

PHILIP C. PIRES

Please Reply To Bridgeport
E-Mail: ppires@cohenandwolf.com

February 18, 2022

Via e-mail and overnight mail

Attorney Melanie Bachman
Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

Re: Docket No. 503 - Arx Wireless Infrastructure, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance, and operation of a telecommunications facility located at 43 Osgood Avenue, New Britain, Connecticut.

Development and Management Plan

Dear Attorney Bachman:

On behalf of ARX Wireless Infrastructure, LLC (“ARX”), I’ve enclosed an original and fifteen (15) copies of ARX’s Development and Management Plan pertaining to the telecommunications facility approved by the Connecticut Siting Council (“Council”) in the above-captioned docket (the “D&M Plan”). ARX submits this D&M Plan in accordance with the Council’s Decision and Order dated December 20, 2021 (“Decision”).

Development and Management Plan

Pursuant to Order Number 1, the telecommunications facility to be located at 43 Osgood Avenue, New Britain, Connecticut (“Facility”) includes a monopole at a height of 104 feet above ground level (“AGL”). The monopole will accommodate the antennas of New Cingular Wireless PCS, LLC d/b/a AT&T (“AT&T”), and other co-locators, both public and private. AT&T’s antennas will be located at a centerline height of 104 feet AGL.

Pursuant to Order Number 2, ARX has prepared a D&M Plan in accordance with the Decision and applicable Regulations.

The proposed D&M Plan includes:

- a) Pursuant to Condition 2(a) of the Order, ARX has provided the enclosed certified letter from AT&T with a firm commitment to install and operate its wireless equipment on the facility approved in Docket No. 503 after completion of construction.
- b) Pursuant to Condition 2(b) of the Order, ARX has provided the enclosed final site plans for the development of the facility that employ the governing standard in the State of Connecticut for tower design in accordance with the 2015 International Building Code Design Standard ANSI/TIA-222-G-2, and include specifications for the tower, tower foundation, antenna, equipment compound, fence design, ground equipment, access road, utility installation, and emergency backup power.
- c) Pursuant to Condition 2(c) of the Order, ARX has provided the enclosed Tapp Tower Drawings providing a tower and foundation design that incorporates a yield point to ensure that the tower setback radius remains within the boundaries of the subject property. Specifically, as shown in the Tapp Tower Drawings, the tower is designed for a maximum 70-foot fall radius. As shown on Sheet C-102 of ARX's plans, the 70-foot fall radius remains within the boundaries of the subject property.
- d) Pursuant to Condition 2(d) of the Order, ARX has provided a landscaping plan which is reflected in Sheets C-102 and C-107 for the tower compound and for further visual screening from abutting residences.
- e) Pursuant to Condition 2(e) of the Order, ARX has provided the enclosed site plans which include construction plans for site clearing, grading, water drainage and stormwater control, and erosion and sedimentation controls consistent with the *2002 Connecticut Guidelines for Soil Erosion and Sediment Control*, as amended, and has also provided a Geotechnical Study dated January 10, 2022 prepared by Welti Geotechnical, P.C.
- f) Pursuant to Condition 2(e) of the Order, ARX has provided the enclosed construction schedule including hours and days of the week for construction activities. Construction will occur Mondays through Fridays, 7:30 a.m. to 6:30 p.m. ARX will coordinate with the City of New Britain, as necessary.

Pursuant to Order Number 3, prior to commencement of operation, ARX will provide the Council with worst-case modeling of electromagnetic radio frequency power density of all proposed entities' antennas at the closest point of uncontrolled access to the tower base.

Conclusion

ARX respectfully requests that this matter be included on the Council's next agenda for review and approval.

As indicated below, a copy of this D&M submittal has been provided to the service list.

Please contact me if you have any questions.

Very truly yours,



Philip C. Pires

Enclosures

cc: Service List



January 31, 2022

Ms. Melanie Bachman,
Acting Executive Director
Connecticut Siting Council
Ten Franklin Square
New Britain, CT 06051

**Re: DOCKET NO. 503 – ARX Wireless Infrastructure, LLC application for a Certificate of Environmental Compatibility and Public Need for the construction, maintenance and operation of a telecommunications facility located at 43 Osgood Ave New Britain, Connecticut.
*Certification Letter***

Dear Attorney Bachman:

In accordance with condition 2a of the Siting Council's Decision and Order ("D&O") in Docket No. 503, this letter serves as AT&T's commitment to install and operate its wireless facility on the approved monopole facility upon completion of construction by ARX Wireless Infrastructure, LLC. AT&T anticipated that this New Britain facility will be operational within the eighteen-month timeframe included in the D&O.

Thank you for your consideration of this information.

Very truly yours,

Brian Digitally signed
by Brian Leyden
Date: 2022.01.31
13:41:04 -05'00'
Leyden

Brian Leyden
Sr. Manager, Real Estate & Construction
AT&T Mobility New England

AT&T Mobility New England
84 Deerfield Lane
Meriden CT 06450



Project
NEW BRITAIN
 43 OSGOOD AVENUE
 NEW BRITAIN, CT 06553

Prepared For
ARX WIRELESS
 133 Washington Avenue
 North Haven, CT 06473

Project No. 2021.30
DOUGLAS J. ROBERTS - ARCHITECT
 1115 IRCAD STREET
 NORTH HAVEN, CT 06473
 Email: djarob@arxwireless.com

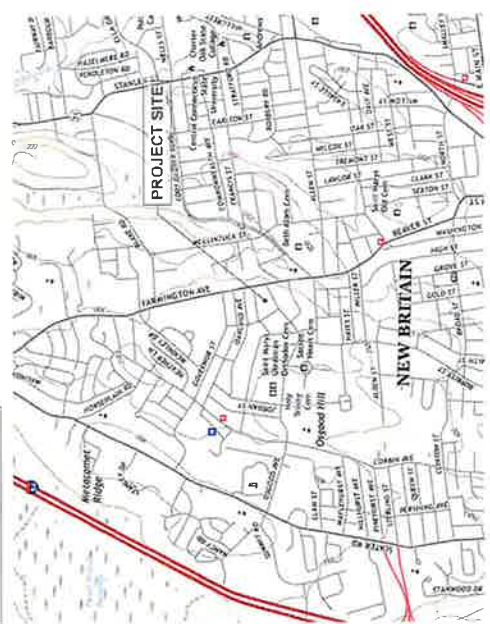


DEVELOPMENT AND MANAGEMENT



WIRELESS COMMUNICATIONS FACILITY
DOCKET NUMBER 503
CT0090 NEW BRITAIN
43 OSGOOD AVENUE
NEW BRITAIN, CONNECTICUT

USGS TOPOGRAPHIC MAP



VICINITY MAP



CODE REFERENCES

- 2018 Connecticut State Building Code
- 2015 International Building Code
- 2015 International Existing Building Code
- 2015 International Plumbing Code
- 2015 International Residential Code
- 2015 International Energy Conservation Code
- 2017 National Electrical Code (NFPA 70)
- 2005 ICC A117.1 Accessible and Usable Buildings & Facilities

PROJECT SUMMARY

PROJECT NAME: CT0090/NEW BRITAIN
SITE ADDRESS: 43 OSGOOD AVENUE, NEW BRITAIN, CT 06553
PARCEL ID: 05 8115
ARY WIRELESS CONTACT: KEITH COPPINUS, 43 OSGOOD AVENUE, NORTH HAVEN, CT 06473, 203.933.3387
LEGAL REGULATORY COUNSEL: COHEN AND WOLF, P.C., 1115 IRCAD STREET, NORTH HAVEN, CT 06504, 203.937.4134
LAND LORD CONTACT: OSGOOD AVENUE PROPERTIES, LLC, DOUGLAS J. ROBERTS - ARCHITECT, 110 WASHINGTON AVENUE, NORTH HAVEN, CT 06473
ARCHITECT: WESTON & SAMPSON, 517 BROAD STREET, ROCKY HILL, CT 06067
SURVEYOR: 44.41' - 41' - 07.87'
LATITUDE: W 72' - 47' - 25.06'
LONGITUDE: 341' - 0' +- ANSL
GRADE (PROPOSED):

