



WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN
MIDBAND ADDITION DRAWINGS
155' SELF-SUPPORT TOWER (COLO)

CONSULTANT:

624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
www.edgeconsult.com

CLIENT:

U.S. CELLULAR
8410 W. BRYN MAWR AVE.
SUITE 700
CHICAGO, IL 60631

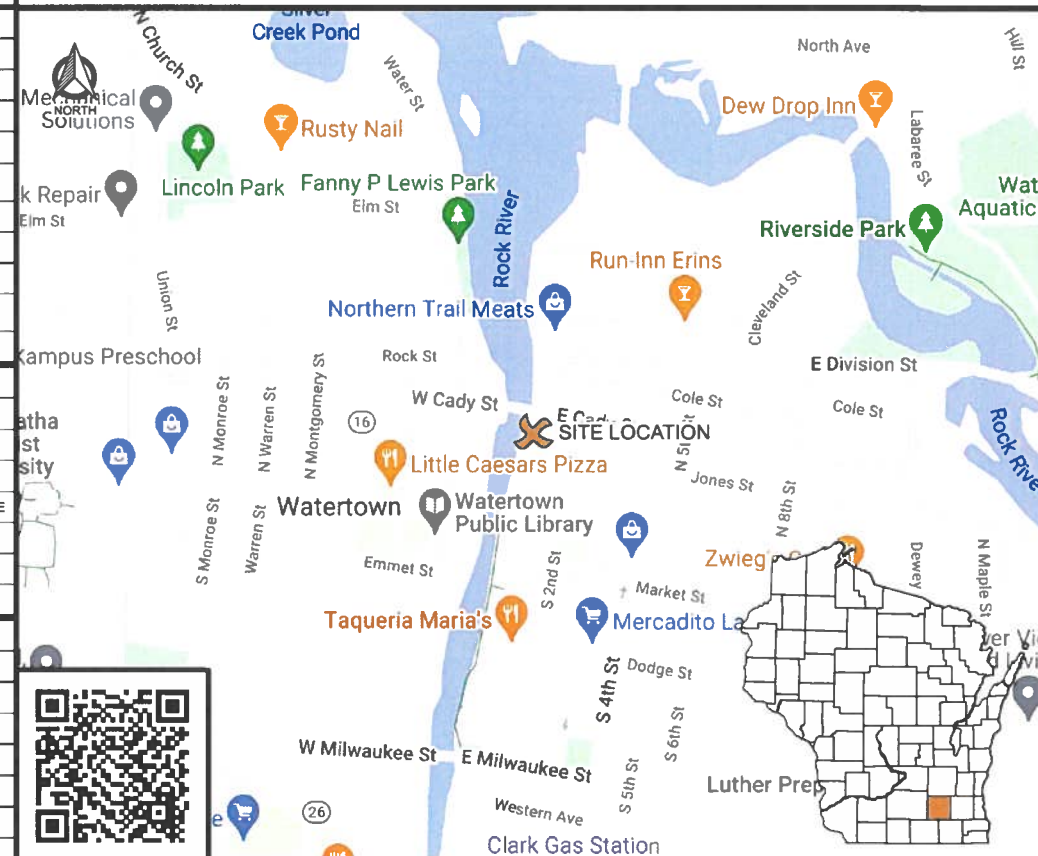
ENGINEER SEAL:

12.22.23

SCOPE OF WORK

TOWER SCOPE			
MIDBAND SCOPE (TO BE INSTALLED)			
ANTENNA(S)/EQUIP.	3	C-BAND + DoD ANTENNA INTEGRATED RADIO(S)	TO BE INSTALLED
MODERNIZATION SCOPE (REMAIN/RELOCATE)			
ANTENNA(S)/EQUIP.	3	RAYCAP SPD(S)	TO REMAIN
TRANSMISSION CABLE(S)	2	1-1/4" EUPEN HYBRID CABLE(S)	TO REMAIN
	1	1-1/4" EUPEN POWER CABLE(S)	TO REMAIN
CDMA & LAA SCOPE (DECOM)			
ANTENNA(S)/EQUIP.	3	CDMA ANTENNA(S) @ 148.5'	TO BE REMOVED
TRANSMISSION CABLE(S)	6	1-5/8" CDMA COAX	TO BE REMOVED
COAX JUMPERS:	-	EXISTING CDMA COAX JUMPERS	TO BE REMOVED
COMPOUND SCOPE			
GPS ANTENNA(S):	QTY.	EQUIPMENT	ACTION
	1	LTE GPS ANTENNA(S)	TO REMAIN
	1	CDMA GPS ANTENNA(S)	TO BE REMOVED
CABLE ROUTE:	-	MIDBAND GPS ANTENNA(S)	SHARED W/ EXISTING LTE
	-	ICE BRIDGE HANGERS	ADEQUATE - TO REMAIN
	-	SHELTER COAX PORT	ADEQUATE - TO REMAIN
GROUND BAR(S):	-	SHELTER EXTERIOR GROUND BAR*	ADEQUATE - TO REMAIN
SHELTER INTERIOR SCOPE			
MODERNIZATION SCOPE (REMAIN/RELOCATE)			
EQUIPMENT:	3	RAYCAP SPD(S)	TO REMAIN
GROUND BAR(S):	-	GROUND BAR AT COAX PORT*	TO REMAIN
MIDBAND SCOPE (TO BE INSTALLED)			
AUX RACK:	-	BASE BAND UNIT (BBU)	BY OTHERS
CDMA SCOPE (DECOM)			
EQUIPMENT RACK:	2	CDMA EQUIPMENT RACK(S)	TO BE REMOVED
* BRING UP TO U.S. CELLULAR STANDARDS AS NECESSARY			
SPECIAL REQUIREMENTS			
MOUNT MODIFICATIONS REQUIRED SEE MOUNT MOD DESIGN REPORT LISTED ON THIS PAGE			

SITE LOCATION MAP



DIRECTORY

CLIENT:
U.S. CELLULAR
8410 W. BRYN MAWR AVE., SUITE 700
CHICAGO, IL 60631
CONTACT: MICHELE ROTH

ENGINEERING COMPANY:
EDGE CONSULTING ENGINEERS, INC.
624 WATER STREET
PRAIRIE DU SAC, WI 53578
PROJECT MANAGER: ANDREW BRADLEY

SITE ACQUISITION:
SITE ACQUISITION SOLUTIONS
19730 BELLBROOK BLVD.
GRETNA, NE 68028
CONTACT: JENNI KELLIS

PROJECT INFO

SITE LOCATION:
106 JONES STREET
WATERTOWN, WI 53094
JEFFERSON COUNTY

SITE #: 786369
FCC #: 1220585

STRUCTURE OWNER:
CITY OF WATERTOWN
P.O. BOX 447
WATERTOWN, WI 53094

SITE COORDINATES:
LAT: 43.196086°
LONG: -88.723822°

SHEET INDEX

NO.:	SHEET TITLE
G-001	TITLE SHEET
C-101	SITE PLAN
C-102	ENLARGED SITE PLAN
A-101	SHELTER INTERIOR PLAN
A-501	BLOCK DIAGRAM
T-001	EQUIPMENT SPECIFICATIONS
T-201	SITE ELEVATION
T-301	EXISTING ANTENNA LAYOUT
T-302	PROPOSED ANTENNA LAYOUT
T-501	INSTALLATION DETAILS
T-502	CABLE DETAILS
T-503	CABLE BANDING DETAILS
V-501	CABLE ROUTING
P-501	PLUMBING DIAGRAM
E-501	GROUNDING DETAILS

