 (1) RRUS11 B4	
GAMMA	C1	AIR32 B66_B2A	300°	101'-0"	-	(2) 1 5/8" COAX (1) 6x12 HYBRID
	C2	-	-	-	-	
	C3	RFS-APXVAARR24_43-U-NA20	300°	101'-0"	(1) 4449 B71+B85 (1) RRUS11 B4	

**FINAL ANTENNA SCHEDULE**

SECTOR	POSITION (FROM BEHIND)	ANTENNA MODEL	AZIMUTH	RAD CENTER	TMA/RRU	CABLE TYPE
ALPHA	A1	AIR32 B66_B2A	60°	101'-0"	-	(3) 1 5/8" COAX (1) 6x12 HYBRID (1) <b>6X12 HYBRID</b>
	A2	<b>AIR6449 B41</b>	<b>60°</b>	<b>101'-0"</b>	-	
	A3	RFS-APXVAARR24_43-U-NA20	60°	101'-0"	(1) 4449 B71+B85 (1) RRUS11 B4 (1) <b>4415 B25</b> (1) <b>SDX1926Q-43</b>	
BETA	B1	AIR32 B66_B2A	180°	101'-0"	-	(3) 1 5/8" COAX (1) 6x12 HYBRID (1) <b>6X12 HYBRID</b>
	B2	<b>AIR6449 B41</b>	180°	<b>101'-0"</b>	-	
	B3	RFS-APXVAARR24_43-U-NA20	180°	101'-0"	(1) 4449 B71+B85 (1) RRUS11 B4 (1) <b>4415 B25</b> (1) <b>SDX1926Q-43</b>	
GAMMA	C1	AIR32 B66_B2A	300°	101'-0"	-	(2) 1 5/8" COAX (1) 6x12 HYBRID
	C2	<b>AIR6449 B41</b>	300°	<b>101'-0"</b>	-	
	C3	RFS-APXVAARR24_43-U-NA20	300°	101'-0"	(1) 4449 B71+B85 (1) RRUS11 B4 (1) <b>4415 B25</b> (1) <b>SDX1926Q-43</b>	



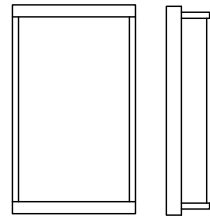
**1 EXISTING ANTENNA PLAN**  
 SCALE: 0' 1' 4' 8' 16'



**2 FINAL ANTENNA PLAN**  
 SCALE: 0' 1' 4' 8' 16'

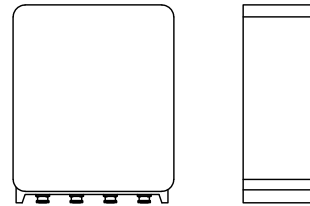


ANTENNA SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	AIR6449 B41
WIDTH	20.6"
DEPTH	20.6"
HEIGHT	33.1"
WEIGHT	104 lbs



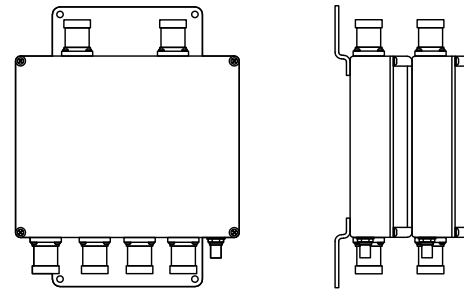
**1** ANTENNA DETAIL  
SCALE: N.T.S.

RRH SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	4415 B25
WIDTH	13.4"
DEPTH	5.9"
HEIGHT	16.5"
WEIGHT	46 lbs



**2** RRU DETAIL  
SCALE: N.T.S.

RRH SPECIFICATIONS	
MANUFACTURER	COMMSCOPE
MODEL #	SDX1926Q-43
WIDTH	6.929"
DEPTH	2.913"
HEIGHT	4.173"
WEIGHT	6.173 lbs



**3** DIPLEXER DETAIL  
SCALE: N.T.S.

ENCLOSURE SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	SSC6160
WIDTH	25.6"
DEPTH	25.6"
HEIGHT	63"
WEIGHT	188 lbs