SHEET NUMBER	SHEET NAME	CURRENT REVISION	CURRENT REVISION DATE
T-001	TITLE SHEET	1	FEB 18, 2022
GEN-001	GENERAL NOTES	1	FEB 18, 2022
A-101	AS-BUILT	1	FEB 18, 2022
C-101	SITE PLAN	1	FEB 18, 2022
C-103	COMPOUND PLAN	1	FEB 18, 2022
C-104	NORTH ELEVATION	1	FEB 18, 2022
C-105	SITE DETAILS	1	FEB 18, 2022
C-106	EROSION CONTROL NOTES AND DETAILS	1	FEB 18, 2022
A-101	LANDSCAPE PLAN	1	FEB 18, 2022
A-101	AIR CONDITIONING DETAILS	1	FEB 18, 2022

SCOPE OF WORK

- ARCHITECTURE: PREPARE TO INSTALL THE FOLLOWING INFORMATION PREPARED BY THE PROPERTY OWNER:
 - AS-BUILT INFORMATION, WITHIN A 7' X 7' LEGS AREA
 - AS-BUILT INFORMATION FOR THE EXISTING FOUNDATION AND FOUNDATION WALLS
 - AS-BUILT INFORMATION FOR THE EXISTING FOUNDATION AND FOUNDATION WALLS
 - AS-BUILT INFORMATION FOR THE EXISTING FOUNDATION AND FOUNDATION WALLS
- LANDSCAPE: PREPARE TO INSTALL THE FOLLOWING INFORMATION PREPARED BY THE PROPERTY OWNER:
 - LANDSCAPE PLAN
 - LANDSCAPE PLAN
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 - LANDSCAPE PLAN
- EROSION CONTROL: PREPARE TO INSTALL THE FOLLOWING INFORMATION PREPARED BY THE PROPERTY OWNER:
 - EROSION CONTROL NOTES AND DETAILS
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 - EROSION CONTROL NOTES AND DETAILS
 - EROSION CONTROL NOTES AND DETAILS
- AIR CONDITIONING: PREPARE TO INSTALL THE FOLLOWING INFORMATION PREPARED BY THE PROPERTY OWNER:
 - AIR CONDITIONING DETAILS
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 - AIR CONDITIONING DETAILS

TITLE SHEET

Drawn By: T. P. P. P.
 Drawing Date: FEB 18, 2022
 Project No.: 2021.30
 Sheet Title: TITLE SHEET

DEVELOPMENT AND MANAGEMENT



Project
NEW BRITAIN
 45 OSGOOD AVENUE
 NEW BRITAIN, CT 06053

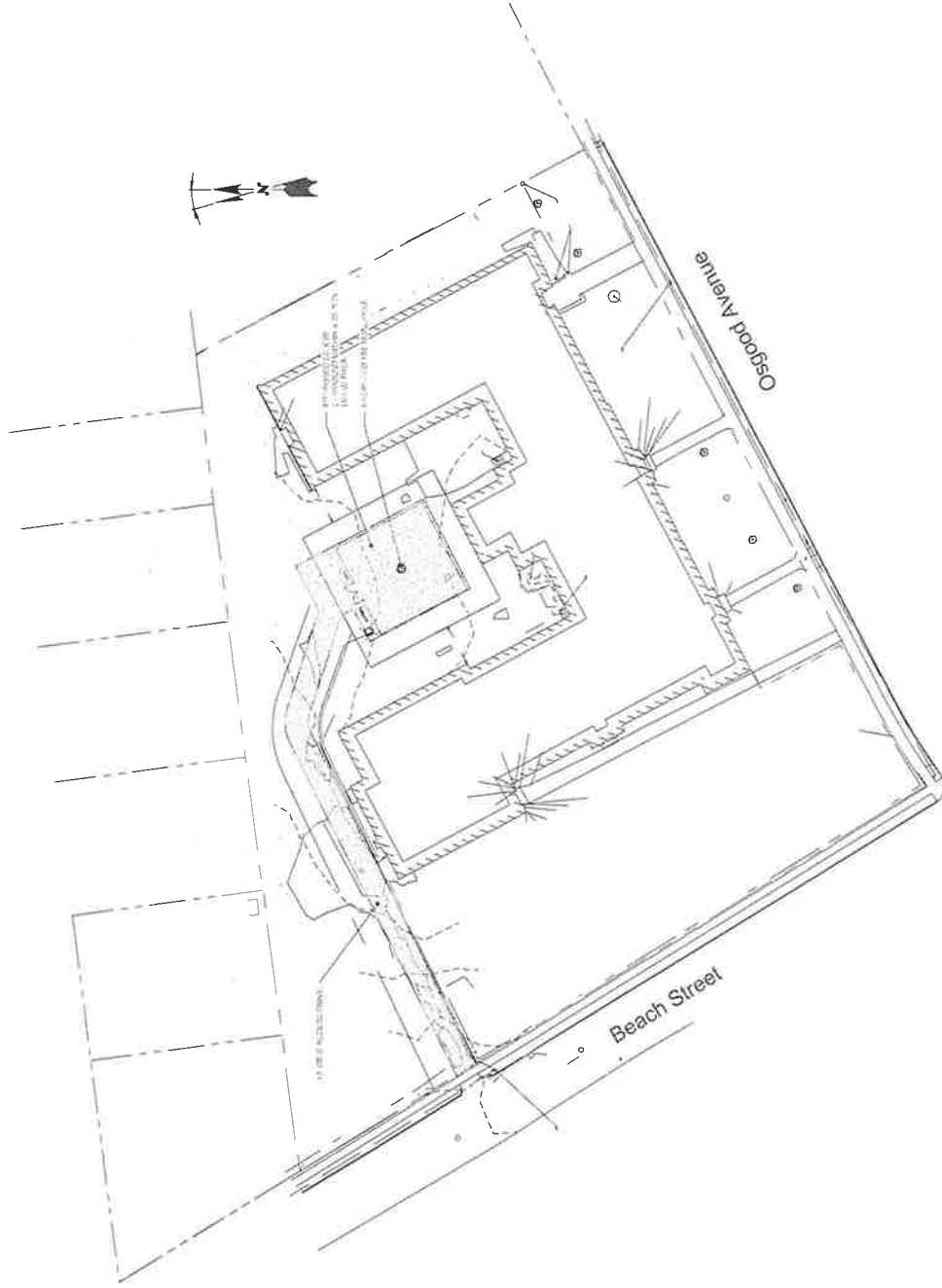
Prepared For
ARX WIRELESS
 110 Washington Avenue
 North Haven, CT 06473

Project No. 2021.20
DOUGLASS J. ROBERTS - ARCHITECT
 110 Washington Avenue
 North Haven, CT 06473
 Tel: 203.233.6348
 Email: drob@djra-architect.com



Douglas
 J Roberts
 Architect

Scale 1/8" = 1'-0"



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Drawn By: Zachary J. Roberts
 Checked By: Douglas J. Roberts
 Project No.: 2021.20
 Scale: 1/8" = 1'-0"

ABUTTERS PLAN



Project
NEW BRITAIN
45 OSGOOD AVENUE
NEW BRITAIN, CT 06153

Prepared For
ARX WIRELESS
110 Washington Avenue
Fourth Floor
North Haven, CT 06473

Project No. 2021.20
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Fourth Floor
North Haven, CT 06473
T: 203.234.6338
Email: douglas@djroberts.com



Douglas J. Roberts
Key Plan

REVISIONS	
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Checked By: Douglas J. Roberts
Project No.: 2021.20
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Sheet Title
SITE PLAN

Project No.: 2021.20
Sheet Title: SITE PLAN
Scale: 1" = 20'-0"

C - 102 1



DEVELOPMENT AND MANAGEMENT

DEVELOPMENT AND MANAGEMENT



Project:
NEW BRITAIN
 48 OSGOOD AVENUE
 NEW BRITAIN CT 06453

Prepared For:
ARX WIRELESS
 100 Washington Avenue
 Fourth Floor
 North Haven, CT 06473

Project No: 2021.20
DOUGLAS J. ROBERTS - ARCHITECT
 100 Washington Avenue
 Fourth Floor
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 Tel: 203.234.6388
 Email: djaroberts - architect@outlook.com



Douglas J. Roberts
 Architect

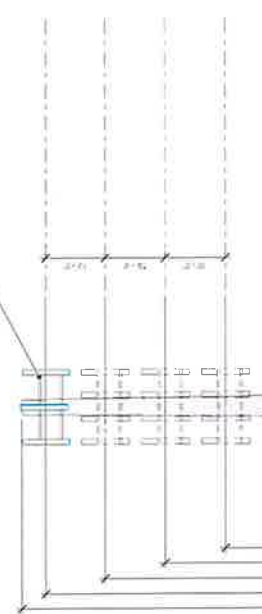
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Drawn By: Zachary J. Pineda
Checked By: Douglas J. Roberts
Project No: 2021.20
Scale: 1/8" = 1'-0"

NORTH ELEVATION

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1. ALL DIMENSIONS ARE TO FACE UNLESS OTHERWISE NOTED.
 2. ALL MATERIALS TO BE USED SHALL BE APPROVED BY THE ARCHITECT.
 3. ALL WORK SHALL BE IN ACCORDANCE WITH THE LATEST EDITIONS OF THE BUILDING CODES AND REGULATIONS.



