

APPLICATION FOR CERTIFICATE OF APPROPRIATENESS (COA)

Building address

41 East 4th Street Bethlehem, PA 18015

Owner of building

Bethlehem Downers AP PA

Phone

Owner's email & mailing address

Applicant: F-Mobile Northwest LLC

Phone:

Applicant's email & mailing address

Street and Number

475 Wagona Dr, City: Ft. Washington

State PA

Zip Code

19034

APPLICANT MUST ATTEND MEETING FOR CASE TO BE HEARD.

USE THE CHECKLIST ON THE BACK OF THIS APPLICATION TO ENSURE YOUR SUBMISSION IS COMPLETE.

Historic & Architectural Review Board - Application form, photographs, and drawings must be submitted 2 weeks prior to the regular scheduled meeting in order to be placed on the agenda for the next meeting.

South Bethlehem & Mount Airy Historic Conservation Commission - Application form, photographs, and drawings must be submitted 2 weeks prior to the regular scheduled meeting in order to be placed on the agenda for the next meeting.

1. PHOTOGRAPHS - Photographs of your building and neighboring buildings must accompany your application.

2. TYPE OF WORK PROPOSED - Check all that apply. Please bring any samples or manufacturers specifications for products you will use in this project.

- Trim and decorative woodwork
Siding and Masonry
Roofing, gutter and downspout
Windows, doors, and associated hardware
Storm windows and storm doors
Shutters and associated hardware
Paint (Submit color chips - HARB only)
Skylights
Metal work
Light fixtures
Signs
Demolition
Other Alterations

3. DRAWINGS OF PROPOSED WORK - Required drawings must accompany your application. Please submit ONE ORIGINAL AND TEN (10) COPIES OF DRAWINGS, PHOTOGRAPHS, APPLICATION FORM, AND ANY SPECIFICATIONS

- Alteration, renovation, restoration (1/4 or 1/8"=1'0" scale drawings required IF walls or openings altered.)
New addition (1/4" or 1/8"=1'0" scale drawings: elevations, floor plans, site plan)
New building or structure (1/4" or 1/8"=1'0" scale drawings: elevations, floor plans, site plan)
Demolition, removal of building features or building (1/4" or 1/8"=1'0" scale drawings: elevation of remaining site and site plan)
A scale drawing, with an elevation view, is required for all sign submittals

4. DESCRIBE PROJECT - Describe any work checked in #2 and #3 above. Attach additional sheets as needed. Swap 3 ankerns, add 3 new marks, add 2 RIVs, and 3 level hybrid cables. add 3 ankerns, swap 2 oak cabinets w/ 1 stainless steel one battery cabinet

5. APPLICANT'S SIGNATURE: [Signature] DATE: 05/30/19

April 15, 2019

Re: Structural Evaluation
 T-Mobile Site Name: Fred Rooney Building
 T-Mobile Site ID: 1NH6392B
 Site Address: 4 East 4th Street, Bethlehem, PA 18015
 Destek Job Number: 1907183

In accordance with the request of Velocitel, Destek Engineering, LLC (Destek) evaluated the structural capacity of the existing antenna mounts and building located at the above referenced address for the additions and alterations proposed by T-Mobile. This evaluation is based on site photographs and the following documents.

- A&E Loading Table provided by Velocitel, dated 03/25/2019.
- Construction Drawings prepared by Velocitel, dated 09/12/2018.
- Structural Evaluation Letter prepared by Destek, dated 07/12/2018.
- Site Photographs, dated 05/31/2018.

Proposed Changes:

T-Mobile is proposing the following cabinet changes:

- (1) Existing Cabinet – To remain.
- (2) Existing Dark Cabinets – To be removed.
- (1) Proposed SSC 6160 Cabinet
- (1) Proposed B160 Battery Cabinet

T-Mobile is proposing the following changes to the antenna configuration:

Existing Configuration of T-Mobile Appurtenances:

Sector	Rad Center (ft.)	Antenna & TMA	Coax	Mount
Alpha	152	(1) AIR32 B2A/B66AA – Antenna (1) AIR21 B2A/B4P – Antenna (1) APXVAAARR24_43-U-NA20 – Antenna (1) Radio 4449 B71 + B12 – RRU (1) RFS ATMAA1412D-1A20 – TMA	(5) 7/8" Coax (1) 3x6 Hybrid (1) 6x12 Hybrid	(3) Platform Framing Pipe Mounts
Beta	147	(1) AIR32 B2A/B66AA – Antenna (1) AIR21 B2A/B4P – Antenna (1) APXVAAARR24_43-U-NA20 – Antenna (1) Radio 4449 B71 + B12 – RRU (1) RFS ATMAA1412D-1A20 – TMA	(5) 7/8" Coax (1) 3x6 Hybrid (1) 6x12 Hybrid	(3) Penthouse Wall Pipe Mounts
Gamma	152	(1) AIR32 B2A/B66AA – Antenna (1) AIR21 B2A/B4P – Antenna (1) APXVAAARR24_43-U-NA20 – Antenna (1) Radio 4449 B71 + B12 – RRU (1) RFS ATMAA1412D-1A20 – TMA	(5) 7/8" Coax (1) 3x6 Hybrid (1) 6x12 Hybrid	(3) Penthouse Wall Pipe Mounts

Proposed Configuration of T-Mobile Appurtenances:

Sector	Rad Center (ft.)	Antenna & TMA	Coax	Mount
Alpha	152	(1) AIR32 B2A/B66AA – Antenna (1) APXVAAARR24_43-U-NA20 – Antenna (1) AIR3246 B66 – Antenna (1) AIR6488 B41 – Antenna (1) Radio 4449 B71 + B12 – RRU (1) RFS ATMAA1412D-1A20 – TMA (1) Radio 4415 B25 – RRU*	(5) 7/8" Coax (1) 3x6 Hybrid (2) 6x12 Hybrid	(3) Existing Platform Framing Pipe Mounts + (1) Proposed Platform Framing Pipe Mount
Beta	147	(1) AIR32 B2A/B66AA – Antenna (1) APXVAAARR24_43-U-NA20 – Antenna (1) AIR3246 B66 – Antenna (1) AIR6488 B41 – Antenna (1) Radio 4449 B71 + B12 – RRU (1) RFS ATMAA1412D-1A20 – TMA (1) Radio 4415 B25 – RRU*	(5) 7/8" Coax (1) 3x6 Hybrid (2) 6x12 Hybrid	(3) Existing Penthouse Wall Pipe Mounts + (1) Proposed Penthouse Wall Pipe Mount
Gamma	152	(1) AIR32 B2A/B66AA – Antenna (1) APXVAAARR24_43-U-NA20 – Antenna (1) AIR3246 B66 – Antenna (1) AIR6488 B41 – Antenna (1) Radio 4449 B71 + B12 – RRU (1) RFS ATMAA1412D-1A20 – TMA (1) Radio 4415 B25 – RRU*	(5) 7/8" Coax (1) 3x6 Hybrid (2) 6x12 Hybrid	(3) Existing Penthouse Wall Pipe Mounts + (1) Proposed Penthouse Wall Pipe Mount

*To be mounted behind the antennas.

Evaluation Conditions: It is assumed that all prior additions and alterations by T-Mobile have been properly designed, constructed accordingly, and structural components, including the main structure itself, have been qualified for the changed conditions. Unless otherwise noted, the structure is assumed to be in good condition, free of defects and can achieve theoretical strength. Destek does not assume any liability which may arise due to invalidity of these assumptions or any existing design or construction deficiency. The evaluation results presented in this letter are only applicable for the previously mentioned proposed changes.

Engineering Evaluation and Conclusion: The subject structure is a multi-story commercial building. T-Mobile currently has nine (9) panel antennas, with three (3) antennas per sector. The Alpha Sector antennas are mounted on pipe mounts attached to the equipment platform framing system on the top of the building. The Beta and Gamma Sector antennas are mounted on pipe mounts attached to the penthouse wall on the building. T-Mobile is proposing to replace three (3) existing panel antennas, and install three (3) new panel antennas and three (3) new RRUs. T-Mobile is also proposing to remove two (2) existing dark cabinets, and replace them with two (2) new cabinets.