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

TITLE SHEET
WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN

SUBMITTAL:		
INT.	DATE:	DESCRIPTION:
DJO	11/30/23	REV. A
SRC	12/22/23	REV. 0

CHECKED BY:	ABB
PLOT DATE:	12/22/2023
PROJECT NUMBER:	38050
SET TYPE:	FINAL

SHEET NUMBER
G-001

CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS/CONDITIONS ON SITE. IMMEDIATELY NOTIFY ENGINEER OF ANY DISCREPANCIES PRIOR TO PERFORMING ANY WORK OR BE RESPONSIBLE FOR THE SAME.



TO OBTAIN LOCATION OF PARTICIPANTS' UNDERGROUND FACILITIES BEFORE YOU DIG IN WISCONSIN, CALL DIGGERS HOTLINE

TOLL FREE: 1-800-242-8511
FAX A LOCATE: 1-800-242-5811

WI STATUTE 182.0175 (1974) REQUIRES MIN. OF 3 WORK DAYS NOTICE BEFORE YOU EXCAVATE

STRUCTURAL

INVENTORY REPORT:
EDGE CONSULTING ENGINEERS, INC.
REPORT #: 38050 DATED: 11/22/2023

TOWER ANALYSIS:
EDGE CONSULTING ENGINEERS, INC.
REPORT #: 38050 DATED: 12/21/2023
CONCLUSION: STRUCTURALLY ADEQUATE

MOUNT ANALYSIS (EXISTING):
EDGE CONSULTING ENGINEERS, INC.
REPORT #: 38050 DATED: 12/14/2023
CONCLUSION: NOT STRUCTURALLY ADEQUATE

MOUNT MOD DESIGN:
EDGE CONSULTING ENGINEERS, INC.
REPORT #: 38050 DATED: 12/21/2023
CONCLUSION: STRUCTURALLY ADEQUATE

CONTRACTOR TO REVIEW STRUCTURAL REPORT IN ITS ENTIRETY. ANY DISCREPANCIES OR DISAGREEMENTS BETWEEN THE REPORT AND THESE PLANS SHOULD BE RESOLVED PRIOR TO CONSTRUCTION.

APPLICABLE CODES

THESE SITE PLANS ADHERE TO ALL OF THE REQUIREMENTS CALLED OUT IN THE JURISDICTION, PLANNING, AND ZONING FOR ANTENNAS AND SUPPORT STRUCTURE WHERE SITE IS LOCATED.

ALL WORK SHALL COMPLY WITH THE FOLLOWING:

- 2015 INTERNATIONAL BUILDING CODE
- 2017 NATIONAL ELECTRIC CODE

IN THE EVENT OF CONFLICT THE MOST RESTRICTIVE CODE SHALL PREVAIL.



E. CADY ST.

C/L OF EXISTING
ACCESS DRIVE

EXISTING FENCED COMPOUND;
SEE C-102 FOR DETAILS

EXISTING SELF-SUPPORT TOWER;
SEE T-201 FOR DETAILS

JONES ST.

N. 2ND ST.

- NOTES:
1. AERIAL IMAGERY FROM GOOGLE EARTH.
 2. NORTH ARROW SHOWN AS APPROXIMATE.
 3. SITE PHOTOS PROVIDED BY EDGE CONSULTING ENGINEERS, INC.
 4. NO SURVEY AVAILABLE. SITE LAYOUT BASED ON FIELD MEASUREMENTS AND SITE PHOTOS.

CONSULTANT:

Edge
Consulting Engineers, Inc.
624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
www.edgeconsult.com

CLIENT:

uscellular
U.S. CELLULAR
8410 W. BRYN MAWR AVE.
SUITE 700
CHICAGO, IL 60631

ENGINEER SEAL:

APPROVED
- SEE C-101 FOR ENGINEER'S
STAMP AND SIGNATURE

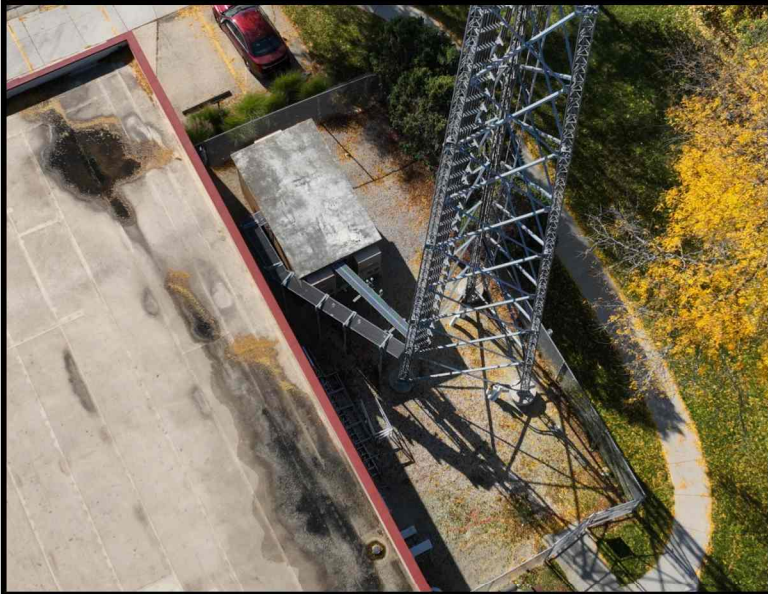
I HEREBY CERTIFY THAT THIS PLAN
SET WAS PREPARED BY ME OR
UNDER MY DIRECT SUPERVISION
OTHER THAN THE EXCEPTIONS
NOTED IN THE SHEET INDEX, AND
THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER
UNDER THE LAWS OF THE
STATE OF WISCONSIN.

SITE PLAN
WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN

SUBMITTAL:		
INT.	DATE:	DESCRIPTION:
DJO	11/30/23	REV. A
SRC	12/22/23	REV. 0
CHECKED BY:		ABB
PLOT DATE:		12/22/2023
PROJECT NUMBER:		38050
SET TYPE:		FINAL
SHEET NUMBER:		C-101



A COMPOUND OVERVIEW



B COMPOUND OVERVIEW



C ICE BRIDGE

LEGEND: (THIS SHEET)

— EXISTING
— TO BE REMOVED
— PROPOSED



- NOTES:
- NORTH ARROW SHOWN AS APPROXIMATE.
 - SITE PHOTOS PROVIDED BY EDGE CONSULTING ENGINEERS, INC. THE ENTIRE SITE SHALL BE RESTORED TO PRE-PROJECT CONDITION AT THE COMPLETION OF THE PROJECT.
 - NO SURVEY AVAILABLE. SITE LAYOUT BASED ON FIELD MEASUREMENTS, UAS-DRONE PHOTOGRAMMETRY, AND SITE PHOTOS.