**4** ENCLOSURE DETAIL  
SCALE: N.T.S.

ENCLOSURE SPECIFICATIONS	
MANUFACTURER	ERICSSON
MODEL #	B160
WIDTH	25.6"
DEPTH	25.6"
HEIGHT	63"
WEIGHT	188 lbs
WITH BATTERIES	1587.6 lbs



**5** ENCLOSURE DETAIL  
SCALE: N.T.S.

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248 E. GARRISON STREET  
BETHLEHEM, PA 18018

PROJECT NO: 143471.001.01  
CHECKED BY: FWP

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REV	DATE	DRWN	DESCRIPTION
A	6/29/20	SMM	FOR REVIEW
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1	9/14/20	JJD	FOR CONSTRUCTION
2	1/25/21	FWP	FOR CONSTRUCTION

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SHEET NUMBER: **A-3** REVISION: **2**

**FRAME DETAILS:**

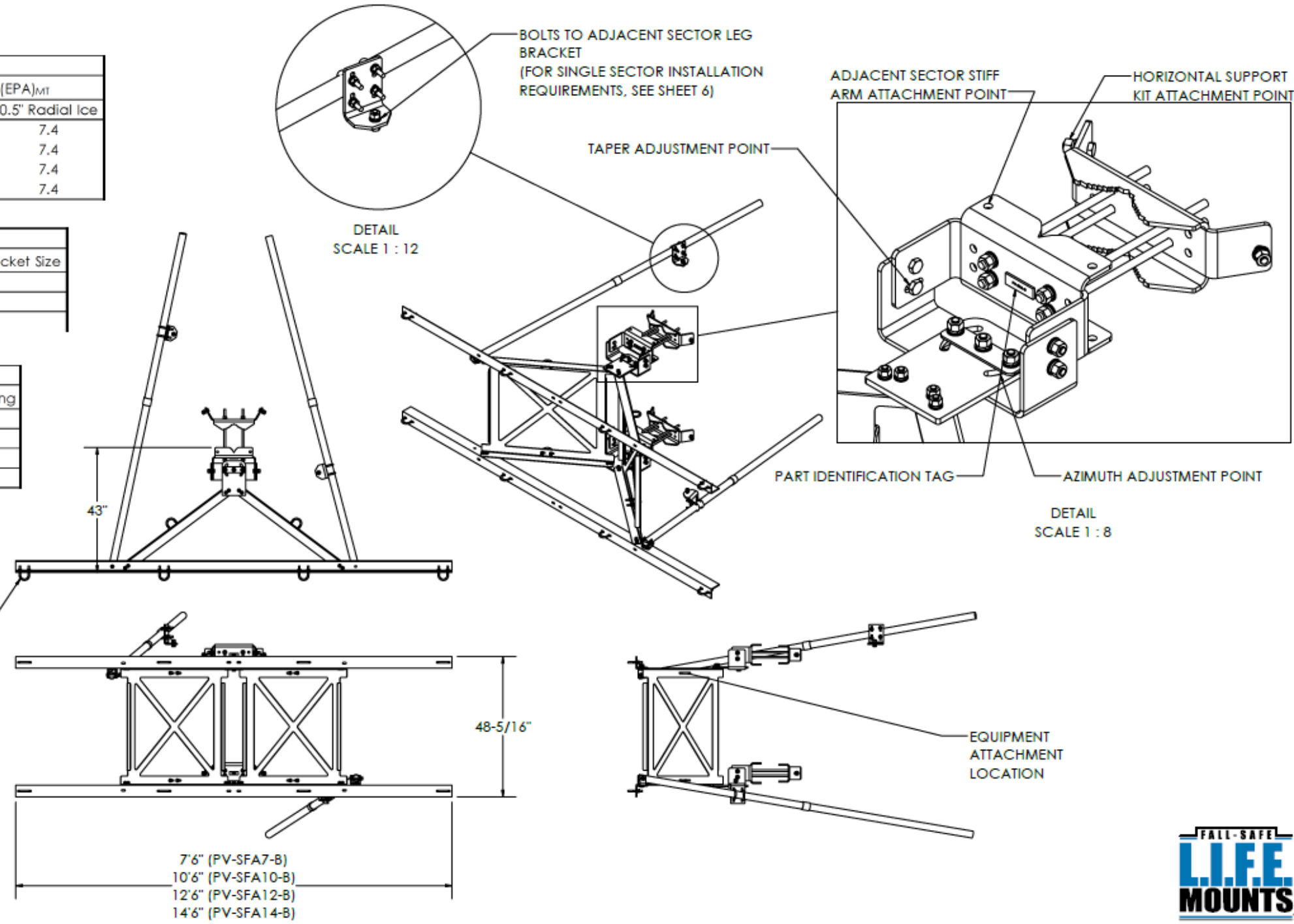
Part Number	Front (ft <sup>2</sup> ) (EPA) <sub>MN</sub>		Side (ft <sup>2</sup> ) (EPA) <sub>MT</sub>	
	No Ice	0.5" Radial Ice	No Ice	0.5" Radial Ice
PV-SFA7-B	9.9	11.3	5.2	7.4
PV-SFA10-B	11.7	13.5	5.2	7.4
PV-SFA12-B	13.0	15.1	5.2	7.4
PV-SFA14-B	14.3	16.7	5.2	7.4