Alpha Sector: Due to the configuration of the antennas on the existing equipment platform frame, the wind load due to the antennas will be negligible when compared to the global design loads of the frame. Thus, the previous qualifications remains valid and the mounts and structure are considered to have **adequate** capacity for the proposed T-Mobile loading referenced above.

The proposed AIR6488 B41 antenna should be mounted on a new 10'-0" long, 3.0 STD pipe should be installed on the existing equipment shelter framing. See attached sketch for details on installing the proposed antenna.

Beta & Gamma Sectors: Due to the configuration on the antennas and their respective flush mounts being within the wind profile of the penthouse wall, the increase in wind load due to the antennas will be negligible when compared to the global design loads of the penthouse wall and building. Thus, the previous qualification remains valid and the mounts and building structure are considered to have **adequate** capacity for the proposed T-Mobile referenced above.

The proposed AIR6488 B41 antennas should be mounted on 8'-0" long, 2.5 STD pipe mounts. The pipe mounts should be attached to the parapet wall using a Valmont/Site Pro 1 Angle Wall Mount Kit (P/N: WMA300). There should be a minimum of 4'-0" vertical spacing between individual wall mount brackets. The wall mounts should be anchored similar to existing.

Equipment Platform: The two (2) proposed cabinets are replacing two (2) cabinets with similar size and weight on the existing building equipment platforms. Thus, the previous qualification remains valid and the platforms supporting the cabinet are considered to have **adequate** capacity for the proposed T-Mobile referenced above.

Therefore, the additions and alterations proposed by T-Mobile **can be implemented as intended** with the conditions and recommendations outlined in this letter. Should you need any clarifications about this letter, please contact me at (770) 693-0835 or acolakoglu@destekengineering.com.

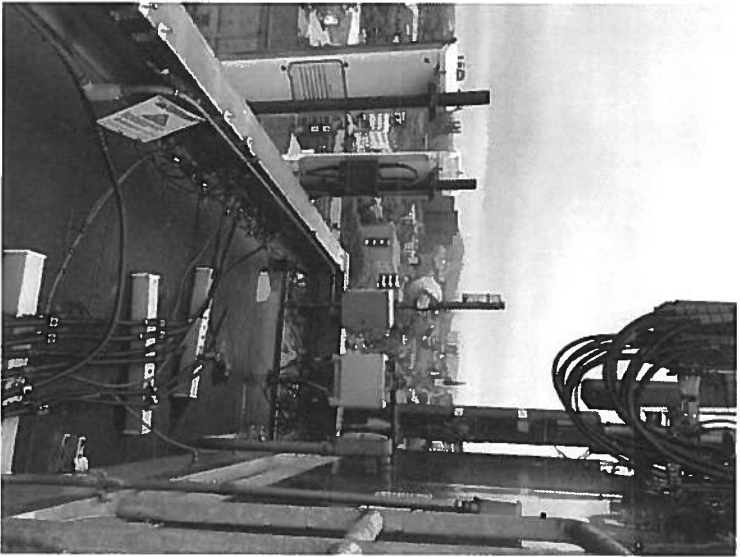
Sincerely,
Destek Engineering, LLC

04/15/2019

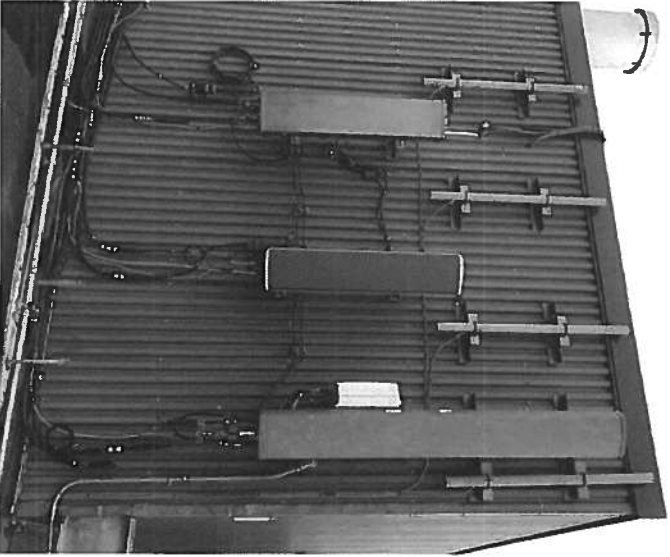


Ahmet Colakoglu, PE
PA Professional Engineer
License No: PE075726

Site Photographs



Alpha Sector Pipe Mounts (Typ.)



Beta Sector Pipe Mounts (Typ.)



Gamma Sector Pipe Mounts (Typ.)



Equipment Platform Cabinets (Typ.)

SKETCH



Add new 10' long 3.0 STD pipe. The new pipe should be attached to the platform framing members using 1/2" diameter U-Bolts and clip angles. The clip angles should be 12" long L3x3x1/4 members and attached to the framing using (2) 1/2" ASTM A325 bolts per clip. There should be (1) clip at the top flange and (1) clip at the bottom flange of the framing member. NO THREADED RODS SHOULD BE USED TO SUPPORT THIS MOUNT.

T-Mobile

Northeast, LLC

FRED ROONEY BUILDING

1NH6392B

CONSTRUCTION DRAWINGS
ANCHOR & AAS PROJECT

APPLICANT/OWNER:

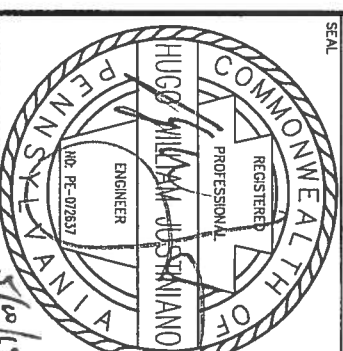
T-Mobile
Northeast, LLC

PREPARED BY:

Velocitel, LLC
COMPLETE WIRELESS SOLUTIONS
Velocitel, LLC
Colonial Park, Commons II, Suite 200
576 Colonial Park Drive
Russell, GA 30075
Office (770) 645-5900
Fax (770) 645-5943

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SEAL



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REVISIONS

REV	DATE	DESCRIPTION	BY
A	4/12/19	ISSUED FOR REVIEW	MG
0	5/9/19	ISSUED FOR CONSTRUCTION	MG
1			
2			
3			
4			
5			
6			
7			
8			

PROJECT LOCATION
1NH6392B
FRED ROONEY BUILDING
4 EAST 4TH STREET
BETHLEHEM, PA 18015

DRAWN BY: MG

CHECKED BY: MJ

DATE: APRIL 12, 2019

VELOCITEL (PREP): N/A

SITE NO.: 1NH6392B

DRAWING DESCRIPTION:

COVER SHEET

DRAWING NUMBER:

T1

SITE INFORMATION

SITE ADDRESS: 4 EAST 4TH STREET
BETHLEHEM, PA 18015

SITE LOCATION: N40° 36' 36.9"
W75° 22' 41.0"