CONSULTANT:

Edge
Consulting Engineers, Inc.
624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
www.edgeconsult.com

CLIENT:

uscellular
U.S. CELLULAR
8410 W. BRYN MAWR AVE.
SUITE 700
CHICAGO, IL 60631

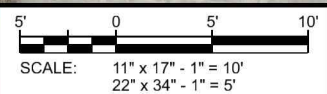
ENGINEER SEAL:

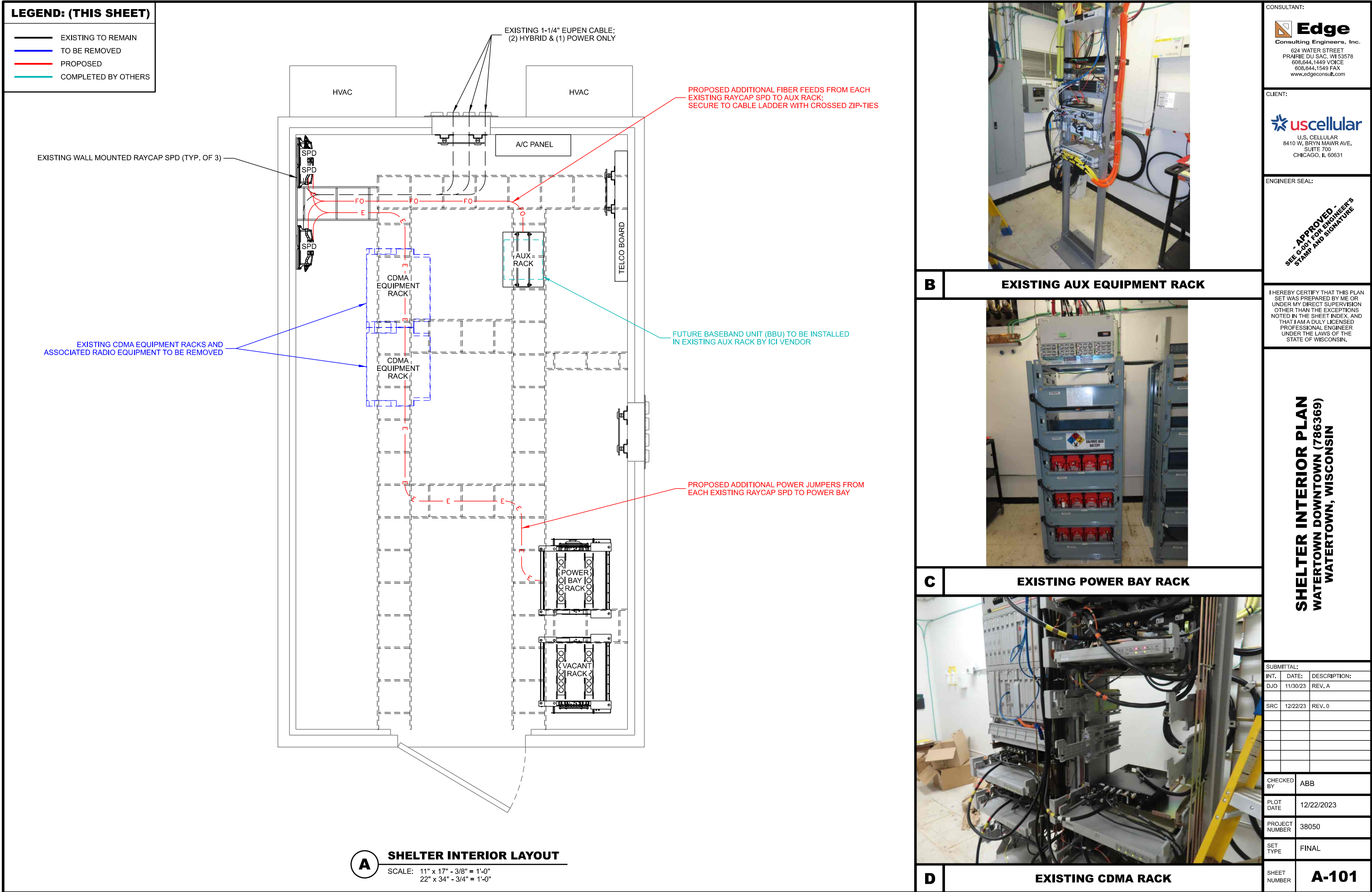
- APPROVED -
SEE C-101 FOR ENGINEER'S
STAMP AND SIGNATURE

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

ENLARGED SITE PLAN
WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN

SUBMITTAL:		
INT.	DATE:	DESCRIPTION:
DJO	11/30/23	REV. A
SRC	12/22/23	REV. 0
CHECKED BY	ABB	
PLOT DATE	12/22/2023	
PROJECT NUMBER	38050	
SET TYPE	FINAL	
SHEET NUMBER	C-102	





- — — PROPOSED FIBER JUMPER
- — — EXISTING FIBER JUMPER
- — — PROPOSED POWER JUMPER
- — — EXISTING POWER JUMPER



The three photographs show the internal wiring of a 12V battery-powered system, likely a vehicle alarm or security system. The components include a fuse block, a relay module, and a control unit with multiple relays and sensors. The wiring is organized and color-coded.