**NOTE: FRAME EPA DOES NOT INCLUDE ANTENNA PIPES**

Leg Type	Max Standard Bracket Size	Max Large Leg Bracket Size
Round	Ø8.625	Ø16
Angle 60°	6" x 6"	12" x 12"
Angle 90°	8" x 8"	16" x 16"

**NOTE: SEE SHEET 6 FOR LARGE LEG BRACKET DETAILS**

Part Number	3 Pipe Spacing	4 Pipe Spacing	5 Pipe Spacing
PV-SFA7-B	3'6"	2'4"	N/A
PV-SFA10-B	5'	3'4"	N/A
PV-SFA12-B	6'	4'	N/A
PV-SFA14-B	7'	4'8"	3'6"



COMPATIBLE ANTENNA PIPE:  
 • Ø2-3/8"  
 • Ø2-7/8"  
 • Ø3-1/2"  
 U-BOLTS SUPPLIED FOR Ø2-3/8"



SHEET	THIRD ANGLE PROJECTION	CATEGORY	REV	DESCRIPTION	DATE
2 OF 8		01_Self Support	7	UPDATED CLASSIFICATIONS, ADDED ADDITIONAL NOTES	3/20/18
5/1/2018	SCALE 1:36	02_V-Frames - Assembled	6	UPDATED CLASSIFICATIONS / TEMPLATE	8/30/17
DIMENSIONS ARE IN INCHES TOLERANCES U.N.O. HOLES: +1/16", -1/32" ANGULAR: PROFILE ±1/4", BEND ±2" ALL OTHERS: ±1/16"		TYPE PV-SFA	5	MOUNT CLASSIFICATIONS	1/19/17
		BY DJN	4	ADDED TE BACK PIPE RANGE	6/9/16
		CHECKED SJS	3	L.I.F.E. MOUNT™ UPDATE	2/24/16
		STATUS APPROVED	REV	DESCRIPTION	DATE

**PERFECT VISION**  
 MANUFACTURING  
 L.I.F.E. MOUNT™ SECTOR FRAME  
 DOCUMENT NUMBER: SFA-ENG-01-R7  
 REV: 7

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COMMONWEALTH OF PENNSYLVANIA  
 REGISTERED PROFESSIONAL ENGINEER  
 JOHN W. WELLS, III  
 LICENSE NO. 074623  
 1/25/21

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SHEET NUMBER: **A-4** REVISION: **2**