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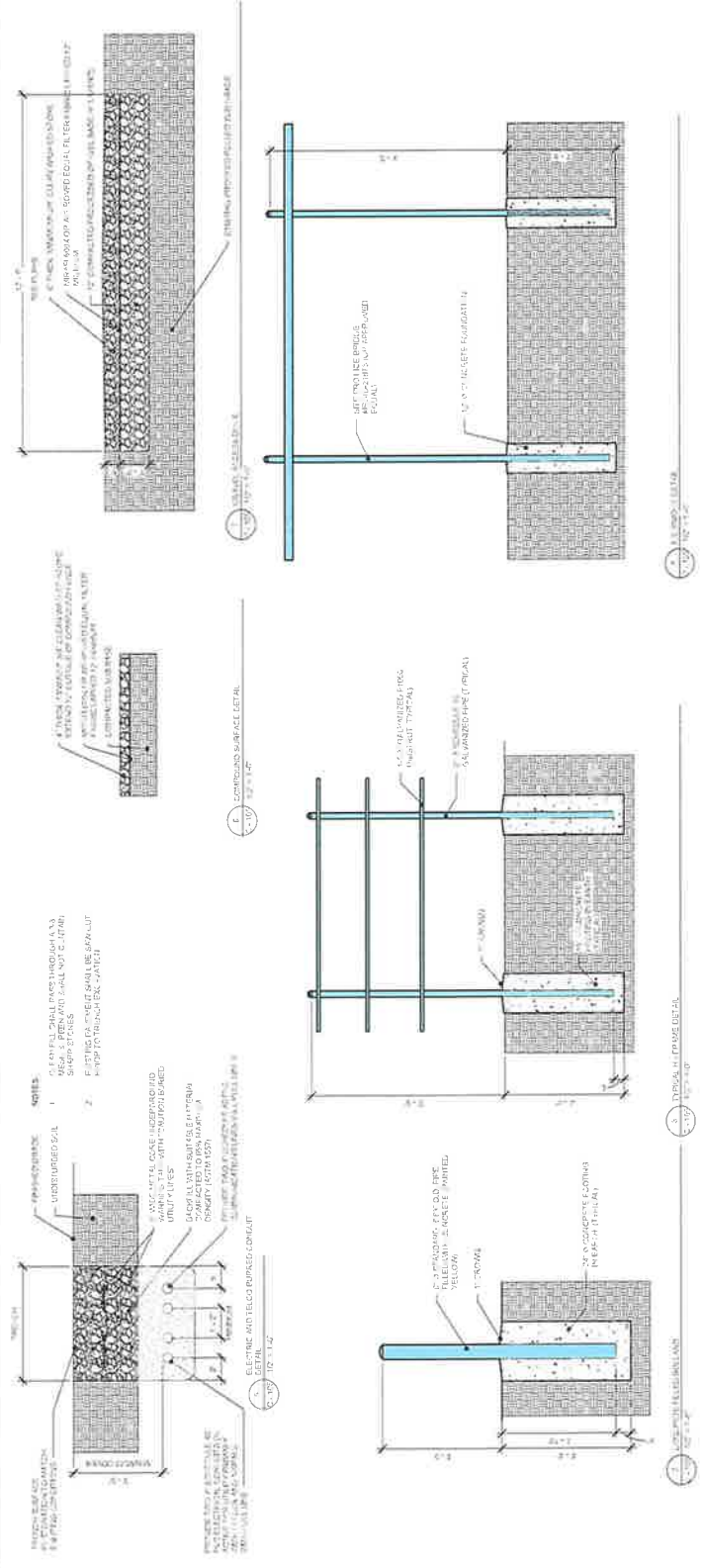
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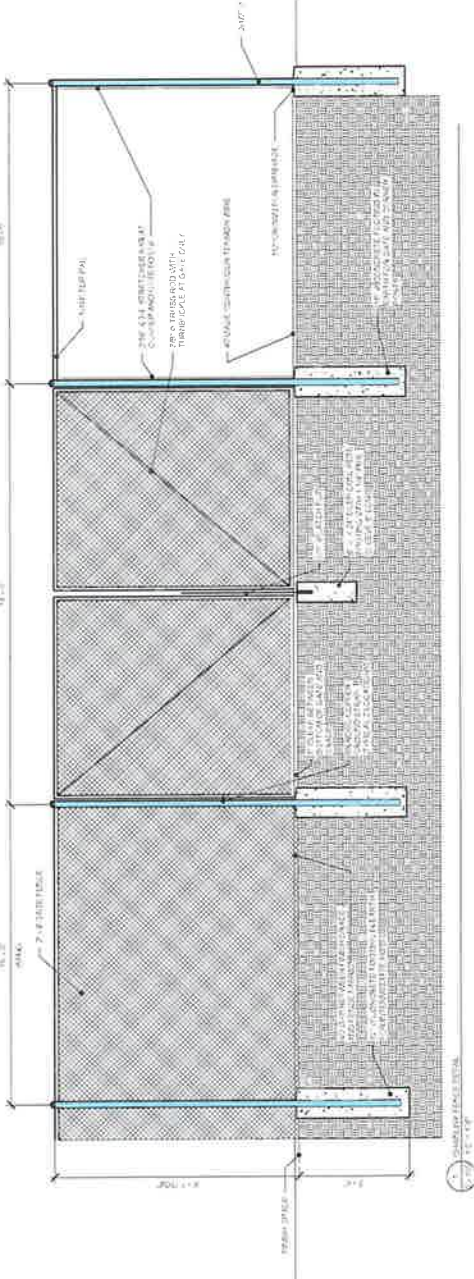


DEVELOPMENT AND MANAGEMENT



FENCE NOTES

- POSTS IN THE FENCE AND ALL OTHER OBJECTS TO BE INSTALLED IN THE FENCE SHALL BE SET IN A PACKAGED SECTION OF 10x31 WITH CORAL FILL AND BACKFILL WITH WELL-DRAINING GRAVEL.
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Project
NEW BRITAIN
 45 GOSOOD AVENUE
 NEW BRITAIN, CT 06053

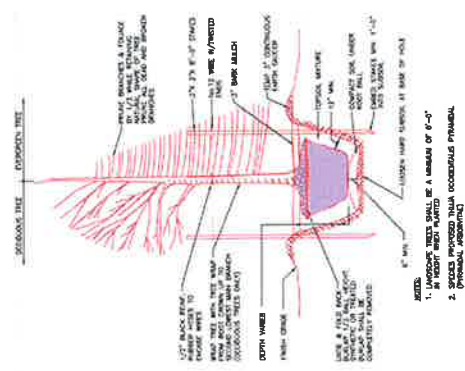
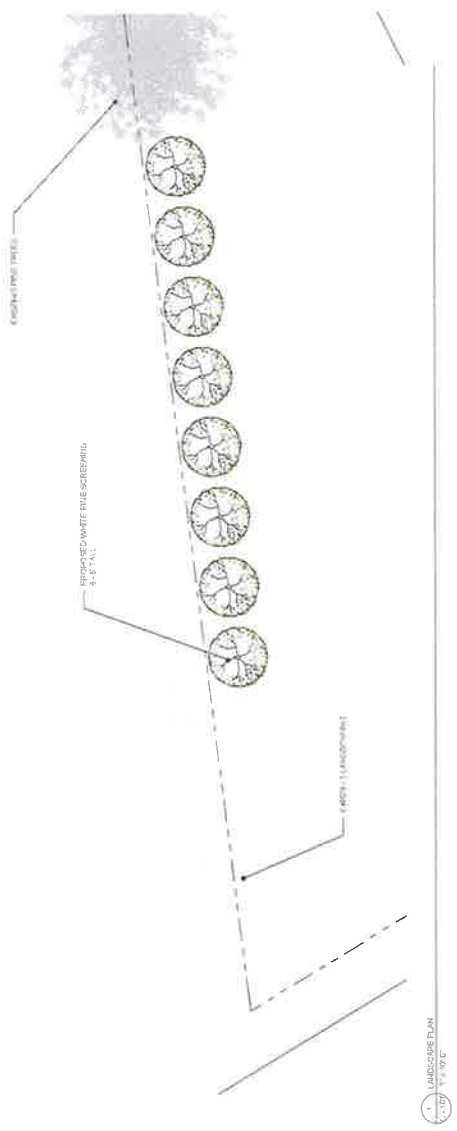
Prepared For
ARX WIRELESS
 110 New Britain Avenue
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 North Haven, CT 06473

Project No. 2021.20
DOUGLAS J. ROBERTS - ARCHITECT
 110 New Britain Avenue
 Fourth Floor
 North Haven, CT 06473
 Tel. 203.234.6388
 Email: douglas@djroberts.com



Douglas J. Roberts
 Key Plan

DEVELOPMENT AND MANAGEMENT



- NOTES:**
1. LANDSCAPE TREES SHALL BE A MINIMUM OF 6'-0"
 2. PROTECT EXISTING TREES WITH PROTECTIVE FURNISH.