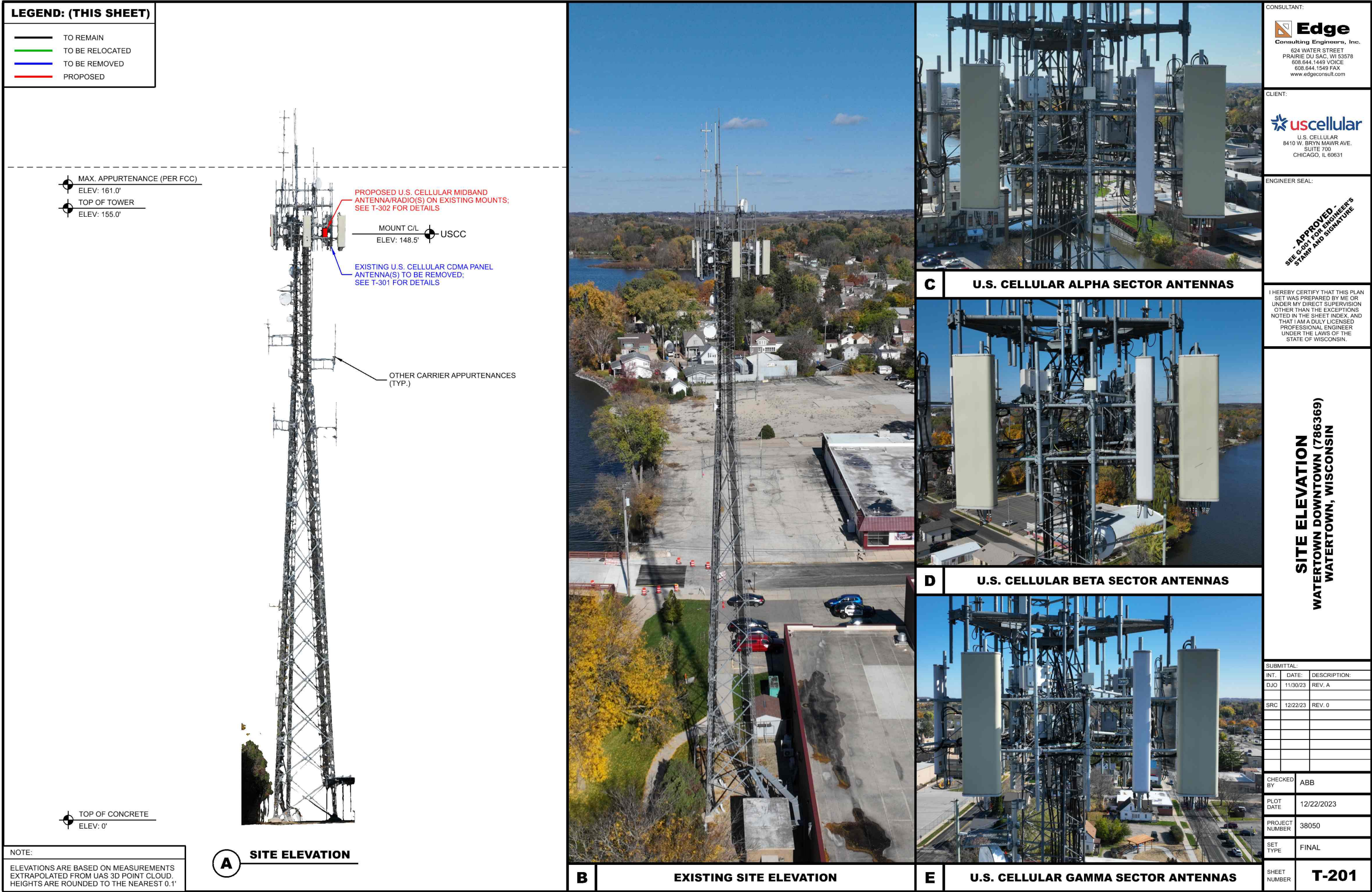
- Left Image:** Shows the fuse block and the relay module. The fuse block is labeled with various components like "BATT", "IGN", "ALARM", "HORN", "DOOR", "TRUNK", "ENGINE", "BELL", "HORN", "DOOR", "TRUNK", "ENGINE", "BELL". The relay module is labeled with "R1", "R2", "R3", "R4", "R5", "R6", "R7", "R8", "R9", "R10", "R11", "R12", "R13", "R14", "R15", "R16", "R17", "R18", "R19", "R20", "R21", "R22", "R23", "R24", "R25", "R26", "R27", "R28", "R29", "R30", "R31", "R32", "R33", "R34", "R35", "R36", "R37", "R38", "R39", "R40", "R41", "R42", "R43", "R44", "R45", "R46", "R47", "R48", "R49", "R50", "R51", "R52", "R53", "R54", "R55", "R56", "R57", "R58", "R59", "R60", "R61", "R62", "R63", "R64", "R65", "R66", "R67", "R68", "R69", "R70", "R71", "R72", "R73", "R74", "R75", "R76", "R77", "R78", "R79", "R80", "R81", "R82", "R83", "R84", "R85", "R86", "R87", "R88", "R89", "R90", "R91", "R92", "R93", "R94", "R95", "R96", "R97", "R98", "R99", "R100".
- Middle Image:** Shows the control unit with multiple relays and sensors. The relays are labeled with "R1", "R2", "R3", "R4", "R5", "R6", "R7", "R8", "R9", "R10", "R11", "R12", "R13", "R14", "R15", "R16", "R17", "R18", "R19", "R20", "R21", "R22", "R23", "R24", "R25", "R26", "R27", "R28", "R29", "R30", "R31", "R32", "R33", "R34", "R35", "R36", "R37", "R38", "R39", "R40", "R41", "R42", "R43", "R44", "R45", "R46", "R47", "R48", "R49", "R50", "R51", "R52", "R53", "R54", "R55", "R56", "R57", "R58", "R59", "R60", "R61", "R62", "R63", "R64", "R65", "R66", "R67", "R68", "R69", "R70", "R71", "R72", "R73", "R74", "R75", "R76", "R77", "R78", "R79", "R80", "R81", "R82", "R83", "R84", "R85", "R86", "R87", "R88", "R89", "R90", "R91", "R92", "R93", "R94", "R95", "R96", "R97", "R98", "R99", "R100".
- Right Image:** Shows the control unit with multiple relays and sensors. The relays are labeled with "R1", "R2", "R3", "R4", "R5", "R6", "R7", "R8", "R9", "R10", "R11", "R12", "R13", "R14", "R15", "R16", "R17", "R18", "R19", "R20", "R21", "R22", "R23", "R24", "R25", "R26", "R27", "R28", "R29", "R30", "R31", "R32", "R33", "R34", "R35", "R36", "R37", "R38", "R39", "R40", "R41", "R42", "R43", "R44", "R45", "R46", "R47", "R48", "R49", "R50", "R51", "R52", "R53", "R54", "R55", "R56", "R57", "R58", "R59", "R60", "R61", "R62", "R63", "R64", "R65", "R66", "R67", "R68", "R69", "R70", "R71", "R72", "R73", "R74", "R75", "R76", "R77", "R78", "R79", "R80", "R81", "R82", "R83", "R84", "R85", "R86", "R87", "R88", "R89", "R90", "R91", "R92", "R93", "R94", "R95", "R96", "R97", "R98", "R99", "R100".

D EXISTING SURGE PROTECTION DEVICE (SPD)