**1** PERFECT VISION PV-SFA-12B MOUNT DETAIL  
 SCALE: N.T.S.

**ELECTRICAL GENERAL NOTES:**

1. ALL WORK SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT, EXPERIENCED WORKMAN IN ACCORDANCE WITH APPLICABLE CODES.
2. THE CONTRACTOR SHALL CONFORM TO THE REQUIREMENTS OF ALL RULES, REGULATIONS, AND CODES OF ALL LOCAL, STATE, AND FEDERAL AUTHORITIES HAVING JURISDICTION. CONFORM TO THE LATEST EDITIONS OF THE NATIONAL ELECTRIC CODE, NATIONAL SAFETY CODE, AND THE REQUIREMENTS OF THE LOCAL ELECTRIC COMPANY.
3. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TOOLS, TRANSPORTATION, EQUIPMENT, SERVICES AND FACILITIES REQUIRED FOR THE COMPLETE, PROPER AND SUBSTANTIAL INSTALLATION OF ALL ELECTRIC WORK.
4. CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND SHALL ARRANGE FOR ALL REQUIRED INSPECTIONS FROM THE AUTHORITY HAVING JURISDICTION.
5. UNLESS OTHERWISE INDICATED, THE ARRANGEMENT, POSITION, CONNECTION, ETC. SHOWN ON THE DRAWINGS SHALL BE TAKEN AS DIAGRAMMATIC. THE ROUTING OF THE CONDUIT SHALL BE THAT THE EASIEST AND MOST PRACTICAL METHODS ARE USED WITHOUT IMPACTING THE AESTHETICS OF THE BUILDING OR ITS OWNER. THE ENGINEER SHOULD BE NOTIFIED IMMEDIATELY UPON DISCOVERY OF A PROBLEM OR CONFLICT IN ROUTING. THE RIGHT IS RESERVED BY THE ENGINEER TO MAKE MINOR CHANGES IN LOCATION AND ARRANGEMENTS WHEN REQUIRED BY EXISTING JOB CONDITIONS WITHOUT ANY ADDITIONAL COMPENSATION TO BE ADDED BY THE CONTRACTOR.
6. ALL CONDUCTORS SHALL BE COPPER WITH A 90° CELSIUS INSULATION RATING UNLESS OTHERWISE NOTED.
7. ALL CIRCUIT BREAKERS, FUSES, AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AS INDICATED BY UTILITY COMPANY. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH A BLACK PLASTIC TAG WITH WHITE LETTERS "METRO PCS" ENGRAVED IN IT.

**INDOORS:**

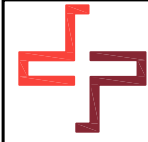
8. ALL CIRCUITS SHALL CONSIST OF PULLED CONDUCTORS IN EMT. WHEN REQUIRED TO CONNECT INTO EQUIPMENT FLEXIBLE METALLIC CONDUIT SHALL BE ALLOWED PROVIDED THAT IT DOES NOT EXCEED 3' IN LENGTH. FLEXIBLE METAL CONDUIT SHALL BE GROUNDED IN ACCORDANCE WITH THE APPLICABLE CODE.
9. CLASSIFIED 'DAMP' OR 'WET' LOCATION:  
ALL CIRCUITS SHALL CONSIST OF PULLED CONDUCTORS IN RGS CONDUIT. CONNECTIONS TO COMMUNICATION CABINET AND VIBRATING EQUIPMENT SHALL CONDUIT OF PULLED CONDUCTORS IN LIQUID TIGHT FLEXIBLE STEEL CONDUIT, MAXIMUM 6' IN LENGTH. LIQUID TIGHT FLEXIBLE STEEL CONDUIT SHALL BE GROUNDED IN ACCORDANCE WITH THE APPLICABLE CODE.

**LIMITATIONS ON DOWNTIME:**


10. CONTRACTOR SHALL PROVIDE A TEMPORARY SHUNT WHEN REQUIRED. SHUNT SHALL BE THROUGH METERING DEVICE WHEN APPLICABLE IF ALLOWED BY UTILITY SERVICE CO.
11. COORDINATE ALL DISCONNECTS AND INTERRUPTIONS OF ELECTRICAL SERVICE WITH THE OWNER. A TIMETABLE OF INTERRUPTIONS AND SHUTDOWNS SHALL BE SUBMITTED TO THE OWNER FOR APPROVAL. THE LIST OF SCHEDULE INTERRUPTIONS SHALL BE SUBMITTED TO THE OWNER A MINIMUM OF ONE WEEK PRIOR TO ANTICIPATED INTERRUPTION OF SERVICE AND SHALL BE APPROVED BY THE OWNER BEFORE ANY INTERRUPTION IS PERMITTED. 48 HOURS PRIOR TO ACTUAL SERVICE INTERRUPTION, THE CONTRACTOR SHALL CALL AND NOTIFY ALL PARTIES INVOLVED SO THAT THEY MAY MAKE PROPER ARRANGEMENTS FOR SHUTDOWN.