REVISION SCHEDULE	
NO. 1	DATE
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Drawn By: Zachary J. ...
 Date: FEB 17 2022
 Project No.: 2021.20
 Scale: 1/8" = 1'-0"
 Sheet Title: LANDSCAPE PLAN



Project
NEW BRITAIN
 43 OSGOOD AVENUE
 NEW BRITAIN, CT 06053

Prepared For
ARX WIRELESS
 100 Washington Avenue
 North Haven, CT 06473

Project No. 2021-20
DOUGLAS J. ROBERTS - ARCHITECT
 100 Washington Avenue
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Douglas J. Roberts
 Architect

DEVELOPMENT AND MANAGEMENT



AT&T - RRU 4449 B5/B12

MODEL NUMBER	WIDTH	DEPTH	HEIGHT	WEIGHT
RRU4449B5B12	15.25"	8.84"	11.5"	21.0lbs



AT&T - RRU 8843 B2/B66A

MODEL NUMBER	WIDTH	DEPTH	HEIGHT	WEIGHT
RRU8843B2B66A	19.27"	13.5"	8.84"	27.0lbs



AT&T - RRU 4479 B14

MODEL NUMBER	WIDTH	DEPTH	HEIGHT	WEIGHT
RRU4479B14	18.5"	8.5"	15"	30.4 lbs



AT&T - TPAGSR-BUBDA-K

MODEL NUMBER	WIDTH	DEPTH	HEIGHT	WEIGHT
TPAGSR-BUBDA-K	28.5"	4.25"	9.6"	118.05 lbs



AT&T - SQUID DC9-48-80-24-8C-EV

MODEL NUMBER	WIDTH	DEPTH	HEIGHT	WEIGHT
DC9-48-80-24-8C-EV	13.48"	14"	5"	12.05 lbs



AT&T WALK-IN-CABINET SPECIFICATIONS

MODEL NUMBER	WIDTH	DEPTH	HEIGHT	WEIGHT
AT&T WALK-IN CABINET	70.2"	36.2"	81.4"	700.0 lbs



AT&T - DMPSR-BUBDA-K

MODEL NUMBER	WIDTH	DEPTH	HEIGHT	WEIGHT
DMPSR-BUBDA-K	28.5"	7"	9.6"	111.0 lbs



AT&T - SQUID DC6-48-4860-0-BF

MODEL NUMBER	WIDTH	DEPTH	HEIGHT	WEIGHT
DC6-48-4860-0-BF	13.5"	14"	3.5"	23.0 lbs



AT&T GENERATOR SPECIFICATIONS

MODEL NUMBER	WIDTH	DEPTH	HEIGHT	WEIGHT
AT&T GENERATOR SPECIFICATIONS	52"	17"	34"	600.0 lbs

REVISION SCHEDULE

NO.	DESCRIPTION	DATE
1	ISSUED	11.15.2021

Drawn By: Tasha J. P. West
 Checked By: Douglas J. Roberts
 Project No.: 2021-20
 Date: 11/15/2021
 Scale: As Noted

AT&T EQUIPMENT AND DETAILS



TAPP

2427 Kelly Lane
Houston, Texas 77066
281-444-8277

QUALITY STEEL POLES. DELIVERED.

Page 1 of 2	Job Number: 23521-320
Eng: MFP	Customer Ref: TP-20465
	Date: 2/14/2022
Structure: 104-FT MONOPOLE	
Site: CTO090 NEW BRITAIN	
Location: HARTFORD CO., CT / 41°41'7.87", -72°47'25.06"	
Owner: ARX	
Revision No.: Revision Date:	

DESIGN

Building Code: 2016 CONNECTICUT BUILDING CODE			
Design Standard: ANSI/TIA-222-G			
Wind Speed Load Cases: ASCE-7-05 CONVERTED TO ASCE-7-10			
Load Case #1: 112 MPH Design Wind Speed - V_{AS} ($V_{ULT} = 145$ MPH)			
Load Case #2: 50 MPH Wind with 1" Ice Accumulation			
Load Case #3: 60 MPH Service Wind Speed			
Structure Class Risk Category: III	Exposure Cat.: C	Topography Cat.: I	Crest Height:

STRUCTURE MEETS THE MINIMUM REQUIREMENTS OF TIA-222-H

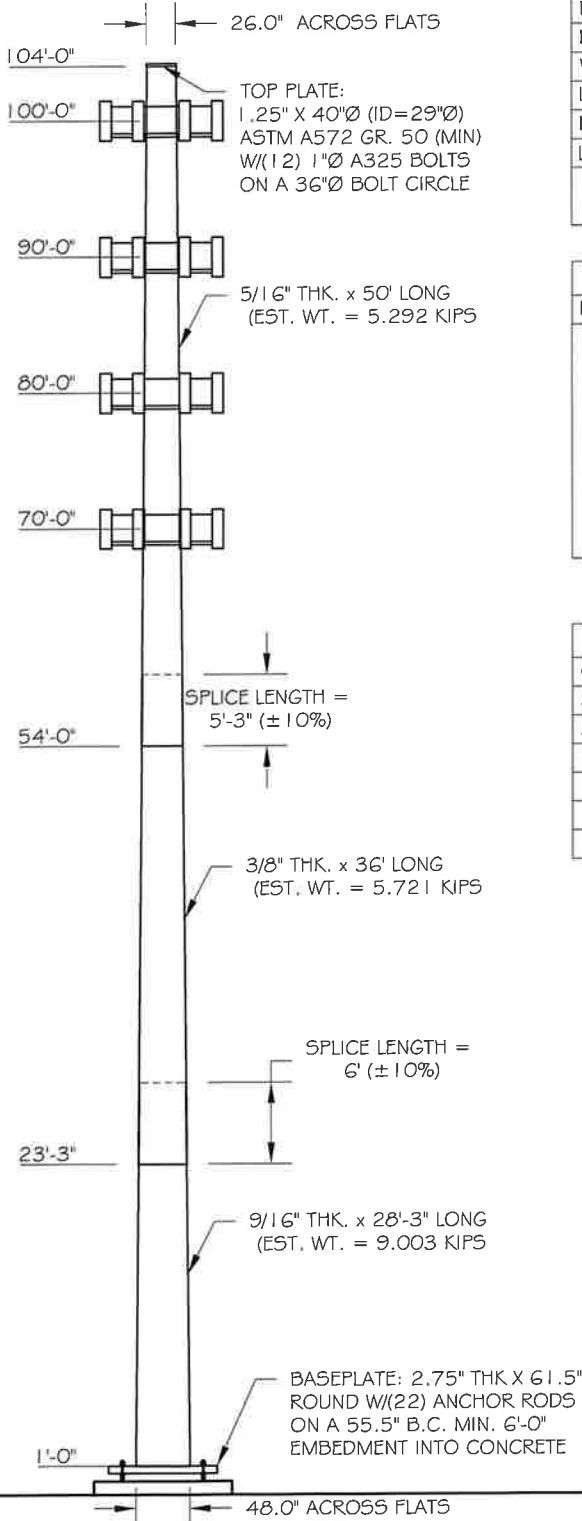
EQUIPMENT LIST

Elev.	Description
100	(12) ANTENNAS + MOUNT (EPA 120 FT2 / 3,000 LBS)
100	GENERIC ANTENNA MOUNT
90	(12) ANTENNAS + MOUNT (EPA 120 FT2 / 3,000 LBS)
90	GENERIC ANTENNA MOUNT
80	(12) ANTENNAS + MOUNT (EPA 120 FT2 / 3,000 LBS)
80	GENERIC ANTENNA MOUNT
70	(12) ANTENNAS + MOUNT (EPA 120 FT2 / 3,000 LBS)
70	GENERIC ANTENNA MOUNT