BLOCK DIAGRAM
WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN

SHEET
NUMBER

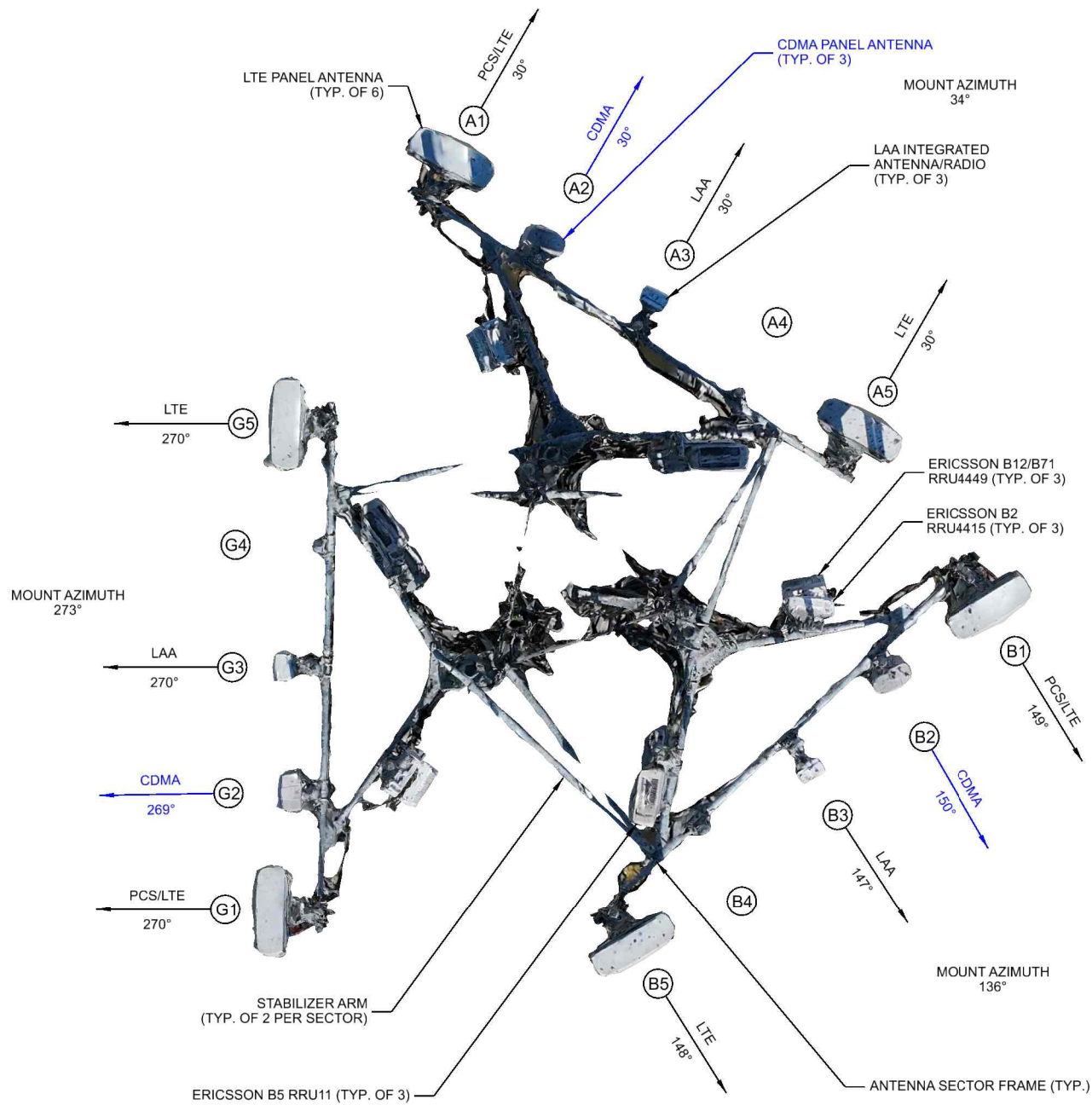
A-501





LEGEND: (THIS SHEET)

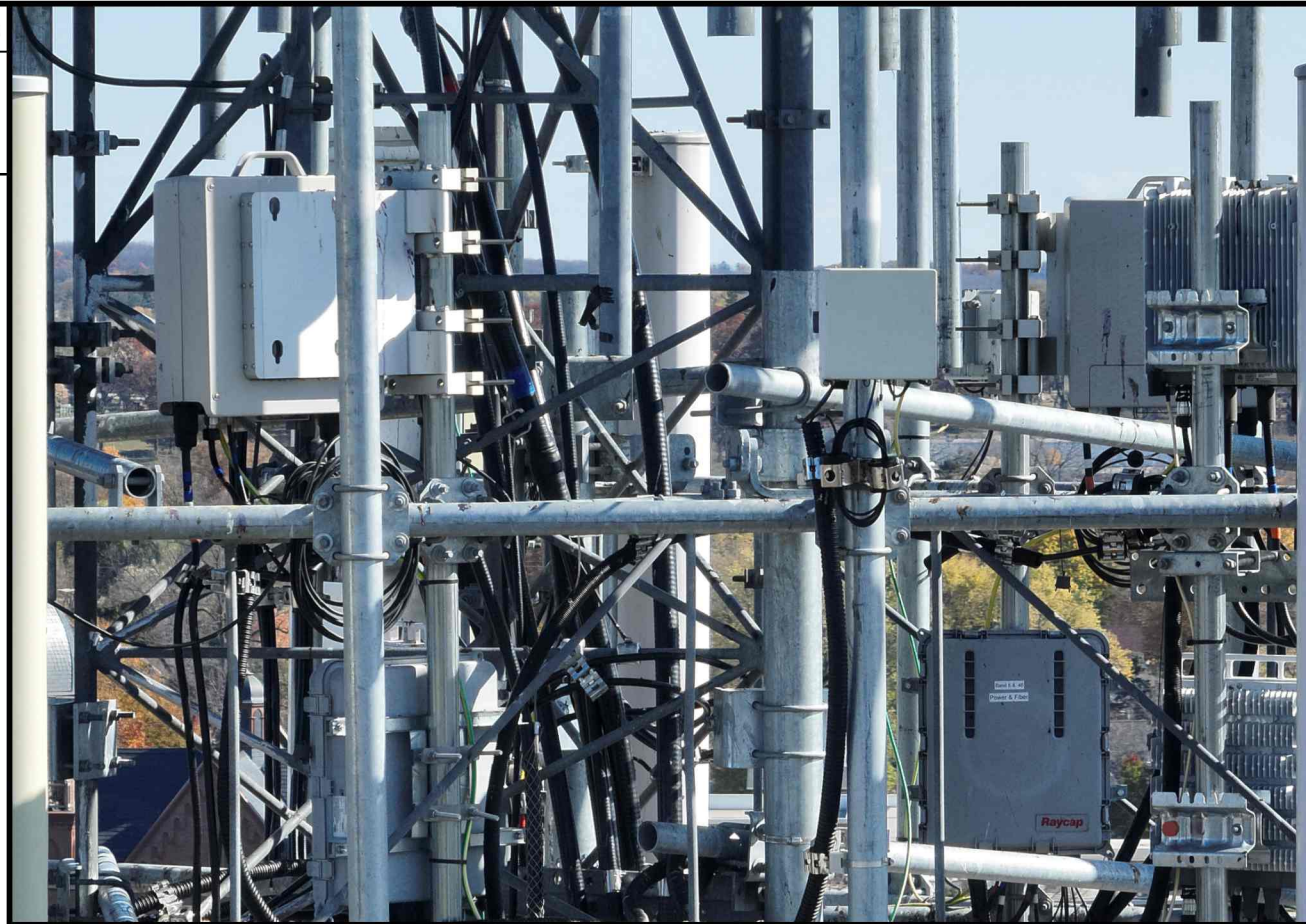
- TO REMAIN
- TO BE RELOCATED
- TO BE REMOVED



NOTES:

- ALL ANTENNA AZIMUTHS TO BE FROM TRUE NORTH.
- ANTENNA AZIMUTHS WERE OBTAINED ON-SITE WITH THE USE OF UNMANNED AIRCRAFT SYSTEMS (UAS) "DRONE", AND ROUNDED TO THE NEAREST DEGREE.