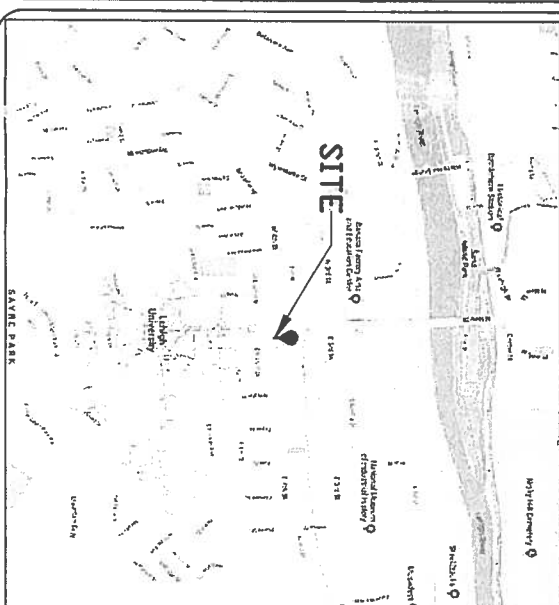
TOWER OWNER: BETHLEHEM DEVELOPERS OF PA

APPLICANT: T-MOBILE NORTHEAST LLC
475 VIRGINIA DRIVE
FORT WASHINGTON, PA 19034

ENGINEER: VELOCITEL, LLC
200 N. WARNER ROAD, SUITE 215
KING OF PRUSSIA, PA 19406

CONTACT: MICHAEL PATTEN
(610) 992-4101 X 137

LOCATION MAP



VICINITY MAP

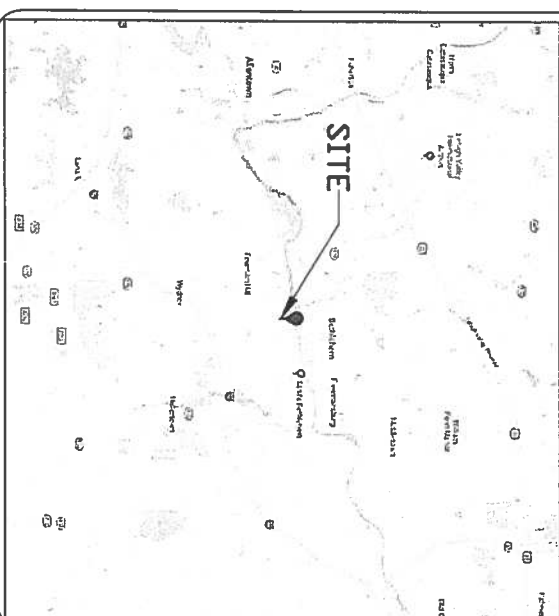


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DWG. NO.	DRAWING TITLE	REV #	REV DATE
T1	COVER SHEET	0	5/9/19
C1	GENERAL NOTES	0	5/9/19
C2	ELEVATION & EQUIPMENT PLAN	0	5/9/19
C3	ANTENNA ORIENTATION PLAN	0	5/9/19
E1	ELECTRICAL / GROUNDING NOTES	0	5/9/19
E2	GROUNDING DETAILS	0	5/9/19

SCOPE OF WORK

SCOPE OF WORK FROM RFDS/LOADING TABLE DATED 4/11/2019:
ADD (3) ANTENNAS, (3) NEW MOUNTS, (3) RRU'S, AND (3) 6X12 HYBRID CABLES. SWAP (3) ANTENNAS AND SWAP (2) DARK CABINETS WITH (1) SSC CABINET AND (1) BATTERY CABINET. NEW ANTENNAS, MOUNTS, AND CABLES SHALL BE PAINTED TO MATCH EXISTING.

SITE DIRECTIONS

FROM T-MOBILE OFFICE:
HEAD NORTHEAST ON VIRGINIA DR. TURN RIGHT TO MERGE ONTO I-276 W. MERGE ONTO I-276 W. USE THE RIGHT 2 LANES TO TAKE EXIT 2D TO MERGE ONTO I-476 N TOWARD ALLENTOWN. TAKE EXIT 44 FOR PA-663 N TOWARD QUAKERTOWN. USE ANY LANE TO TURN LEFT ONTO MILL HILL RD. TURN LEFT ONTO N OLD BETHLEHEM PIKE. CONTINUE ONTO S MAIN ST. TURN RIGHT ONTO LOC. RTE 39007/W PASSER RD. TURN LEFT ONTO PA-309 N. TURN RIGHT ONTO PA-378 N. TURN RIGHT ONTO SUMMIT ST. TURN LEFT ONTO BRODHEAD AVE. TURN RIGHT ONTO W 4TH ST.

GENERAL NOTES:

1. ALL CONSTRUCTION, LABOR AND MATERIAL SHALL COMPLY WITH ALL LOCAL AND STATE BUILDING CODES, ORDINANCES AND TO THE RULES AND REGULATIONS OF ALL AGENCIES HAVING JURISDICTION.
2. THE CONTRACTOR MUST VISIT THE SITE AND BE RESPONSIBLE FOR VERIFYING ALL DIMENSIONS AND CONDITIONS. ANY DISCREPANCIES SHALL BE REPORTED TO THE ENGINEER BEFORE PROCEEDING WITH ANY WORK, PURCHASE, FABRICATION AND ERECTION OF ANY MATERIAL.
3. THE CONTRACTOR SHALL ARRANGE AND PAY FOR ALL PERMITS, APPROVALS, INSPECTIONS AND TESTS REQUIRED BY ALL AGENCIES HAVING JURISDICTION.
4. THE CONTRACTOR SHALL PROVIDE ALL ITEMS OF LABOR AND MATERIALS, WHETHER OR NOT SPECIFICALLY INDICATED, IF REQUIRED TO COMPLETE THE INSTALLATION.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ADEQUATE BRACING AND PROTECTING OF ALL WORK DURING CONSTRUCTION TO AVOID DAMAGE, COLLAPSE, DISTORTION, MISALIGNMENT, VOIDING ROOFING GUARANTEES AND WARRANTIES, ETC. PROTECTION SHALL BE IN COMPLIANCE WITH ALL APPLICABLE CODES, STANDARDS AND BEST PRACTICES. ROOF SURFACES SHALL BE RESTORED TO COMPLETE WATER TIGHTNESS WITH THE APPROVED MATERIAL AND AS PRE-APPROVED BY THE OWNER IN WRITING.
6. ALL MATERIALS SHALL BE INSTALLED AS PER THE MANUFACTURERS SPECIFICATIONS.
7. DO NOT SCALE DRAWINGS.
8. THE CONTRACTOR SHALL BEAR FULL RESPONSIBILITY FOR THE MEANS AND METHODS OF CONSTRUCTING THE WORK SHOWN ON THESE PLANS. ALL WORK PERFORMED SHALL BE DONE IN A GOOD WORKMANSHIP MANNER TO THE SATISFACTION OF THE OWNER. THE CONTRACTOR SHALL TAKE ALL PRECAUTIONARY EFFORTS TO PROTECT THE NEW EQUIPMENT DURING THIS INSTALLATION AND APPLICATION SUCH AS:
 - THE TENANT'S EGRESS TO AND FROM THE SITE.
 - THE SITE'S FIRE SAFETY OR SHALL NOT CREATE ANY FIRE HAZARDS.
 - THE TENANT'S EGRESS TO AND FROM THE SITE.
 - THERE SHALL NOT BE ANY CREATION OF NOISE OUTSIDE THE NORMAL HOURS OF 7 AM TO 6 PM, UNLESS OTHERWISE AGREED UPON WITH THE OWNER.
 - THE SITE'S SECURITY SHALL BE MAINTAINED IN ORDER TO PREVENT ANY UNAUTHORIZED PERSONS FROM ENTERING THE PREMISES.
 - THE SITE'S UTILITIES (ELECTRICITY, GAS, WATER AND OTHER UTILITIES) SHALL NOT BE INTERRUPTED DURING THIS APPLICATION & INSTALLATION WITHOUT PRIOR APPROVAL FROM OWNER.
9. THE CONTRACTOR SHALL, AT ALL TIMES, KEEP THE PREMISES FREE FROM ACCUMULATION OF WASTE, CONSTRUCTION MATERIAL AND RUBBISH. UPON COMPLETION, ALL DEBRIS SHALL BE REMOVED AND THE PREMISES LEFT IN A "BROOM CLEAN" CONDITION. ALL RUBBISH SHALL BE DISPOSED OF IN A LEGAL MANNER.
10. THE CONTRACTOR SHALL COORDINATE ALL SPECIAL CONSIDERATIONS OF THE CONSTRUCTION (EX. NOISY OPERATIONS, INTERRUPTIONS OF ANY MECHANICAL AND/OR ELECTRICAL SERVICES, MATERIAL DELIVERIES AND/OR STORAGE) WITH THE OWNER OR MANAGEMENT PRIOR TO THE START OF THE WORK.
11. THE CONTRACTOR SHALL PATCH AND REPAIR EXISTING CONDITIONS WHERE DISTURBED BY NEW WORK OR AS REQUIRED BY THE PLANS. ALL EXISTING AREAS OF THE SITE DAMAGED BY THE CONTRACTOR SHALL BE RESTORED TO ORIGINAL CONDITION AT NO ADDITIONAL COST TO THE OWNER.
12. ALL ELECTRICAL WORK SHALL BE PERFORMED BY A LICENSED ELECTRICIAN AND CONFORM TO ALL BUILDING CODE AND LOCAL UTILITY'S REQUIREMENTS.
13. THE GENERAL NOTES CONTAINED HEREIN ARE PART OF THE PLANS AND SPECIFICATIONS, AND ARE TO BE COMPLIED WITH IN ALL RESPECTS. THE MOST RESTRICTIVE NOTES SPECIFIED ARE TO TAKE PRECEDENCE.
14. THESE DOCUMENTS ARE IN COMPLIANCE & ALL CONSTRUCTION TO BE IN ACCORDANCE WITH THE FOLLOWING CODES & STANDARDS, LATEST EDITIONS:
 - INTERNATIONAL BUILDING CODE 2015
 - NATIONAL STANDARD PLUMBING CODE
 - NATIONAL ELECTRIC CODE
 - INTERNATIONAL MECHANICAL CODE
 - NFPA, SECTION 13 & 72
 - EIA/71A-222-6 STANDARDS "STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND SUPPORTING STRUCTURES" DESIGN WIND SPEED OF 90 MILES/HOURS (40 MILES/ HOUR IN CONJUNCTION WITH 0.75 INCHES OF RADIAL ICE).