**GROUNDING GENERAL NOTES:**

1. ALL DETAILS ARE SHOWN DIAGRAMMATICALLY, ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
2. NOTIFY CONSTRUCTION MANAGER IF THERE ARE ANY DIFFICULTIES INSTALLING THE GROUND SYSTEM DUE TO SITE/SOIL CONDITIONS.
3. ALL UNDERGROUND CONNECTORS ARE TO BE CADWELD. ALL ABOVE GRADE GROUNDING SHALL BE CADWELD OR MECHANICAL AS SPECIFIED ON THE DRAWING.
4. GROUND ARE TO BE INSTALLED A MINIMUM OF 2'-0" FROM SHELTER SLABS OR TOWER FOUNDATIONS UNLESS OTHERWISE NOTED.
5. ALL GROUNDING CONDUCTORS SHALL BE #2 AWG SOLID TINNED COPPER. ELECTRICAL SERVICE GROUND ELECTRODE CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH APPLICABLE CODE.
6. WHERE GROUND CONNECTIONS ARE MADE THE CONTACT POINTS SHALL BE THOROUGHLY CLEANED AND MADE FREE OF FOREIGN MATERIAL SUCH AS PAINT AND CORROSION, TO ENSURE ADEQUATE BOND.
7. FOR CONNECTION TO ALUMINUM FASCIA AND ALUMINUM GRAVEL GUARD, ALUMINUM CONNECTORS SHALL BE USED WITH APPROVED BI-METALLIC CONNECTORS BETWEEN ALUMINUM AND COPPER AN ANTI-OXIDATION COMPOUND SHALL BE USED.
8. ALL GROUNDING CONNECTIONS TO THE GROUND BAR OR GROUND PLATE, INTAKE AND CABLE TRAY BRIDGE SHALL BE MADE WITH DOUBLE HOLE HYDRAULICALLY INDENTED STAINLESS STEEL LUGS.
9. GROUND CONNECTIONS TO ANTENNA MAST SHALL BE CADWELD TYPE "VA" AS MANUFACTURED BY HARGER OR APPROVED EQUAL.
10. CABLE TRAY BRIDGE SHALL BE GROUNDED WITH #2 AWG SOLID TINNED COPPER CONDUCTOR AND FASTEN TO SUPPORT STATION VIA CADWELD TYPE "VA" AS MANUFACTURED BY HARGER OR APPROVED EQUAL.
11. WHEN SPECIFIED, ALL METAL CONDUITS FOR GROUNDING DOWN CONDUCTORS SHALL BE BONDED TO THE GROUND SYSTEM AT BOTH ENDS.
12. KOPR-SHIELD ANTI-OXIDATION COMPOUND SHALL BE USED ON ALL GROUNDING CONNECTIONS.
13. ALL CADWELDS SHALL BE INSTALLED USING THE PROPER CONNECTION/MOLD AND MATERIALS FOR THE PARTICULAR CONNECTION AND/OR APPLICATION.
14. WHEN ALTERNATIVE METHODS ARE SPECIFIED BY STANDARDS ENGINEERING, ALL CHEMICAL GROUND RODS ARE TO BE MANUFACTURED BY XIT OR APPROVED EQUAL.
15. ALL BOLTED GROUNDING CONNECTIONS SHALL BE INSTALLED WITH A LOCK WASHER UNDER THE NUT. HARDWARE FOR BOLTED CONNECTIONS SHALL BE MINIMUM OF 3/8" DIAMETER AND SHALL BE STAINLESS STEEL.
16. GROUNDING WIRES SHALL NOT BE INSTALLED OR ROUTED THROUGH HOLES IN ANY METAL OBJECTS OR SUPPORTS TO PRECLUDE ESTABLISHING A "CHOKE" POINT.
17. FERROUS METAL CLIPS WHICH COMPLETELY SURROUND THE GROUNDING CONDUCTOR SHALL NOT BE USED.
18. STANDARD GROUND BARS AS MANUFACTURE BY HARGER OF APPROVED EQUAL SHALL BE FURNISHED AND AND INSTALLED. THEY SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD.
19. ALL GROUNDING WIRES SHALL BE INSTALLED WITHOUT LOOPS (PIGTAILS) AND SHARP BEND RADIUS. CONTRACTOR SHALL MAKE ALL EFFORTS POSSIBLE TO MAINTAIN A 12" MINIMUM BENDING RADIUS ON ALL GROUND CONDUCTORS.
20. ALL COMPRESSION CONNECTIONS SHALL BE HYDRAULICALLY COMPRESSED BE A MINIMUM OF 12 TONS OF FORCE.
21. ANY GROUND WIRES, SOLID OR STRANDED, THAT PASS THROUGH CONDUIT, METALLIC SLEEVE, OR CABLE COVER, SHALL BE BONDED AT BOTH ENDS.