ANTENNA FEED LINES ROUTED ON THE INSIDE OF THE POLE
POLE DESIGNED FOR A MAX 70-FT FALL RADIUS

STRUCTURE PROPERTIES

Cross-Section: 18-Sided	Taper: 0.22694 in/ft				
Shaft Steel: ASTM A572 GR 65	Baseplate Steel: ASTM A572 GR 50				
Anchor Rods: 2.25 in. A615 GR. 75 X 7'-0"					
Sect.	Length (ft)	Thickness (in)	Splice (ft)	Top Dia. (in)	Bot Dia. (in)
1	50.00	0.3125	5.25	26.00	37.35
2	36.00	0.3750	6.00	35.53	43.70
3	28.25	0.5625	0.00	41.59	48.00



BASE REACTIONS FOR FOUNDATION DESIGN

Moment: 6050 ft-kip
Shear: 81 kip
Axial: 43 kip

Page 2 of 2	Job Number: 23521-320
Eng: MFP	Customer Ref: TP-20465
	Date: 2/14/2022
Structure:	104-FT MONOPOLE
Site:	CT0090 NEW BRITAIN
Location:	HARTFORD CO., CT / 41°41'7.87", -72°47'25.06"
Owner:	ARX
Revision No.:	Revision Date:

FOUNDATION NOTES:

1. ALL FOUNDATION CONCRETE SHALL USE TYPE II CEMENT AND ATTAIN A MINIMUM COMPRESSIVE STRENGTH OF 4500 PSI AT 28 DAYS. CONCRETE SHALL HAVE A MAXIMUM WATER/CEMENT RATIO OF 0.45 AND SHALL BE AIR ENTRAINED 6% (± 1.5%). ALL CONCRETE CONSTRUCTION SHALL BE IN ACCORDANCE WITH ACI 318, "THE BUILDING CODE REQUIREMENTS FOR REINFORCED CONCRETE", LATEST EDITION.

2. ALL REINFORCING STEEL SHALL CONFORM TO ASTM A615 VERTICAL BARS SHALL BE GRADE 60, AND TIES OR STIRRUPS SHALL BE A MINIMUM OF GRADE 40. THE PLACEMENT OF ALL REINFORCEMENT SHALL CONFORM TO ACI 315, "MANUAL OF STANDARD PRACTICE FOR DETAILING REINFORCED CONCRETE STRUCTURES", LATEST EDITION.

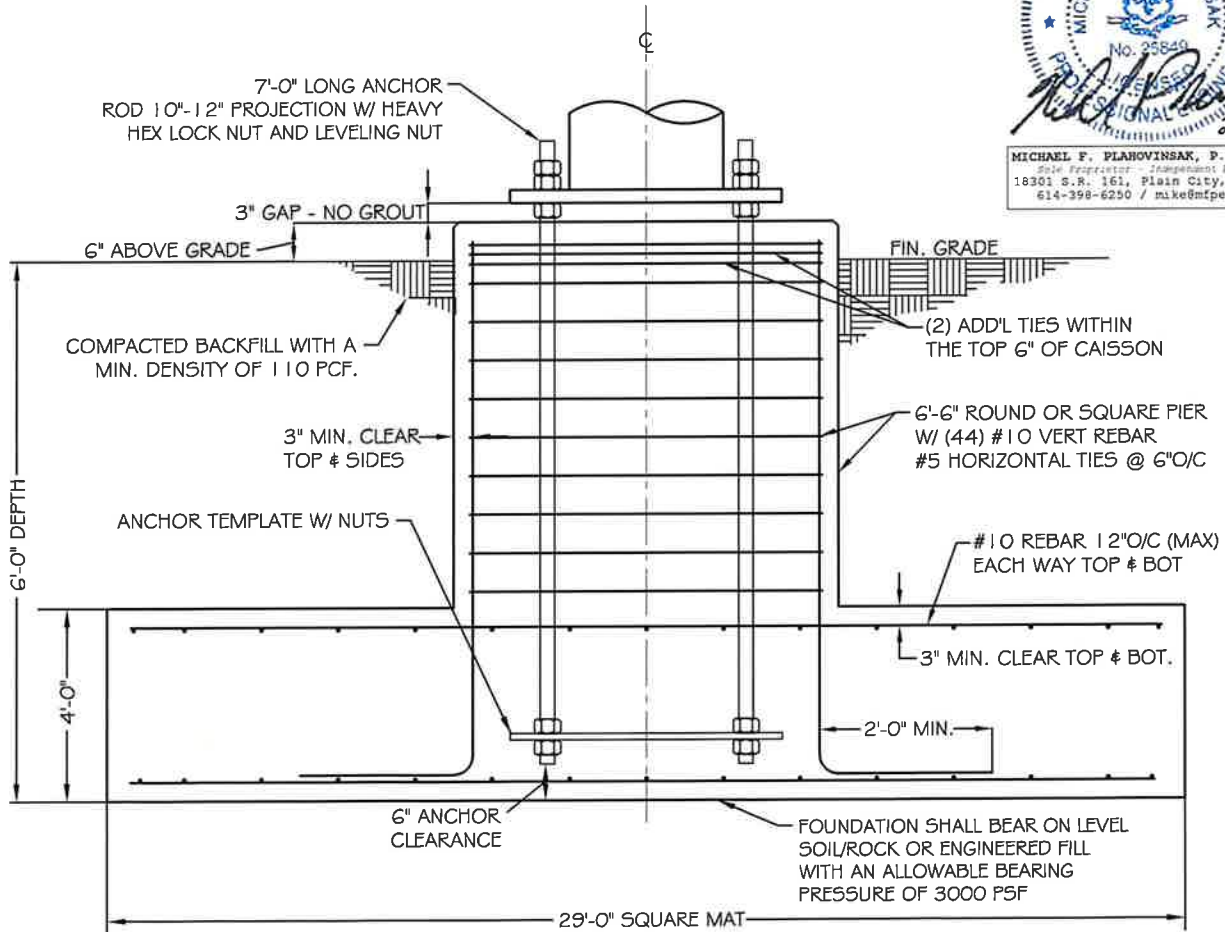
3. THE CONTRACTOR SHALL DETERMINE THE MEANS AND METHODS TO SUPPORT THE EXCAVATION DURING CONSTRUCTION. THE CONTRACTOR SHALL READ THE GEOTECHNICAL REPORT AND SHALL CONSULT THE GEOTECHNICAL ENGINEER AS NECESSARY PRIOR TO CONSTRUCTION.

4. FOUNDATION DESIGN IS BASED ON GEOTECHNICAL REPORT BY:
ENGINEER: WELTI GEOTECHNICAL
REPORT NO.: N/A (DATED 1/10/22)

5. ESTIMATED CONCRETE VOLUME = 128.5 CUBIC YARDS.

6. THE FOUNDATION HAS BEEN DESIGNED TO RESIST THE FOLLOWING FACTORED LOADS:

MOMENT: 6050 FT*KIPS
SHEAR: 81 KIPS
AXIAL: 43 KIPS



SPREAD FOOTING

NOT TO SCALE

inxTower Michael Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job 104-ft Pole - MFP #23521-320 r2	Page 1 of 5
	Project CT0090 New Britain	Date 15:32:39 02/14/22
	Client TP-20465	Designed by Mike

Tower Input Data

The tower is a monopole.

This tower is designed using the TIA-222-G standard.

The following design criteria apply:

Basic wind speed of 100 mph.

Structure Class III.

Exposure Category C.

Topographic Category 1.

Crest Height 0.00 ft.

Nominal ice thickness of 1.0000 in.

Ice thickness is considered to increase with height.

Ice density of 56 pcf.

A wind speed of 50 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 60 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.

Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
L1	104.00-54.00	50.00	5.25	18	26.0000	37.3471	0.3125	1.2500	A572-65 (65 ksi)
L2	54.00-23.25	36.00	6.00	18	35.5306	43.7005	0.3750	1.5000	A572-65 (65 ksi)
L3	23.25-1.00	28.25		18	41.5889	48.0000	0.5625	2.2500	A572-65 (65 ksi)

Tapered Pole Properties

Section	Tip Dia. in	Area in ²	I in ⁴	r in	C in	I/C in ³	J in ⁴	I/Q in ²	w in	w/t
L1	26.3529	25.4788	2124.0264	9.1191	13.2080	160.8136	4250.8477	12.7418	4.0260	12.883
	37.8750	36.7337	6365.2712	13.1473	18.9723	335.5030	12738.9180	18.3703	6.0231	19.274
L2	37.2307	41.8440	6533.7239	12.4803	18.0496	361.9879	13076.0450	20.9260	5.5934	14.916
	44.3168	51.5682	12229.4739	15.3806	22.1999	550.8802	24475.0396	25.7890	7.0313	18.75
L3	43.5264	73.2475	15576.0382	14.5644	21.1272	737.2519	31172.5717	36.6307	6.3296	11.253
	48.6537	84.6937	24078.6580	16.8403	24.3840	987.4778	48188.9994	42.3549	7.4580	13.259

Tower Elevation	Gusset Area (per face)	Gusset Thickness	Gusset Grade	Adjust. Factor A _f	Adjust. Factor A _r	Weight Mult.	Double Angle Stitch Bolt Spacing Diagonals	Double Angle Stitch Bolt Spacing Horizontals	Double Angle Stitch Bolt Spacing Redundants
ft	ft ²	in					in	in	in
L1 104.00-54.00				1	1	1			
L2 54.00-23.25				1	1	1			
L3 23.25-1.00				1	1	1			

inxTower Michael Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mpfeng.com	Job	104-ft Pole - MFP #23521-320 r2	Page	2 of 5
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Feed Line/Linear Appurtenances - Entered As Area

Description	Face or Shield Leg	Allow Shield	Exclude From Torque Calculation	Component Type	Placement ft	Total Number		C _{AA} ft ² /ft	Weight plf
1 5/8"	C	No	Yes	Inside Pole	100.00 - 1.00	18	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92
1 5/8"	C	No	Yes	Inside Pole	90.00 - 1.00	18	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92
1 5/8"	C	No	Yes	Inside Pole	80.00 - 1.00	18	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92
1 5/8"	C	No	Yes	Inside Pole	70.00 - 1.00	18	No Ice	0.00	0.92
							1/2" Ice	0.00	0.92
							1" Ice	0.00	0.92

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation ft	Face	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	104.00-54.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2.05
L2	54.00-23.25	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	2.03
L3	23.25-1.00	A	0.000	0.000	0.000	0.000	0.00
		B	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	1.47

Feed Line/Linear Appurtenances Section Areas - With Ice

Tower Section	Tower Elevation ft	Face or Leg	Ice Thickness in	A _R ft ²	A _F ft ²	C _{AA} In Face ft ²	C _{AA} Out Face ft ²	Weight K
L1	104.00-54.00	A	2.724	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	2.05
L2	54.00-23.25	A	2.539	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	2.03
L3	23.25-1.00	A	2.258	0.000	0.000	0.000	0.000	0.00
		B		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	1.47

inxTower Michael Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mfpeng.com	Job 104-ft Pole - MFP #23521-320 r2	Page 3 of 5
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Discrete Tower Loads

Description	Face or Leg	Offset Type	Offsets:		Azimuth Adjustment	Placement	C _{AA}		Weight	
			Horz	Vert			Front	Side		
			Lateral	ft	°	ft	ft ²	ft ²	K	
EPA 120 ft2 / 3,000 lbs	C	None			0.0000	100.00	No Ice	120.00	120.00	3.00
							1/2" Ice	130.00	130.00	3.50
							1" Ice	140.00	140.00	4.00
EPA 120 ft2 / 3,000 lbs	C	None			0.0000	90.00	No Ice	120.00	120.00	3.00
							1/2" Ice	130.00	130.00	3.50
							1" Ice	140.00	140.00	4.00
EPA 120 ft2 / 3,000 lbs	C	None			0.0000	80.00	No Ice	120.00	120.00	3.00
							1/2" Ice	130.00	130.00	3.50
							1" Ice	140.00	140.00	4.00
EPA 120 ft2 / 3,000 lbs	C	None			0.0000	70.00	No Ice	120.00	120.00	3.00
							1/2" Ice	130.00	130.00	3.50
							1" Ice	140.00	140.00	4.00

Load Combinations

Comb. No.	Description
1	Dead Only
2	1.2 Dead+1.6 Wind 0 deg - No Ice
3	0.9 Dead+1.6 Wind 0 deg - No Ice
4	1.2 Dead+1.6 Wind 90 deg - No Ice
5	0.9 Dead+1.6 Wind 90 deg - No Ice
6	1.2 Dead+1.6 Wind 180 deg - No Ice
7	0.9 Dead+1.6 Wind 180 deg - No Ice
8	1.2 Dead+1.0 Ice+1.0 Temp
9	1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp
10	1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp
11	1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp
12	Dead+Wind 0 deg - Service
13	Dead+Wind 90 deg - Service
14	Dead+Wind 180 deg - Service

Maximum Member Forces

Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
L1	104 - 54	Pole	Max Tension	2	0.00	0.00	-0.00
			Max. Compression	8	-38.33	0.00	0.00
			Max. Mx	4	-21.27	-719.04	0.00
			Max. My	2	-21.27	0.00	719.04
			Max. Vy	4	28.31	-719.04	0.00
			Max. Vx	2	-28.31	0.00	719.04
L2	54 - 23.25	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	8	-51.58	0.00	0.00
			Max. Mx	4	-30.35	-1615.89	0.00
			Max. My	2	-30.35	0.00	1615.89
			Max. Vy	4	31.40	-1615.89	0.00
			Max. Vx	2	-31.40	0.00	1615.89
L3	23.25 - 1	Pole	Max Tension	1	0.00	0.00	0.00

tnxTower Michael Plahovinsak, P.E. 18301 State Route 161 Plain City, OH 43064 Phone: 614-398-6250 FAX: mike@mpeng.com	Job	104-ft Pole - MFP #23521-320 r2	Page	4 of 5
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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Axial K	Major Axis Moment kip-ft	Minor Axis Moment kip-ft
			Max. Compression	8	-68.73	0.00	0.00
			Max. Mx	4	-43.37	-2540.65	0.00
			Max. My	2	-43.37	0.00	2540.65
			Max. Vy	4	33.99	-2540.65	0.00
			Max. Vx	2	-33.99	0.00	2540.65

Maximum Tower Deflections - Service Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	104 - 54	5.696	12	0.4387	0.0000
L2	59.25 - 23.25	1.916	12	0.3174	0.0000
L3	29.25 - 1	0.431	12	0.1351	0.0000

Critical Deflections and Radius of Curvature - Service Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	EPA 120 ft2 / 3,000 lbs	12	5.326	0.4325	0.0000	97045
90.00	EPA 120 ft2 / 3,000 lbs	12	4.410	0.4155	0.0000	34659
80.00	EPA 120 ft2 / 3,000 lbs	12	3.528	0.3936	0.0000	20217
70.00	EPA 120 ft2 / 3,000 lbs	12	2.706	0.3634	0.0000	14271

Maximum Tower Deflections - Design Wind

Section No.	Elevation ft	Horz. Deflection in	Gov. Load Comb.	Tilt °	Twist °
L1	104 - 54	32.653	2	2.5157	0.0000
L2	59.25 - 23.25	10.983	2	1.8199	0.0000
L3	29.25 - 1	2.471	2	0.7741	0.0000

Critical Deflections and Radius of Curvature - Design Wind

Elevation ft	Appurtenance	Gov. Load Comb.	Deflection in	Tilt °	Twist °	Radius of Curvature ft
100.00	EPA 120 ft2 / 3,000 lbs	2	30.528	2.4801	0.0000	16973
90.00	EPA 120 ft2 / 3,000 lbs	2	25.276	2.3827	0.0000	6061
80.00	EPA 120 ft2 / 3,000 lbs	2	20.222	2.2571	0.0000	3535
70.00	EPA 120 ft2 / 3,000 lbs	2	15.508	2.0834	0.0000	2494

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Pole Design Data

Section No.	Elevation ft	Size	L ft	L _u ft	Kl/r	A in ²	P _u K	φP _n K	Ratio P _u φP _n
L1	104 - 54 (1)	TP37.3471x26x0.3125	50.00	0.00	0.0	35.5519	-21.27	2544.39	0.008
L2	54 - 23.25 (2)	TP43.7005x35.5306x0.375	36.00	0.00	0.0	49.9475	-30.35	3600.66	0.008
L3	23.25 - 1 (3)	TP48x41.5889x0.5625	28.25	0.00	0.0	84.6937	-43.37	6292.32	0.007