15. ALL NEW STRUCTURAL STEEL SHALL BE FABRICATED AND ERECTED IN ACCORDANCE WITH AISC CODE AND ASTM SPECIFICATIONS, LATEST EDITION. ALL NEW STEEL SHALL:
 - CONFORM TO TO ASTM A-36.
 - ALL STEEL PIPES SHALL CONFORM TO ASTM A-501 OR A-53, GRADE B.
 - CONNECTIONS SHALL BE MADE USING SPECIFIED WELDS AND WELDING. ELECTRODES E-70XX OR SPECIFIED HIGH STRENGTH BOLTS SHALL BE ASTM A325. THREADS ARE EXCLUDED FROM THE SHEAR PLANE.
 - ALL SHOP AND FIELD WELDING SHALL BE DONE BY WELDERS QUALIFIED AS DESCRIBED IN THE "AMERICAN WELDING SOCIETY'S STANDARD QUALIFICATION PROCEDURE" TO PERFORM THE NEW WORK.
 - BE HOT DIPPED GALVANIZED AFTER FABRICATION (ONLY EXPOSED TO MOISTURE APPLICATIONS) PER ASTM A-123. ALL DAMAGES SURFACES, WELDED AREAS AND AUTHORIZED NON-GALVANIZED MEMBERS OR PARTS (NEW OR OLD) SHALL BE PAINTED WITH TWO (2) COATS OF ZRC COLD GALVANIZING COMPOUND MANUFACTURED BY ARC CHEMICAL PRODUCTS.
 - ALL PIPE SIZES INDICATED HEREIN ARE NOMINAL DIAMETER (INSIDE DIAMETER).

16. ALL NEW ANTENNA APPLICATIONS MOUNTED TO EXTERIOR WALLS SHALL BE SEALED AT THE TOP AND SIDES WITH DOW CORNING CLEAR SILICONE SEALANT OR APPROVED EQUAL. THE SILICONE APPLICATIONS SHALL BE TOOLED TO MAINTAIN A FINISHED APPEARANCE.










17. WHERE INDICATED ON THE PLANS THE CONTRACTOR SHALL PAINT ALL NEW ANTENNAS, SHROUD AND RELATED MOUNTING HARDWARE TO MATCH THE EXISTING ADJACENT SURFACES. ALL PAINT SHALL BE SHERWIN WILLIAMS OR APPROVED EQUAL. THE CONTRACTOR SHALL NOT USE A METAL BASED PAINT ON THE ANTENNAS. ANTENNAS SHALL HAVE ONE PRIMER COAT OF POLARNE 2.8 PLUS FL D61H75 PRIMER IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS AND THEN APPLY ONE TOP COAT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS. ALL SURFACE CONTAMINATION SHALL BE REMOVED PRIOR TO PAINTING THE NEW SURFACES. ALL GALVANIZED SURFACES SHALL HAVE ONE COAT OF PERMABOND BONDING AGENT, WHILE STILL WET APPLY ONE COAT OF SHERWIN WILLIAMS FLAT LATEX PAINT, LET DRY THEN A SECOND COAT OF FLAT LATEX PAINT.

18. ALL EQUIPMENT SHALL BE INSTALLED LEVEL AND PLUMB.
19. MATERIALS AND CONDITIONS NOT FABRICATED CORRECTLY, DAMAGED OR NON-COMFORMING SHALL BE REPORTED TO CONSTRUCTION MANAGER, ENGINEER AND THE OWNER PRIOR TO ANY CORRECTIVE ACTION. ALL ACTIONS REQUIRE APPROVAL FROM THE OWNER.

ABBREVIATIONS

AFF	ABOVE FINISHED FLOOR
AWG	AMERICAN WIRE GAUGE
AWG	AND
COAX.	COAXIAL CABLE
C.	CONDUIT
CONT.	CONTINUOUS
C.J.	CIRCUIT JOINT
CB	CIRCUIT BREAKER
DIA.	DIAMETER
DWG	DRAWING
EL	ELEVATION
E.S	EACH SIDE
EMT	ELECTRICAL METALLIC TUBING
FT	FEET
GND	GROUND
HORIZ	HORIZONTAL
IN	INCH
MAX	MAXIMUM
MFR	MANUFACTURER
MIN	MINIMUM
MPH	MILES PER HOUR
MC	MAIN CIRCUIT BREAKER
MCP	MAIN DISTRIBUTION PANEL
MGB	MASTER GROUND BAR
MLO	MAIN LUGS ONLY
N	NEUTRAL
NEC	NATIONAL ELECTRIC CODE
OCI	T-MOBILE COMMUNICATIONS INC.
P	PANEL
PNL	PLATE
PP	POWER PANEL
PVC	POLYVINYL CHLORIDE
REQ'D	REQUIRED
RA	RIGID ALUMINUM
RGS	RIGID GALVANIZED STEEL
STM	SIMILAR
STD	STANDARD
STL	STEEL
TYP	TYPICAL
U.N.O.	UNLESS NOTED OTHERWISE
WG	WAVEGUIDE
W/W	WITH
WP	WEATHERPROOF

LEGEND

	EXISTING PROPERTY LINE
	NEW LEASE LINE
	EXISTING FENCE
	EXISTING CONTOUR
	EXISTING OVERHEAD UTILITY LINE
	IRON ROD SET 5/8"
	UTILITY POLE
	GUY ANCHOR
	EXISTING TREE

APPLICANT/OWNER:



Northeast, LLC
 Prepared by:
Velocitel, LLC
 complete wireless solutions

Velocitel, LLC
 Colonial Park Commons II Suite 200
 576 Colonial Park Drive
 Roswell, GA 30075
 Office (770) 645-3500
 Fax (770) 645-5943

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REVISIONS

REV	DATE	DESCRIPTION	BY
A	4/12/19	ISSUED FOR REVIEW	MG
0	5/9/19	CONSTRUCTION	MG
1			
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8			

PROJECT LOCATION
1NH6392B
 FRED ROONEY BUILDING
 4 EAST 4TH STREET
 BETHLEHEM, PA 18015

DRAWN BY: MG
 CHECKED BY: HJ
 DATE: APRIL 12, 2019
 VELOCITEL (PREP): N/A
 SITE NO.: 1NH6392B
 DRAWING DESCRIPTION:
GENERAL NOTES