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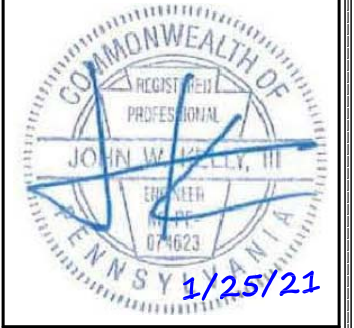
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PROJECT NO:	143471.001.01
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SHEET NUMBER:	REVISION:
<b>E-1</b>	<b>2</b>

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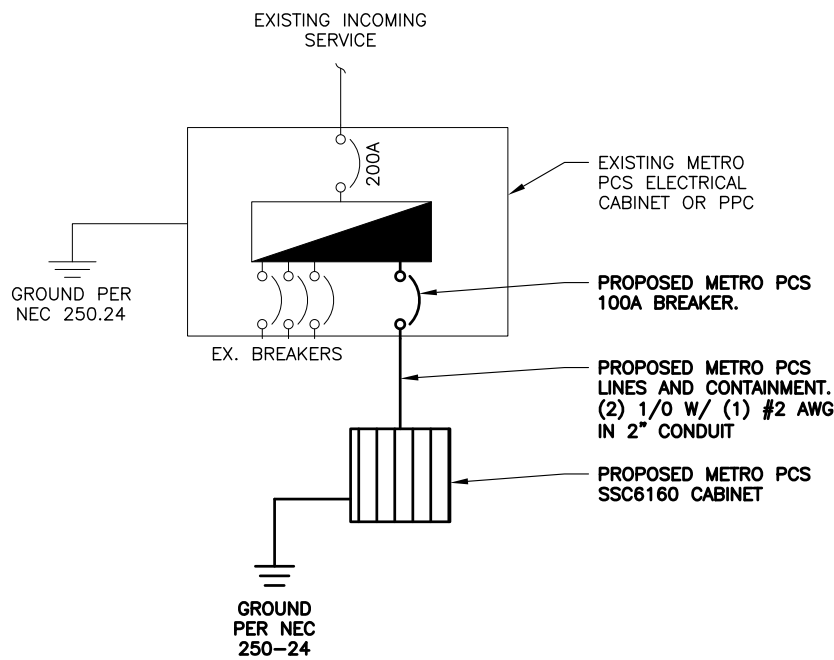
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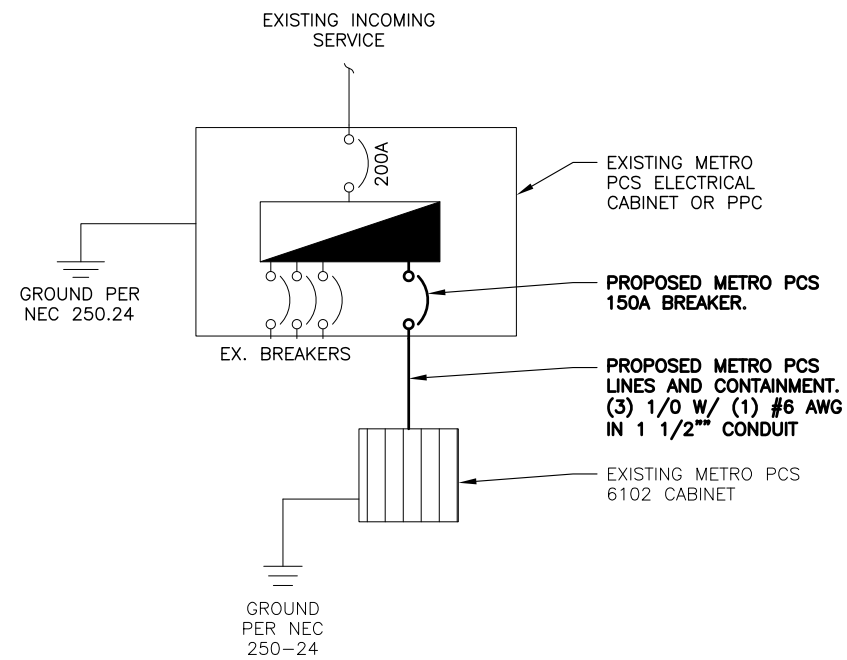
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SHEET NUMBER: REVISION:

**E-2** **2**



**1** SSC6160 ELECTRICAL SINGLE LINE  
 SCALE: N.T.S.



**2** 6102 ELECTRICAL SINGLE LINE  
 SCALE: N.T.S.

1NH8860A

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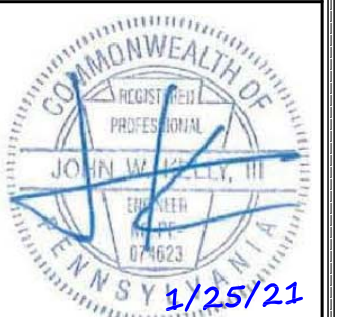
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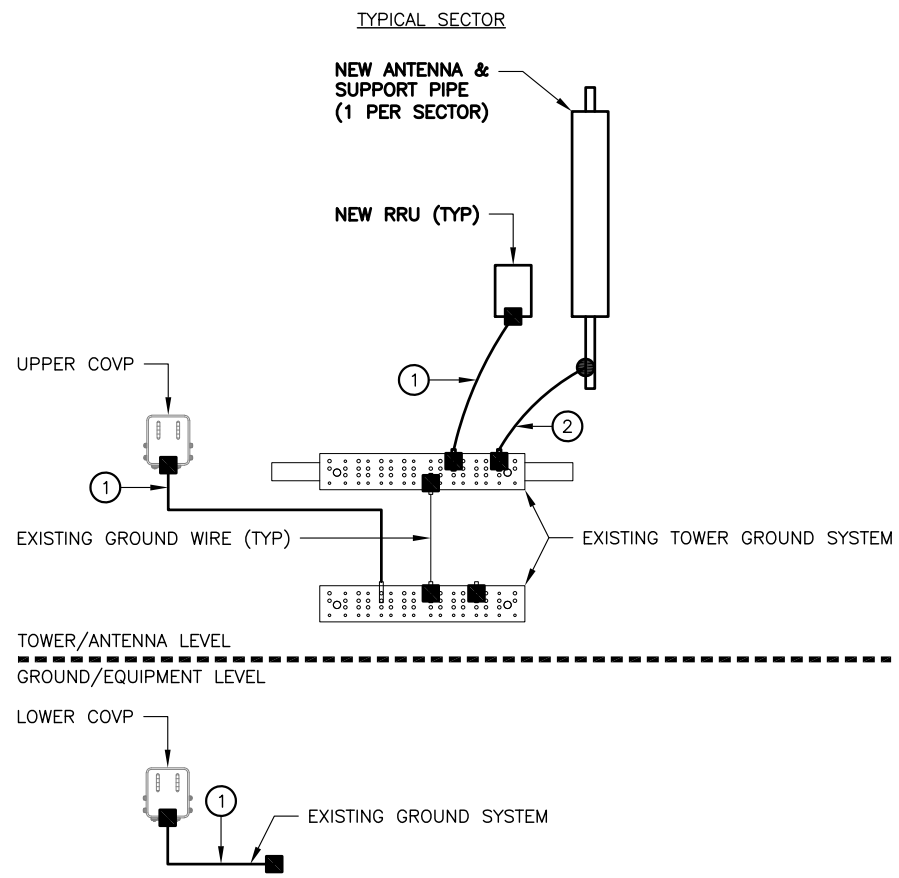
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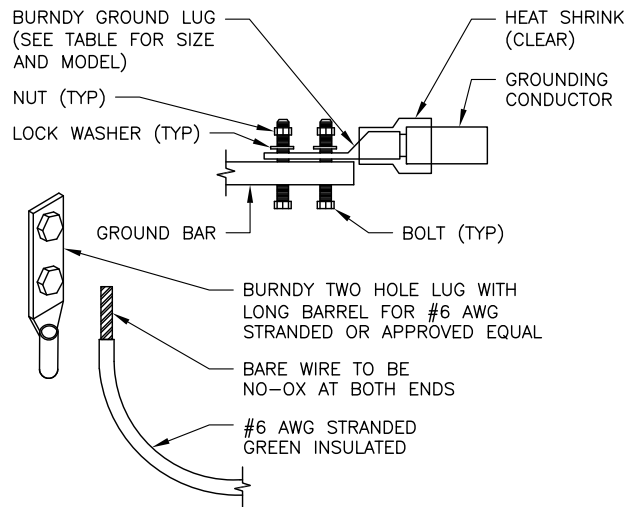
LEGEND	
●	EXOTHERMIC CONNECTION
■	MECHANICAL CONNECTION
①	#2 AWG STRANDED INSULATED COPPER GROUND WIRE
②	#2 SOLID TINNED, BARE COPPER GROUND WIRE