Pole Bending Design Data

Section No.	Elevation ft	Size	M _{ux} kip-ft	φM _{ux} kip-ft	Ratio M _{ux} φM _{ux}	M _{uy} kip-ft	φM _{uy} kip-ft	Ratio M _{uy} φM _{uy}
L1	104 - 54 (1)	TP37.3471x26x0.3125	719.04	1873.75	0.384	0.00	1873.75	0.000
L2	54 - 23.25 (2)	TP43.7005x35.5306x0.375	1615.89	3103.75	0.521	0.00	3103.75	0.000
L3	23.25 - 1 (3)	TP48x41.5889x0.5625	2540.65	6113.72	0.416	0.00	6113.72	0.000

Pole Shear Design Data

Section No.	Elevation ft	Size	Actual V _u K	φV _u K	Ratio V _u φV _u	Actual T _u kip-ft	φT _u kip-ft	Ratio T _u φT _u
L1	104 - 54 (1)	TP37.3471x26x0.3125	28.31	1272.19	0.022	0.00	3757.02	0.000
L2	54 - 23.25 (2)	TP43.7005x35.5306x0.375	31.40	1800.33	0.017	0.00	6223.47	0.000
L3	23.25 - 1 (3)	TP48x41.5889x0.5625	33.99	3146.16	0.011	0.00	12264.25	0.000

Pole Interaction Design Data

Section No.	Elevation ft	Ratio P _u φP _n	Ratio M _{ux} φM _{ux}	Ratio M _{uy} φM _{uy}	Ratio V _u φV _u	Ratio T _u φT _u	Comb. Stress Ratio	Allow. Stress Ratio	Criteria
L1	104 - 54 (1)	0.008	0.384	0.000	0.022	0.000	0.393	1.000	4.8.2 ✓
L2	54 - 23.25 (2)	0.008	0.521	0.000	0.017	0.000	0.529	1.000	4.8.2 ✓
L3	23.25 - 1 (3)	0.007	0.416	0.000	0.011	0.000	0.423	1.000	4.8.2 ✓

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	φP _{allow} K	% Capacity	Pass Fail
L1	104 - 54	Pole	TP37.3471x26x0.3125	1	-21.27	2544.39	39.3	Pass
L2	54 - 23.25	Pole	TP43.7005x35.5306x0.375	2	-30.35	3600.66	52.9	Pass
L3	23.25 - 1	Pole	TP48x41.5889x0.5625	3	-43.37	6292.32	42.3	Pass
Summary								
Pole (L2)							52.9	Pass
RATING =							52.9	Pass

Michael F. Plahovinsak, P.E. 18301 State Route 161 W Plain City, OH 43064 Phone: 614-398-6250 email: mike@mfpeng.com	Job 104-ft monopole - MFP #23521-320	Page BP & AB Calc
	Project CT0090 New Britain	Date 2/14/2022
	Client TAPP TP-20465	Designed by Mike

Anchor Rod and Base Plate Calculation

ANSI/TIA-222-G

Factored Base Reactions:	Pole Shape:	Anchor Rods:	Base Plate:
Moment: 2541 ft-kips	18-Sided	(22) 2.25 in. A615 GR. 75	2.75 in. x 61.5 in. Round
Shear: 34 kips	Pole Dia. (D_p): 48.00 in	Anchor Rods Evenly Spaced	f _y = 50 ksi
Axial: 43 kips		On a 55.5 in Bolt Circle	

Anchor Rod Calculation According to TIA-222-G section 4.9.9

$$\phi_t, \phi_v = 0.80 \text{ TIA 4.9.9}$$

$$I_{\text{bolts}} = 8470.69 \text{ in}^2 \text{ Moment of Inertia}$$

$$P_u = 102 \text{ kips Compr Force}$$

$$V_u = 1.5 \text{ kips Shear Force}$$

$$R_{nt} = 325.00 \text{ kips Nominal Tensile Strength}$$

$$n = 0.50 \text{ for detail type (d)}$$

$$\text{Stress Rating} = 40.4\% \text{ Satisfies TIA-G 4.9.9}$$

Base Plate Calculation According to TIA-222-G

$$\phi = 0.90 \text{ TIA 4.7}$$

$$M_{PL} = 228.8 \text{ in-kip Plate Moment}$$

$$L = 6.9 \text{ in Section Length}$$

$$Z = 13.0 \text{ Plastic Section Modulus}$$

$$M_P = 648.0 \text{ in-kip Plastic Moment}$$

$$\phi M_n = 583.2 \text{ in-kip Factored Resistance}$$

Calculated Moment vs Factored Resistance

$$228.77 \text{ in-kip} \leq 583 \text{ in-kip}$$

$$\text{Stress Rating} = 39.2\%$$

Anchor Rods Are Adequate	40.4% <input checked="" type="checkbox"/>
Base Plate is Adequate	39.2% <input checked="" type="checkbox"/>

Monopole Spread Footing Calculation

ANSI/TIA-222-G

Factored Base Reactions:	Footing Dimensions:	Concrete:
Moment: 6050 ft-kips	29 ft x 29 ft	6.5 ft Square Pier
Shear: 81 kips	x 4 ft thick	w/6 in Reveal
Axial: 43 kips	Bearing 6 ft B.G.	128.5 Yd3 Concrete
Soil Backfill 100 pcf	Ultimate Bearing:	6000 psf
		Water Table n/a

Foundation Weight

Weight of Pole	43.0 kips
Weight of Concrete	520.44375 kips
Weight of Soil	159.75 kips
Bouyancy of Water	0.0 kips
Total	723.2 kips

Overturning Resistance:

Overturning Moment (M_u)	6576.5 ft-kips	6050 ft-kips + (81 kips x 6.5 ft)
Resisting Moment (R_s)	10486.309 ft-kips	723.19375 kips x 29 ft / 2
$\phi \times R_s > M_u$	$M_{overturning} / f M_{resist}$	83.6% OK

Soil Bearing Pressure:

Eccentricity (e)	9.09 ft	6576.5 ft-kips / 723.19375 kips
6(e)	54.6 ft >	29.0 ft 6e > 29
Maximum Soil Bearing	3260.4163 psf	Calculated across corners
Soil Overburden	-600 psf	
Net Soil Bearing	2660.4163 psf	
Resisting Soil Bearing (R_s)	6000 psf	
Net Soil Bearing < $\phi \times R_s$	Net Bearing / f R_s	59.1% OK

Bending Moment in Pier:

Bending Moment	6252.5 ft-kips	6050 ft-kips + (81 kips x 2.5 ft)
Min. Pier Steel	30.42 in ²	1/2% (Based on Square Pier)

Bending Moment in Footing:

Max Bending Moment	4338.5491 ft-kips	Σ Moments about pier face
Footing Steel Req'd (Loads)	0.93 in ² /ft	
Min. Footing Steel	1.04 in ² /ft	0.18%

WELTI GEOTECHNICAL, P.C.

227 Williams Street · P.O. Box 397
Glastonbury, CT 06033-0397

(860) 633-4623 / FAX (860) 657-2514

January 10, 2022

Mr. Keith Coppins
ARX Wireless
110 Washington Avenue
North Haven, CT 06473

**Ref: Geotechnical Study for Proposed Cell Tower (CT0090)
43 Osgood Avenue, New Britain, CT**

Dear Keith:

1.0 Herewith are the data from the test boring taken at the above referenced site. One boring was taken at the proposed tower location. The boring was drilled to auger refusal on bedrock at 21 feet below the existing grade and cored into the bedrock from 21 to 41 feet. A tower/boring location plan is included with boring logs. *The boring was drilled by Clarence Welti Associates, Inc. and sampling was conducted by this firm solely to obtain indications of subsurface conditions as part of a geotechnical exploration program. No services were performed to evaluate subsurface environmental conditions.*

2.0 The **Subject Project** will include the construction of a 104 foot monopole tower.

3.0 The **Soils Cross Section** from the boring is generally as follows:

Topsoil to 3"

Possible FILL or disturbed soils; fine SAND and SILT, trace Roots and Gravel to 2 feet, loose

Fine to coarse SAND, some Silt, little Gravel to 7 feet, medium compact

Moraine; fine to medium SAND, some Silt, little Gravel and Cobbles to 21 feet, very dense

Bedrock; fine grained Sandstone, Siltstone or Silty Shale

Note: Cored highly fractured and weathered grey sandstone from 21 to 33 feet and hard red/brown siltstone and shale from 33 to 41 feet.

Groundwater was not evident on the borehole at the completion of the boring. It should be assumed that the water table could be within 10 feet of grade during wet periods.