DRAWING NUMBER:
C1

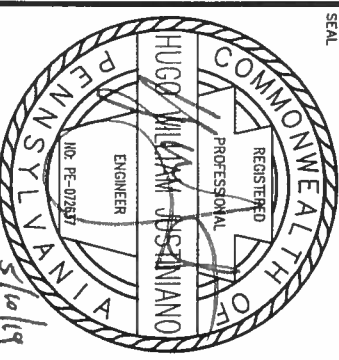
APPLICANT/OWNER:

F Mobile
Northeast, LLC

PREPARED BY:

velocitel, llc
complete wireless solutions
Velocitel, LLC.
Colonial Park Commons II Suite 200
576 Colonial Park Drive
Roswell, GA 30075
Office (770) 645-5900
Fax (770) 645-5943

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REVISIONS

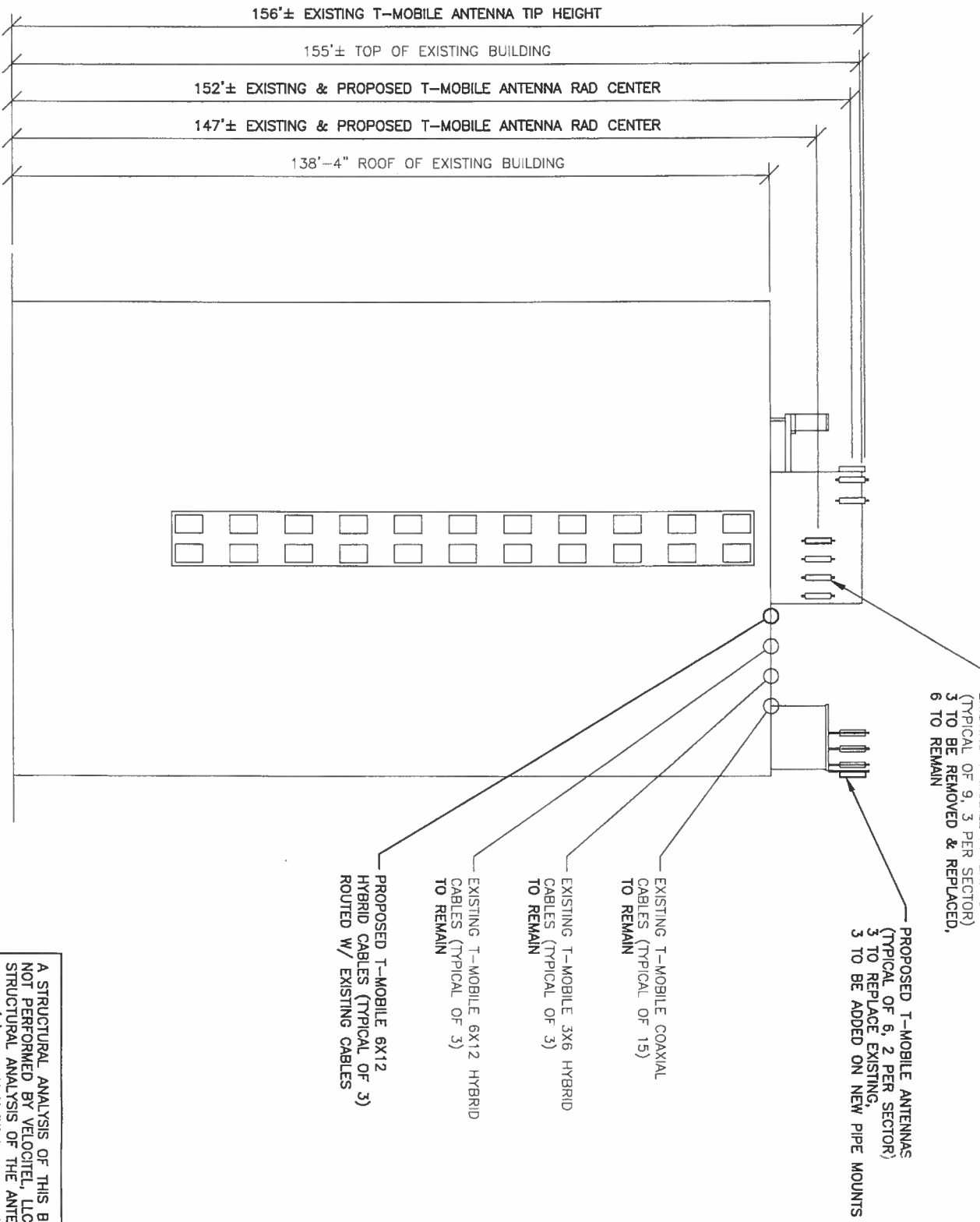
REV	DATE	DESCRIPTION	BY
A	4/12/19	ISSUED FOR REVIEW	MG
D	5/9/19	ISSUED FOR CONSTRUCTION	MG
1			
2			
3			
4			
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6			
7			
8			

PROJECT LOCATION
1NH6392B
FRED ROONEY BUILDING
4 EAST 4TH STREET
BETHLEHEM, PA 18015

DRAWN BY: MG
CHECKED BY: HU
DATE: APRIL 12, 2019
VELOCITEL (PREP): N/A
SITE NO.: 1NH6392B
DRAWING DESCRIPTION:
ELEVATION & EQUIPMENT PLAN

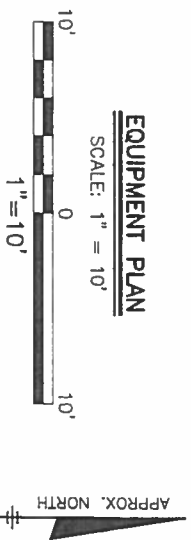
DRAWING NUMBER:
C2

PAINTING NOTE:
NEW ANTENNAS, MOUNTS & CABLES SHALL BE PAINTED TO MATCH EXISTING.



BUILDING ELEVATION
NOT TO SCALE

A STRUCTURAL ANALYSIS OF THIS BUILDING WAS NOT PERFORMED BY VELOCITEL, LLC. A STRUCTURAL ANALYSIS OF THE ANTENNA MOUNT(S) WAS NOT PERFORMED BY VELOCITEL, LLC. CONTRACTOR SHALL CONFIRM THAT THERE ARE PASSING ANALYSES FOR BOTH STRUCTURES AND REFER TO THE ANALYSES FOR ANY REQUIRED MODIFICATIONS PRIOR TO PERFORMING LINE & ANTENNA WORK FOR THIS PROJECT.



APPLICANT/OWNER:

T-Mobile
Northeast, LLC

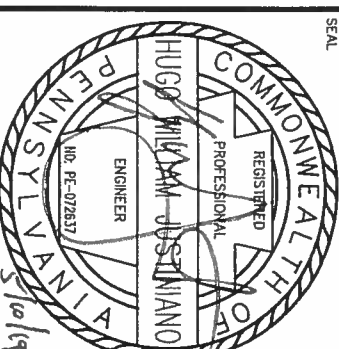
PREPARED BY:

velocitel, llc
complete wireless solutions

Velocitel, LLC
Colonial Park Commons II Suite 200
576 Colonial Park Drive
Roswell, GA 30073
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Fax (770) 645-5943