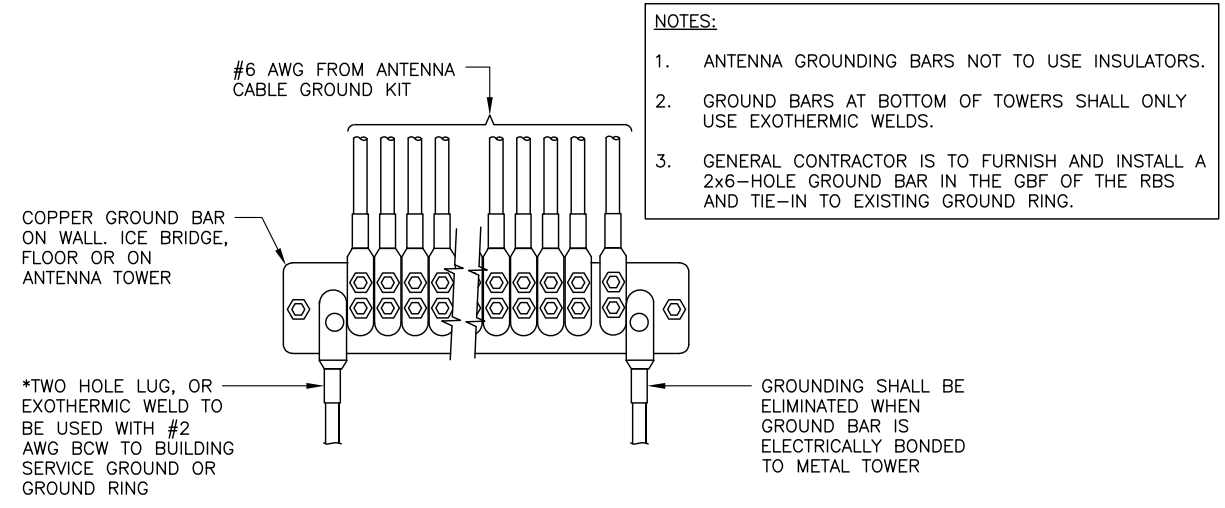
**1 ANTENNA GROUND DIAGRAM**  
 SCALE: N.T.S.

WIRE SIZE	BURNDY LUG	BOLT SIZE
#6 AWG GREEN INSULATED	YA6C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG SOLID TINNED	YA3C-2TC38	3/8" - 16 NC S 2 BOLT
#2 AWG STRANDED	YA2C-2TC38	3/8" - 16 NC S 2 BOLT
#2/0 AWG STRANDED	YA26-2TC38	3/8" - 16 NC S 2 BOLT
#4/0 AWG STRANDED	YA28-2N	1/2" - 16 NC S 2 BOLT

- NOTES:**
- ALL HARDWARE BOLTS, NUTS, LOCK WASHERS SHALL BE STAINLESS STEEL. ALL HARDWARE ARE TO BE AS FOLLOWS: BOLT, FLAT WASHER, GROUND BAR, GROUND LUG, FLAT WASHER AND NUT.
  - COPPER SHIELD, ANTIOX, CR NO-OX OR APPROVED EQUAL SHALL BE PLACE WHERE ALL DISSIMILAR METALS CONNECT.
  - ALL LUGS ARE TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.



**2 MECHANICAL LUG CONNECTION**  
 SCALE: N.T.S.



**3 GROUNDWIRE INSTALLATION**  
 SCALE: N.T.S.

143471.001.01\_1NH8860A\_Bethlehem Public Works MetroPCS 1.25.21.dwg - Sheet:E-3 - User: fperkins - Jan 25, 2021 - 3:32pm