4.0 In general the criteria for tower support is that the foundation capacity would exceed the loads, which might collapse the tower. **Movements from strains in the soils should be limited to differential settlement (or lateral movements of less than ½").**

5.0 The foundation for the tower could be one of the following:

1. A large mat designed to prevent overturning by gravity resistance of the mat and soil cover.

2. A caisson/drilled pier foundation

5.1 In **alternate (1)** the weight of the mat and soil cover (if any) would provide the required resistance to over turning. The mat foundation can be placed on the natural inorganic soils at least 6 feet below the existing grade. There should be a minimum 6" layer of 3/8" crushed stone beneath foundations on the natural soils. The **Allowable Bearing Pressure** on the crushed stone atop the natural soils can be 3.0 Tons/sf.

5.2 In **summary** the following soil properties and design values would apply to alternate 1.

Soil Property/Parameter	Value
Soil Unit Weight (Backfill)	125 pcf
Soil Unit Weight (Natural)	125 pcf
Soil Unit Weight Submerged (Natural)	63 pcf
Angle of Internal Friction (ϕ)	34°
Cohesion	0
Pull Out Angle from Vertical	30°
Sliding Coefficient	0.6
Frost Protection Depth (by code)	3.5 feet
Allowable Soil Bearing Pressure on the natural soil inorganic at 6+ feet below the existing grade	3.0 Tons/sf

5.3 **Alternate 2** would be a caisson foundation. The depth of the caissons is to be determined by the

designer to provide the required resistance to uplift and overturning forces as well as maintaining the allowable lateral deflection**. The following is summary of design parameters which can be used in the design of the drilled pier/caisson type foundation using the L-Pile computer program.

stratum depth	Total Unit Weight (pcf)	Effective (submerged) Unit Weight (pcf)	Friction Angle degrees	Soil Modulus Parameter, k - above groundwater (pci)	Soil Modulus Parameter, k - below groundwater (pci) *	Allowable Bearing Pressure at 8+ feet (Tsf)
0 to 7 feet; fine to coarse SAND, some Silt, little Gravel	120	58	30	90	60	-
7 to 21 feet; fine to medium SAND, some Silt, little Gravel and Cobbles	125	63	36	225	125	3.0
Bedrock, Sandstone, Siltstone or Shale	160	98	-	-	-	15.0

The lateral deflection can be analyzed from Lpile Program or from a empirical formulas in Drilled Pier Foundations; Woodward Gardener Greer; McGraw Hill 1972. The soils to about 2 feet below the finished grades should be ignored in the calculating the lateral resistance.

** Typically this value would be about 1/2"

5.3.1 The bedrock can be considered as "strong rock" when modeling with the L-Pile program. The estimated elastic modulus (E_o) for the intact rock would be 2.1×10^6 psi (from a table in AASHTO, Summary of Elastic Moduli for Intact Rock Modified After Kulhawy 1978).

6.0 Regarding **backfill of foundations**, the material should conform to the following or be 3/8" crushed stone.

Percent Passing	Sieve Size
100	3.5"
50 - 100	3/4"
25 - 85	No.4

The fraction, passing the No.4 sieve should have less than 15% passing the No. 200 sieve.

All backfill and fill must be compacted to at least 95% of modified optimum density in accordance with ASTM D-1557.

7.0 The soils at the subject site are generally in OSHA class C which would require excavations that are in excess of 5 feet to have slopes which are less than 34° (i.e., 1.5H to 1.0V).

8.0 This report has been prepared for specific a application to the subject project in accordance with generally accepted soil and foundation engineering practices. No other warranty, express or implied, is made. In the event that any changes in the nature, design and location of structures are planned,

the conclusions and recommendations contained in this report should not be considered valid unless the changes are reviewed and conclusions of this report modified or verified in writing.

The analyses and recommendations submitted in this report are based in part upon data obtained from referenced explorations. The extent of variations between explorations may not become evident until construction. If variations then appear evident, it will be necessary to re-evaluate the recommendations of this report.

Wolti Geotechnical, P.C., should perform a general review of the final design and specifications in order that geotechnical design recommendations may be properly interpreted and implemented as they were intended.

If you have any questions please call me.

Very truly yours,

Max Wolti

Max Wolti, P. E.

APPENDIX

TEST BORING LOCATION

+

TEST BORING DATA

CLARENCE WELTI ASSOC., INC. P.O. BOX 397 GLASTONBURY, CONN 06033				CLIENT ARX WIRELESS		PROJECT NAME PROPOSED CELL TOWER SITE NUMBER CT0090	
						LOCATION 43 OSGOOD AVENUE, NEW BRITAIN, CT	
	AUGER	CASING	SAMPLER	CORE BAR.	OFFSET	SURFACE ELEV.	HOLE NO. B-1
TYPE	HSA		SS	NQ	LINE & STA.	GROUND WATER OBSERVATIONS	
SIZE I.D.	3.75"		1.375"	2.0"	N. COORDINATE	AT none FT. AFTER 0 HOURS	START DATE 1/3/22
HAMMER WT.			140lbs		E. COORDINATE	AT FT. AFTER HOURS	FINISH DATE 1/3/22
HAMMER FALL			30"				
DEPTH	SAMPLE			A	STRATUM DESCRIPTION + REMARKS	ELEV.	
	NO.	BLOWS/6"	DEPTH				
0	1	2-5-3-4	0.0'-2.0'		TOPSOIL	0.25	
					BR.FINE SAND AND SILT, TRACE GRAVEL & ROOTS		
	2	2-2-10-16	2.0'-4.0'		BR.FINE-CRS.SAND, SOME SILT, LITTLE GRAVEL	2.0	
5	3	5-7-10-10	4.0'-6.0'				
10	4	15-60	10.0'-10.8'				
15	5	17-60	15.0'-16.0'				
20	6	60	20.0'-20.4'				
25							
30							
35							
LEGEND: COL. A: SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%						DRILLER: K. CHRISTIANA INSPECTOR:	
						SHEET 1 OF 2	HOLE NO. B-1

CLARENCE WELTI ASSOC., INC. P.O. BOX 397 GLASTONBURY, CONN 06033	CLIENT <p style="text-align: center;">ARX WIRELESS</p>	PROJECT NAME PROPOSED CELL TOWER SITE NUMBER CT0090 LOCATION 43 OSGOOD AVENUE, NEW BRITAIN, CT
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DEPTH	SAMPLE			A	STRATUM DESCRIPTION + REMARKS	ELEV.
	NO.	BLOWS/6"	DEPTH			
40						
					41.0	
					BOTTOM OF BORING @ 41.0'	
45						
50						
55						
60						
65						
70						
75						

LEGEND: COL. A: SAMPLE TYPE: D=DRY A=AUGER C=CORE U=UNDISTURBED PISTON S=SPLIT SPOON PROPORTIONS USED: TRACE=0-10% LITTLE=10-20% SOME=20-35% AND=35-50%	DRILLER: K. CHRISTIANA INSPECTOR: <table style="width:100%; border: none;"> <tr> <td style="border: none;">SHEET 2 OF 2</td> <td style="border: none;">HOLE NO. B-1</td> </tr> </table>	SHEET 2 OF 2	HOLE NO. B-1
SHEET 2 OF 2	HOLE NO. B-1		

Michael F. Plahovinsak, P.E.

18301 State Route 161, Plain City, Ohio 43064
(614) 398-6250 • mike@mfpeng.com

January 19, 2022

ARX Wireless

Re: Proposed 104-ft Monopole
Located in Hartford Co., CT: Site #CT0090 New Britain
MFP #23521-320 / TAPP #TP-20465

I understand that there may be some concern on the part of local building officials regarding the potential for failure of the proposed communication monopole. Communication structures are designed in accordance with the Telecommunications Industry Association ANSI/TIA-222-G, "Structural Standards for Steel Antenna Towers and Antenna Supporting Structures". This structure is to be fabricated by TransAmerican Power Products.

I have designed this monopole to support (4) wireless carriers and withstand a 3-second gust wind speed of 112 mph (V_{asd}) as recommended by ANSI/TIA-222-G for Hartford County. *The design also conforms to the requirements of the 2016 Connecticut Building Code for an equivalent ultimate wind speed of 145 mph (V_{ult}).*

The structure has been designed with all of the applicable factors as required by the code. A properly designed, constructed and maintained pole has never collapsed; monopoles are safe structures with a long history of reliable operation.

I hope this review of the monopole design has given you a greater degree of comfort regarding the design capacity inherent in pole structures. If you have any additional questions please call me at 614-398-6250 or email mike@mfpeng.com.

Sincerely,

Michael F. Plahovinsak, P.E.