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REVISIONS

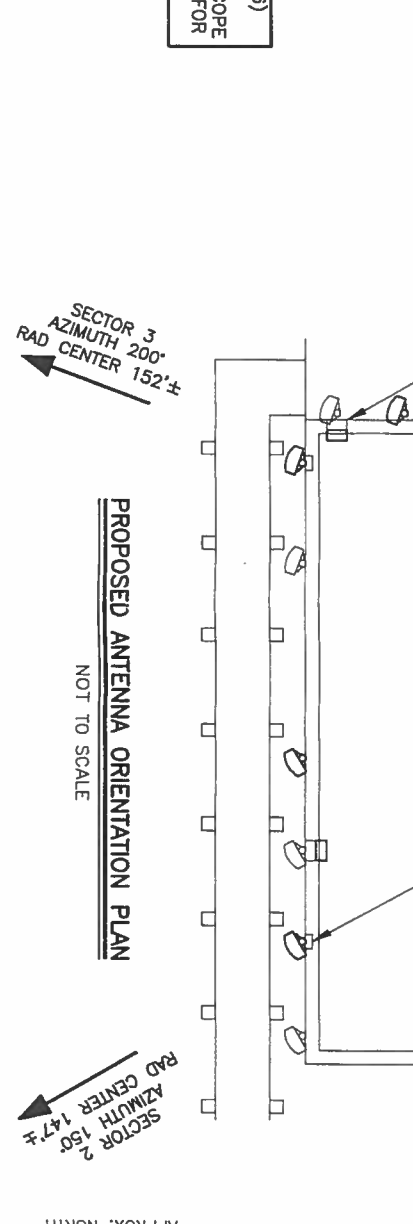
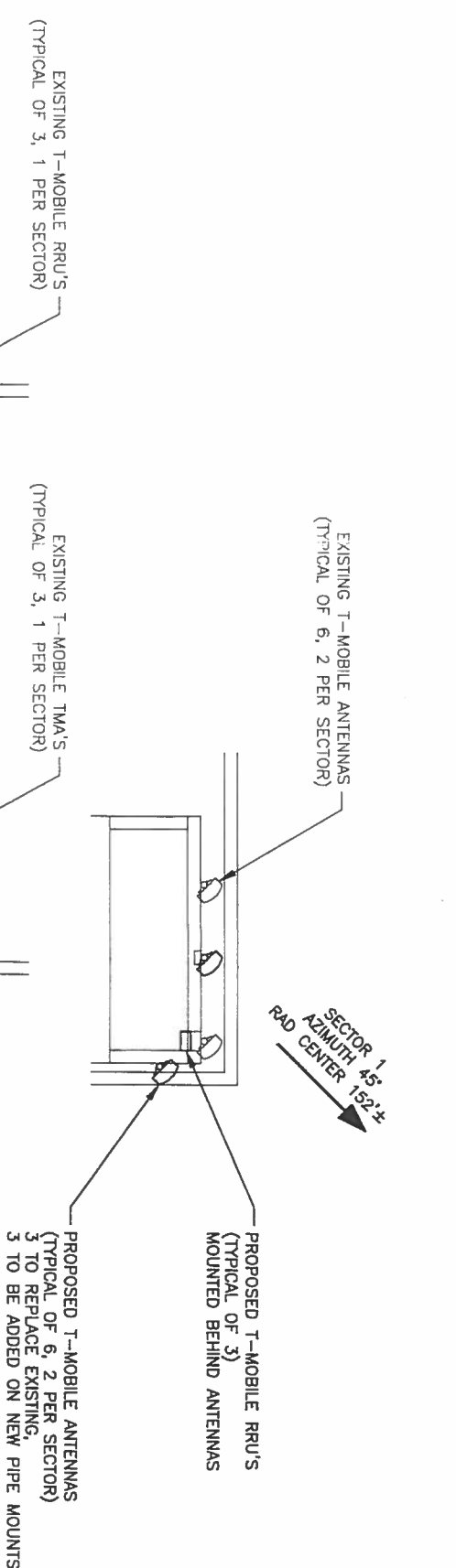
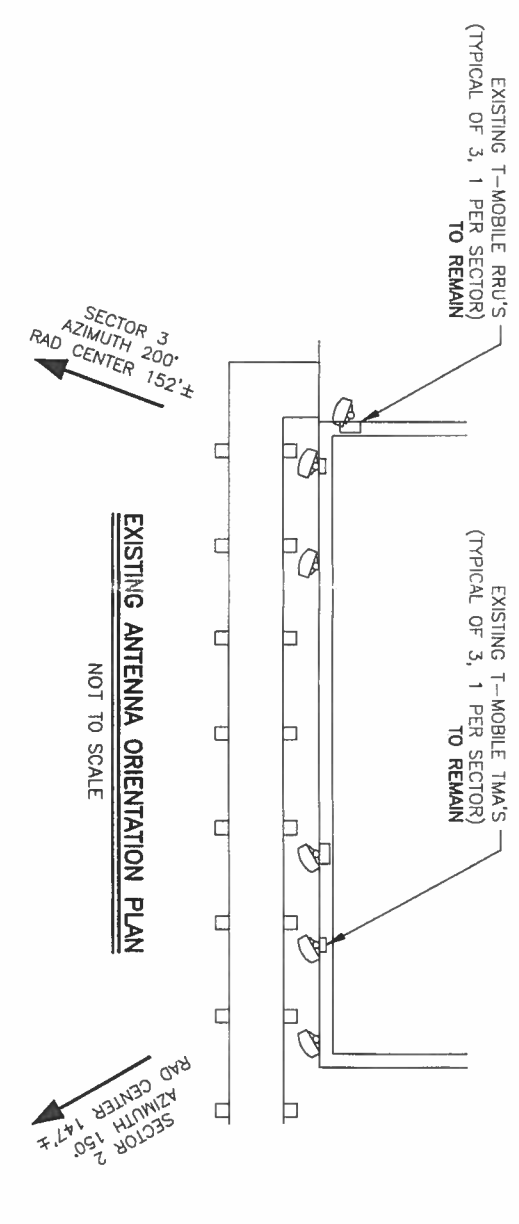
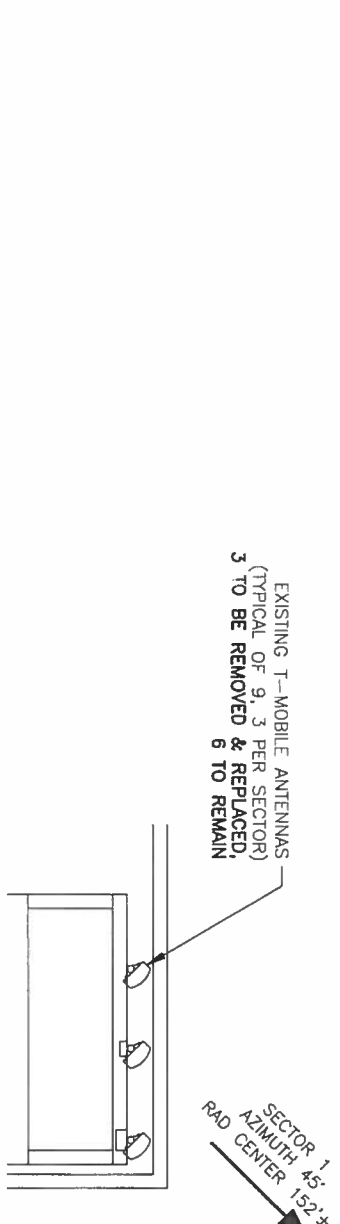
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A	4/12/19	ISSUED FOR REVIEW	MG
0	5/9/19	CONSTRUCTION	MG
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PROJECT LOCATION
1NH6392B
FRED ROONEY BUILDING
4 EAST 4TH STREET
BETHLEHEM, PA 18015

DRAWN BY: MG
CHECKED BY: HJ
DATE: APRIL 12, 2019
VELOCITEL (PREP): N/A
SITE NO.: 1NH6392B
DRAWING DESCRIPTION:
ANTENNA ORIENTATION PLAN

DRAWING NUMBER:

C3



- EXISTING EQUIPMENT**
- 9 PANELS @ 147' @ 152'
 - (3) ERICSSON/AIR 32 B2A/B66A / 56.6"x12.9"x8.7" @ 132.2 LBS
 - (3) ERICSSON/AIR 21 B2A/B4P / 56"x12"x8" @ 92 LBS
 - (3) RFS/APXVARR24_43-U-NA20 / 95.9"x24"x8.7" @ 128 LBS
 - 3 RRUS @ 147' @ 152'
 - (3) RADIO 4449 B71+B12 / 14.9"x13.2"x10.4" @ 74 LBS
 - 3 TMA'S @ 147' @ 152'
 - (3) RFS ATMAA1412D-1A20 / 12"x10"x4" @ 5.9 LBS
 - 15 COAX (7/8")
 - 3 HYBRID 3X6
 - 3 HYBRID 6X12