A EXISTING ANTENNA LAYOUT



B EXISTING ANCILLARY EQUIPMENT OVERVIEW

	Antenna Position	Technology	Antenna Model	Antenna Quantity	RAD Center	Azimuth	Surge Protector Qty.	B12/B71 Radio	Radio Qty.	B2/B66 Radio	Radio Qty.	B5 Radio	Radio Qty.	MidBand Radio	Radio Qty.	Cable Type	Cable Qty.
ALPHA	A1	PCS/LTE	Amphenol TWIN658LU000G-T	1	148.5'	30°	1	RRU4449	1	RRU4415	1	-	-	-	-	1-1/4" Hybrid	1
	A2	CDMA	KMW AM-X-CW-18-65-00T-RET	1	148.5'	30°	-	-	-	-	-	-	-	-	-	1-5/8" Coax	2
	A3	LAA	Integrated Antenna/Radio	-	151.5'	30°	Shared	-	-	-	-	-	-	RRU2205	1	Shared	-
	A4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	A5	LTE	Amphenol TWIN658LU000G-T	1	148.5'	30°	Shared	-	-	-	-	RRU11	1	-	-	Shared	-
BETA	B1	PCS/LTE	Amphenol TWIN658LU000G-T	1	148.5'	149°	1	RRU4449	1	RRU4415	1	-	-	-	-	1-1/4" Power	1
	B2	CDMA	KMW AM-X-CW-18-65-00T-RET	1	148.5'	150°	-	-	-	-	-	-	-	-	-	1-5/8" Coax	2
	B3	LAA	Integrated Antenna/Radio	-	151.5'	147°	Shared	-	-	-	-	-	-	RRU2205	1	Shared	-
	B4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B5	LTE	Amphenol TWIN658LU000G-T	1	148.5'	148°	Shared	-	-	-	-	RRU11	1	-	-	Shared	-
GAMMA	G1	PCS/LTE	Amphenol TWIN658LU000G-T	1	148.5'	270°	Shared	RRU4449	1	RRU4415	1	-	-	-	-	Shared	-
	G2	CDMA	KMW AM-X-CW-18-65-00T-RET	1	148.5'	269°	-	-	-	-	-	-	-	-	-	1-5/8" Coax	2
	G3	LAA	Integrated Antenna/Radio	-	151.5'	270°	Shared	-	-	-	-	-	-	RRU2205	1	Shared	-
	G4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G5	LTE	Amphenol TWIN658LU000G-T	1	148.5'	270°	1	-	-	-	-	RRU11	1	-	-	1-1/4" Hybrid	1
Total:				9			3		3		3		3		3		9

Black Text = Remain Green Text = Relocate Blue Text = Remove

C EXISTING ANTENNA & EQUIPMENT LOADING

CONSULTANT:

Edge
Consulting Engineers, Inc.
624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
www.edgeconsult.com

CLIENT:

uscellular
U.S. CELLULAR
8410 W. BRYN MAWR AVE.
SUITE 700
CHICAGO, IL 60631

ENGINEER SEAL:

- APPROVED -
SEE G-001 FOR ENGINEER'S
STAMP AND SIGNATURE

I HEREBY CERTIFY THAT THIS PLAN
SET WAS PREPARED BY ME OR
UNDER MY DIRECT SUPERVISION
OTHER THAN THE EXCEPTIONS
NOTED IN THE SHEET INDEX, AND
THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER
UNDER THE LAWS OF THE
STATE OF WISCONSIN.

EXISTING ANTENNA LAYOUT
WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
DJO	11/30/23	REV. A
SRC	12/22/23	REV. 0

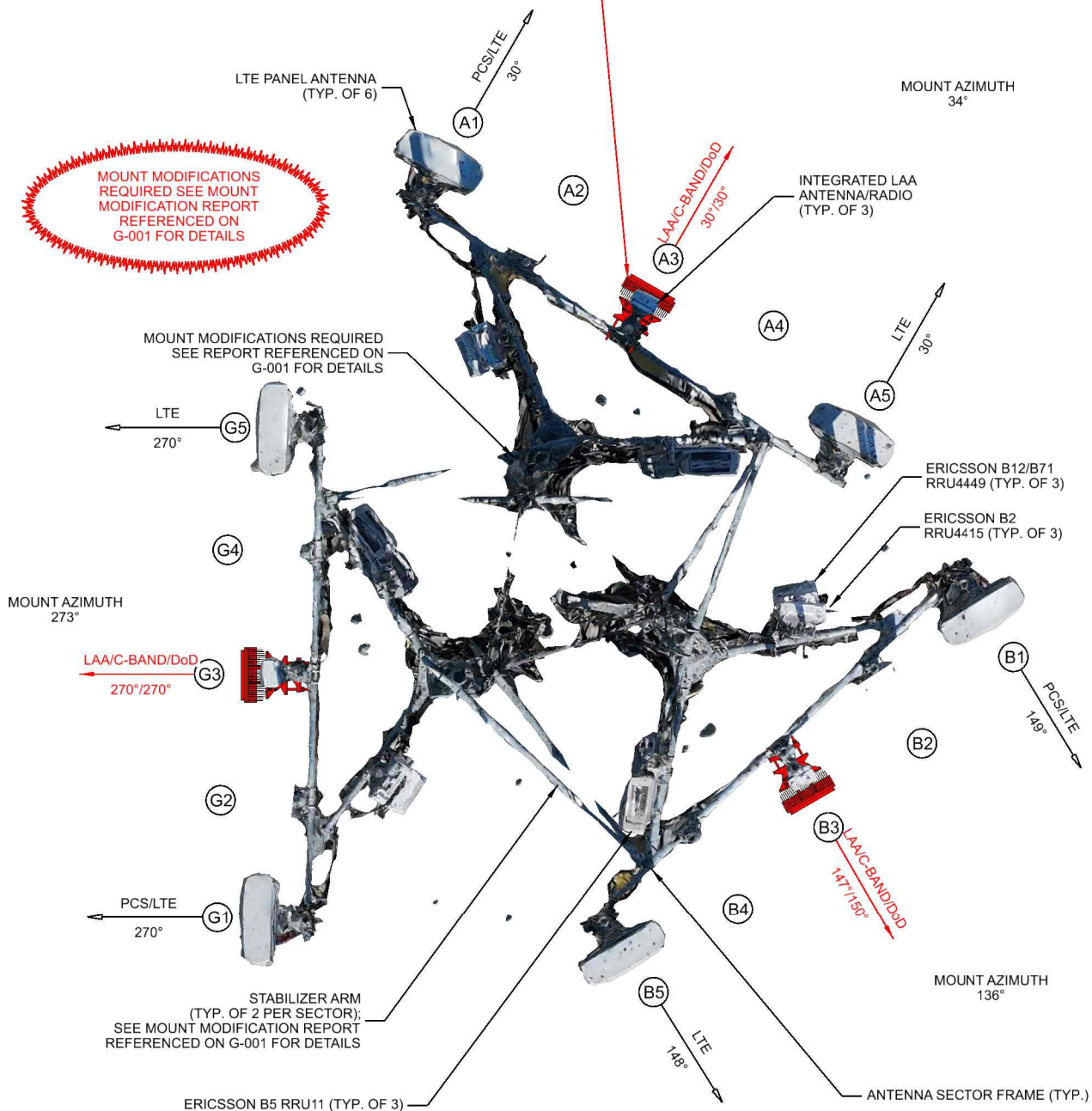
CHECKED BY:	ABB
PLOT DATE:	12/22/2023
PROJECT NUMBER:	38050
SET TYPE:	FINAL
SHEET NUMBER:	T-301