- PROPOSED EQUIPMENT**
- 6 PANEL @ 147' @ 152'
 - (3) ERICSSON/AIR3246 B66 / 58.6"x15.74"x9.44" @ 236 LBS
 - (3) ERICSSON/AIR6488 B41 / 34.8"x20.5"x7.2" @ 128 LBS
 - 3 RRUS @ 147' @ 152'
 - (3) RADIO 4415 B25 / 14.9"x13.2"x5.4" @ 46.3 LBS
 - 3 HYBRID 6X12

- FINAL EQUIPMENT**
- 12 PANELS @ 147' @ 152'
 - (3) ERICSSON/AIR 32 B2A/B66A / 56.6"x12.9"x8.7" @ 132.2 LBS
 - (3) RFS/APXVARR24_43-U-NA20 / 95.9"x24"x8.7" @ 128 LBS
 - (3) ERICSSON/AIR3246 B66 / 58.6"x15.74"x9.44" @ 236 LBS
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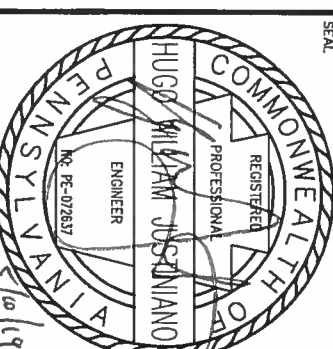
REFER TO RFDS (SECTION 6) FOR SPECIFIC DETAILS REGARDING THE TOPSIDE SCOPE & EQUIPMENT POSITIONING FOR THIS CONFIGURATION.



PREPARED BY:

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PROJECT LOCATION
1NH6392B
FRED ROONEY BUILDING
4 EAST 4TH STREET
BETHLEHEM, PA 18015

DRAWN BY: MG
CHECKED BY: HJ
DATE: APRIL 12, 2019
VELOCITEL (PREP): N/A
SITE NO.: 1NH6392B
DRAWING DESCRIPTION:
ELECTRICAL/GROUNDING NOTES

DRAWING NUMBER:
E1

GROUNDING GENERAL NOTES:

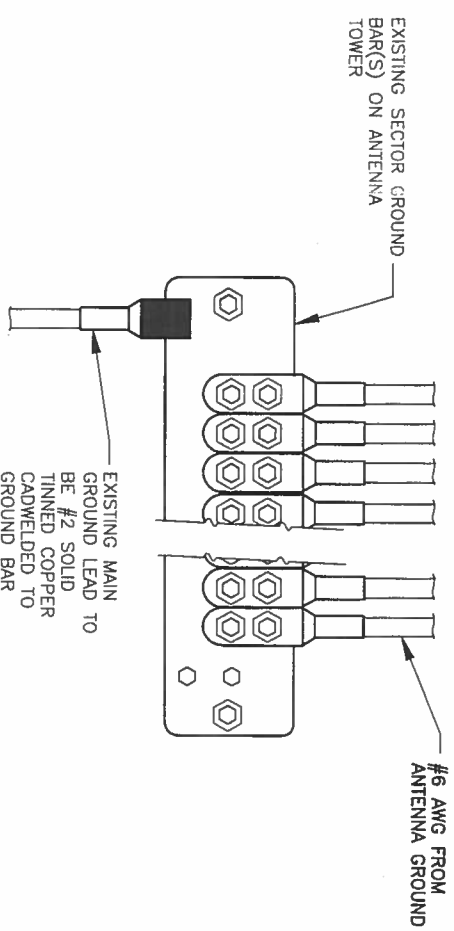
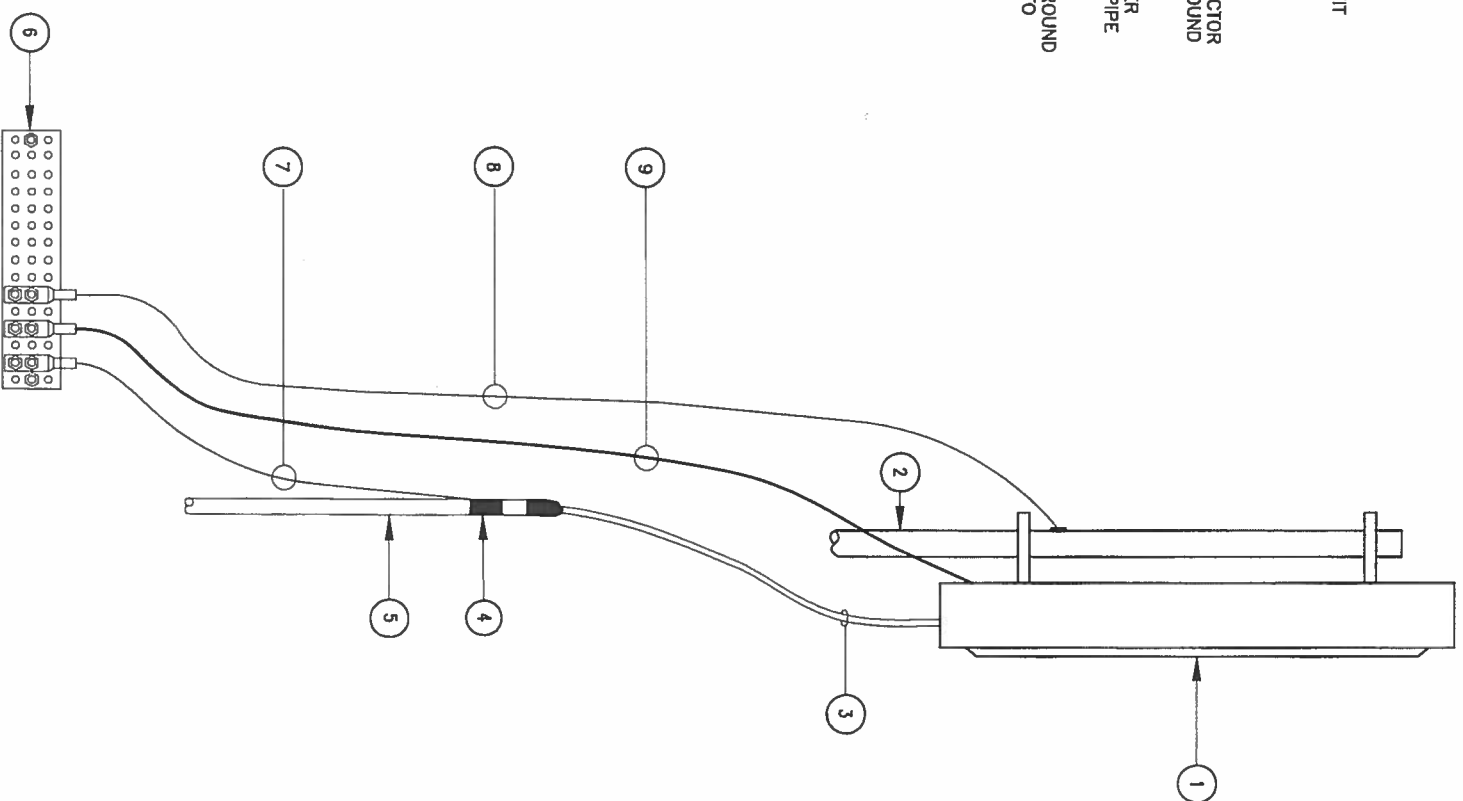
- ALL DETAILS ARE SHOWN DIAGRAMMATICALLY, ACTUAL GROUNDING INSTALLATION AND CONSTRUCTION MAY VARY DUE TO SITE SPECIFIC CONDITIONS.
- NOTIFY CONSTRUCTION MANAGER IF THERE ARE ANY DIFFICULTIES INSTALLING THE GROUND SYSTEM DUE TO SITE/SOIL CONDITIONS.
- ALL UNDERGROUND CONNECTORS ARE TO BE CADWELD. ALL ABOVE GRADE GROUNDING SHALL BE CADWELD OR MECHANICAL AS SPECIFIED ON THE DRAWING.
- GROUPS ARE TO BE INSTALLED A MINIMUM OF 2'-0" FROM SHELTER SLABS OR TOWER FOUNDATIONS UNLESS OTHERWISE NOTED.
- ALL GROUNDING CONDUCTORS SHALL BE #2 AWG SOLID TINNED COPPER. ELECTRICAL SERVICE GROUND ELECTRODE CONDUCTOR SHALL BE SIZED IN ACCORDANCE WITH APPLICABLE CODE.
- 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.
- FOR CONNECTION TO ALUMINUM FACIA AND ALUMINUM GRAVEL GUARD, ALUMINUM CONNECTORS SHALL BE USED WITH APPROVED BIMETALLIC CONNECTORS BETWEEN ALUMINUM AND COPPER AN ANTI-OXIDATION COMPOUND SHALL BE USED.
- 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.
- GROUND CONNECTIONS TO ANTENNA MAST SHALL BE CADWELD TYPE "VA" AS MANUFACTURED BY HARGER OR APPROVED EQUAL.
- CABLE TRAY BRIDGE SHALL BE GROUNDING WITH #2 AWG SOLID TINNED COPPER CONDUCTOR AND FASTEN TO SUPPORT STATION VIA CADWELD TYPE "VA" AS MANUFACTURED BY HARGER OR APPROVED EQUAL.
- WHEN SPECIFIED ALL METAL CONDUITS FOR GROUNDING DOWN CONDUCTORS SHALL BE BONDED TO THE GROUND SYSTEM AT BOTH ENDS.
- KOPR-SHIELD ANTI-OXIDATION COMPOUND SHALL BE USED ON ALL GROUNDING CONNECTIONS.
- ALL CADWELDS SHALL BE INSTALLED USING THE PROPER CONNECTION/MOLD AND MATERIALS FOR THE PARTICULAR CONNECTION AND/OR APPLICATION.
- WHEN ALTERNATIVE METHODS ARE SPECIFIED BY STANDARDS ENGINEERING, ALL CHEMICAL GROUND RODS ARE TO BE MANUFACTURED BY XIT OR APPROVED EQUAL.
- 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.
- GROUNDING WIRES SHALL NOT BE INSTALLED OR ROUTED THROUGH HOLES IN ANY METAL OBJECTS OR SUPPORTS TO PRECLUDE ESTABLISHING A "CHOKE" POINT.
- FERRULS METAL CLIPS WHICH COMPLETELY SURROUND THE GROUNDING CONDUCTOR SHALL NOT BE USED.
- STANDARD GROUND BARS AS MANUFACTURED BY HARGER OR APPROVED EQUAL SHALL BE FURNISHED AND INSTALLED. THEY SHALL NOT BE FABRICATED OR MODIFIED IN THE FIELD.
- ALL GROUNDING WIRES SHALL BE INSTALLED WITHOUT LOOPS (PIGTAILS) AND SHARP BEND RADII. CONTRACTOR SHALL MAKE ALL EFFORTS POSSIBLE TO MAINTAIN A 12" MINIMUM BENDING RADIUS ON ALL GROUND CONDUCTORS.
- ALL COMPRESSION CONNECTIONS SHALL BE HYDRAULICALLY COMPRESSED BY A MINIMUM OF 12 TONS OF FORCE.
- ANY GROUND WIRES, SOLID OR STRANDED, THAT PASS THROUGH CONDUIT, METALLIC SLEEVE, OR CABLE COVER, SHALL BE BONDED AT BOTH ENDS.