(1) MIDBAND ANTENNA/RADIO ON 2-1/2" SCH. 40 (2-7/8" O.D.)
MAST PIPE (TYP. OF EACH SECTOR);
CONTRACTOR TO VERIFY EXISTING MAST PIPE DIA.;
NEW 2-1/2" SCH. 40 (2-7/8" O.D.) x 10' LONG GALV. MAST PIPE
AND MOUNTING HARDWARE REQUIRED IF EXISTING MAST
PIPE IS LESS THAN 2-7/8" O.D.;
SEE T-001 FOR DETAILS

LEGEND: (THIS SHEET)

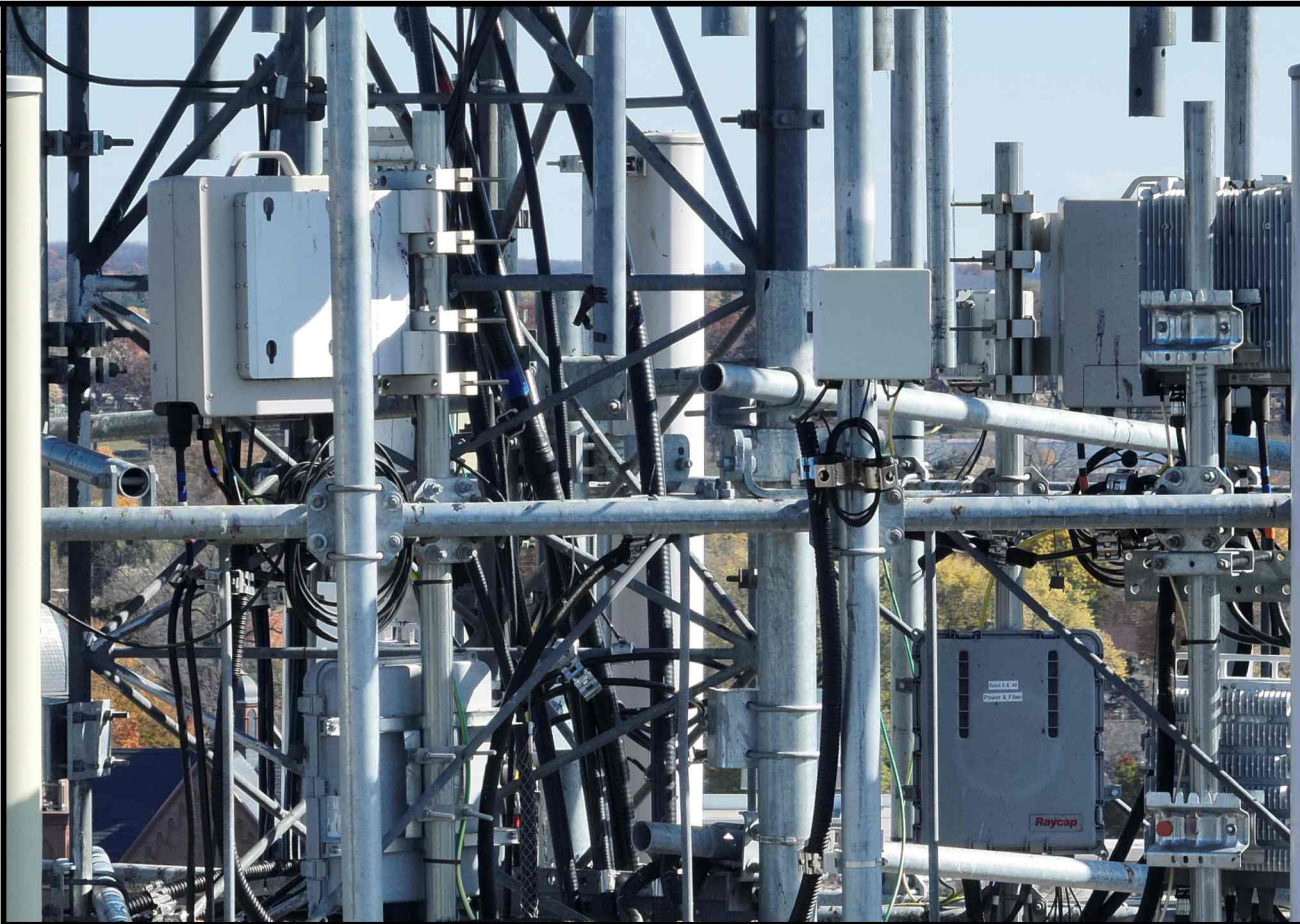
— EXISTING
— PROPOSED



NOTES:

1. ALL ANTENNA AZIMUTHS TO BE FROM TRUE NORTH.
2. ANTENNA AZIMUTHS WERE OBTAINED ON-SITE WITH THE USE OF UNMANNED AIRCRAFT SYSTEMS (UAS) "DRONE", AND ROUNDED TO THE NEAREST DEGREE.

PROPOSED ANTENNA LAYOUT



EXISTING ANCILLARY EQUIPMENT OVERVIEW

	Antenna Position	Technology	Antenna Model	Antenna Quantity	RAD Center	Azimuth	Surge Protector Qty.	B12/B71 Radio	Radio Qty.	B2/B66 Radio	Radio Qty.	B5 Radio	Radio Qty.	MidBand Radio	Radio Qty.	Cable Type	Cable Qty.
ALPHA	A1	PCS/LTE	Amphenol TWIN658LU000G-T	1	148.5'	30°	1	RRU4449	1	RRU4415	1	-	-	-	-	1-1/4" Hybrid	1
	A2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	A3	LAA	Integrated Antenna/Radio	-	151.5'	30°	Shared	-	-	-	-	-	-	RRU2205	1	Shared	-
	A4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	A5	LTE	Amphenol TWIN658LU000G-T	1	148.5'	30°	Shared	-	-	-	RRU11	1	-	-	-	Shared	-
BETA	B1	PCS/LTE	Amphenol TWIN658LU000G-T	1	148.5'	149°	1	RRU4449	1	RRU4415	1	-	-	-	-	1-1/4" Power	1
	B2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B3	LAA	Integrated Antenna/Radio	-	151.5'	147°	Shared	-	-	-	-	-	-	RRU2205	1	Shared	-
	B4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	B5	LTE	Amphenol TWIN658LU000G-T	1	148.5'	148°	Shared	-	-	-	RRU11	1	-	-	-	Shared	-
GAMMA	G1	PCS/LTE	Amphenol TWIN658LU000G-T	1	148.5'	270°	Shared	RRU4449	1	RRU4415	1	-	-	-	-	Shared	-
	G2	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G3	LAA	Integrated Antenna/Radio	-	151.5'	270°	Shared	-	-	-	-	-	-	RRU2205	1	Shared	-
	G4	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
	G5	LTE	Amphenol TWIN658LU000G-T	1	148.5'	270°	1	-	-	-	RRU11	1	-	-	-	1-1/4" Hybrid	1
Total:				6			3		3		3		3		6		3