ELECTRICAL GENERAL NOTES:

- ALL WORK SHALL BE DONE IN A WORKMANLIKE MANNER BY COMPETENT EXPERIENCED WORKMEN IN ACCORDANCE WITH APPLICABLE CODES.
 - 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, THE NATIONAL SAFETY CODE, AND THE REQUIREMENTS OF THE LOCAL ELECTRIC COMPANY.
 - CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, TOOLS, TRANSPORTATION, EQUIPMENT, SERVICES AND FACILITIES REQUIRED FOR THE COMPLETE, PROPER AND SUBSTANTIAL INSTALLATION OF ALL ELECTRIC WORK.
 - CONTRACTOR SHALL SECURE AND PAY FOR ALL REQUIRED PERMITS AND SHALL ARRANGE FOR ALL REQUIRED INSPECTIONS FROM THE AUTHORITY HAVING JURISDICTION.
 - UNLESS OTHERWISE INDICATED, THE ARRANGEMENT, POSITION, CONNECTIONS, ETC. SHOWN ON THE DRAWINGS SHALL BE TAKEN AS DIAGRAMMATIC. THE ROUTING OF THE CONDUITS SHALL BE THAT THE EASIEST AND MOST PRACTICAL METHODS ARE USED WITHOUT IMPACTING THE AESTHETICS OF THE BUILDING OR IT'S 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.
 - ALL CONDUCTORS SHALL BE COPPER WITH A 90° CELSIUS INSULATION RATING UNLESS OTHERWISE NOTED.
 - 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 "T-MOBILE" ENGRAVED IN IT. INDOORS:
 - 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 GROUNDING IN ACCORDANCE WITH THE APPLICABLE CODE.
 - CLASSIFIED 'DAMP' OR 'WET' LOCATION:
ALL CIRCUITS SHALL CONSIST OF PULLED CONDUCTORS IN RGS CONDUIT. CONNECTIONS TO COMMUNICATION CABINET AND VIBRATING EQUIPMENT SHALL CONSIST OF PULLED CONDUCTORS IN LIQUID TIGHT FLEXIBLE STEEL CONDUIT. MAXIMUM 6' IN LENGTH. LIQUID TIGHT FLEXIBLE STEEL CONDUIT SHALL BE GROUNDING IN ACCORDANCE WITH THE APPLICABLE CODE.
- LIMITATIONS ON DOWNTIME:**
- CONTRACTOR SHALL PROVIDE A TEMPORARY SHUNT WHEN REQUIRED. SHUNT SHALL BE THROUGH METERING DEVICE WHEN APPLICABLE IF ALLOWED BY UTILITY SERVICE CO.
 - 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 OF SCHEDULE INTERRUPTIONS SHALL BE SUBMITTED TO THE OWNER A MINIMUM OF ONE WEEK PRIOR TO ANY 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.

ANTENNA GROUNDING NOTES:

- 1 ANTENNA
- 2 ANTENNA PIPE MAST
- 3 ANTENNA JUMPER
- 4 COAXIAL CABLE GROUNDING KIT
- 5 ANTENNA COAXIAL CABLE
- 6 SECTOR/TOWER GROUND BAR
- 7 #6 INTEGRAL GROUND CONDUCTOR FROM GROUNDING KIT TO GROUND BAR.
- 8 #2 AWG SOLID TINNED COPPER CONDUCTOR FROM ANTENNA PIPE MAST TO GROUND BAR
- 9 #6 AWG GREEN STRANDED GROUND CONDUCTOR FROM ANTENNA TO GROUND BAR



INSTALLATION OF GROUND WIRE TO SECTOR GROUND BAR

NOT TO SCALE

NOTES:

- 1. COPPER GROUND BAR 1/4"x4"x1/4" 2-HOLE CENTERS TO MATCH NEMA DOUBLE LUG CONFIGURATION.
- 2. SIMILAR INSTALLATION FOR TOP AND BOTTOM TOWER GROUND BARS.

ANTENNA GROUNDING DETAIL

NOT TO SCALE

APPLICANT/OWNER:

F Mobile
Northeast, LLC

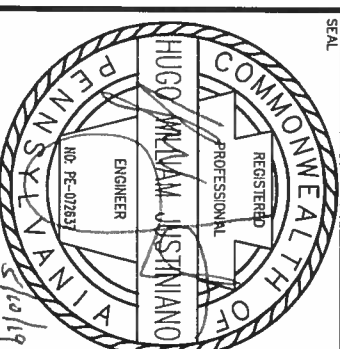
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4 EAST 4TH STREET
BETHLEHEM, PA 18015

DRAWN BY: MG
CHECKED BY: HJ
DATE: APRIL 12, 2019
VELOCITEL (PRE#): N/A

SITE NO.: 1NH6392B
DRAWING DESCRIPTION:

GROUNDING DETAILS

DRAWING NUMBER:

E2