Black Text = Existing Green Text = Relocated Red Text = Proposed

PROPOSED ANTENNA & EQUIPMENT LOADING

CONSULTANT:

Edge
Consulting Engineers, Inc.
624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
www.edgeconsult.com

CLIENT:

uscellular
U.S. CELLULAR
8410 W. BRYN MAWR AVE.
SUITE 700
CHICAGO, IL 60631

ENGINEER SEAL:

- APPROVED -
SEE G-001 FOR ENGINEER'S
STAMP AND SIGNATURE

I HEREBY CERTIFY THAT THIS PLAN
SET WAS PREPARED BY ME OR
UNDER MY DIRECT SUPERVISION
OTHER THAN THE EXCEPTIONS
NOTED IN THE SHEET INDEX, AND
THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER
UNDER THE LAWS OF THE
STATE OF WISCONSIN.

PROPOSED ANTENNA LAYOUT
WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
DJO	11/30/23	REV. A

SRC	DATE:	REV.
	12/22/23	REV. 0

CHECKED BY:	ABB
-------------	-----

PLOT DATE:	12/22/2023
------------	------------

PROJECT NUMBER:	38050
-----------------	-------

SET TYPE:	FINAL
-----------	-------

SHEET NUMBER:	T-302
---------------	--------------

LEGEND: (THIS SHEET)

TO REMAIN

TO BE RELOCATED

TO BE REMOVED

PROPOSED

PROPOSED DoD/C-BAND INTEGRATED ANTENNA/RADIO (TYP. OF 3)

MOUNT MODIFICATIONS REQUIRED SEE MOUNT MODIFICATION REPORT REFERENCED ON G-001 FOR DETAILS

EXISTING CDMA PANEL ANTENNA TO BE REMOVED (TYP. OF 3)

MANUFACTURER: SABRE
MODEL: VARIES (SEE TABLE TO RIGHT)

USED TO ATTACH ROUND MEMBERS PERPENDICULAR TO OTHER ROUND MEMBERS.

EACH KIT INCLUDES ONE (1) PLATE AND FOUR (4) U-BOLT ASSEMBLIES.

ASSEMBLY HARDWARE INCLUDED

MOUNTING PIPES SOLD SEPARATELY

SUPPLIED BY GENERAL CONTRACTOR

PART #	PIPE SIZE	PIPE SIZE	HARDWARE
C10902021	1.9" O.D.	2-3/8" O.D.	1/2"
C10902011DP	2-3/8" O.D.	2-3/8" O.D.	1/2"
C10902001DP	2-3/8" O.D.	2-3/8" O.D.	5/8"
C10902012DP	2-3/8" O.D.	2-7/8" O.D.	1/2"
C10902002DP	2-3/8" O.D.	2-7/8" O.D.	5/8"
C10902013DP	2-3/8" O.D.	3-1/2" O.D.	1/2"
C10902003DP	2-3/8" O.D.	1/2" O.D.	5/8"
C10902004DP	2-3/8" O.D.	1/2" O.D.	5/8"
C10902331DP	2" O.D.	2-3/8" O.D.	5/8"

MAST PIPE (TYP.)
(ORDERED SEPARATELY)

EXISTING - DETAIL INCLUDED FOR CONVENIENCE ONLY

CROSSOVER PLATE KIT

NOTE:
1. CONTRACTOR TO VERIFY PIPE SIZE AND SUITABILITY OF PROPOSED MOUNT FOR SITUATION. IF AN ALTERNATIVE SOLUTION IS PROPOSED, NOTIFY ENGINEER AND OWNER PRIOR TO PROCEEDING.

B CROSSOVER PLATE

THIS SPACE INTENTIONALLY LEFT BLANK

CONSULTANT:
Edge Consulting Engineers, Inc.
624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
www.edgeconsult.com

CLIENT:
uscellular
U.S. CELLULAR
8410 W. BRYN MAWR AVE.
SUITE 700
CHICAGO, IL 60631

ENGINEER SEAL:
- APPROVED -
SEE G-001 FOR ENGINEER'S STAMP AND SIGNATURE

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

INSTALLATION DETAILS
WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN

SUBMITTAL:
INT. DATE DESCRIPTION:
DJO 11/30/23 REV. A
SRC 12/22/23 REV. 0

CHECKED BY: ABB
PLOT DATE: 12/22/2023
PROJECT NUMBER: 38050
SET TYPE: FINAL
SHEET NUMBER: T-501

A

PROPOSED INSTALLATION

O:\38050\38050\Design\CAD\CD\PlatT-501.dgn

© EDGE CONSULTING ENGINEERS, INC.

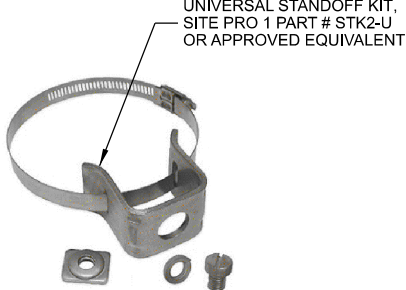
EUPEN CABLE LENGTH	
EXISTING HYBRID CABLE QUANTITY	2
EXISTING POWER CABLE QUANTITY	1
EXISTING HYBRID CABLES TO REMAIN; NO NEW HYBRIDS REQUIRED	

E// DoD + C-Band JUMPER CABLE INFO (64T)			
FIBER JUMPER: RAYCAP SPD TO ANTENNA/RADIO			
	QUANTITY	LENGTH	
ALPHA	2	32.8 FT	10 m
BETA	2	32.8 FT	10 m
GAMMA	2	32.8 FT	10 m
ALL SECTORS MUST HAVE SAME JUMPER LENGTH			
POWER JUMPER: RAYCAP SPD TO ANTENNA/RADIO			
	QUANTITY	WIRE SIZE	
ALPHA	1	8 AWG	
BETA	1	8 AWG	
GAMMA	1	8 AWG	

A MIDBAND CABLE LENGTHS

THIS SPACE INTENTIONALLY LEFT BLANK

B DETAIL NOT APPLICABLE



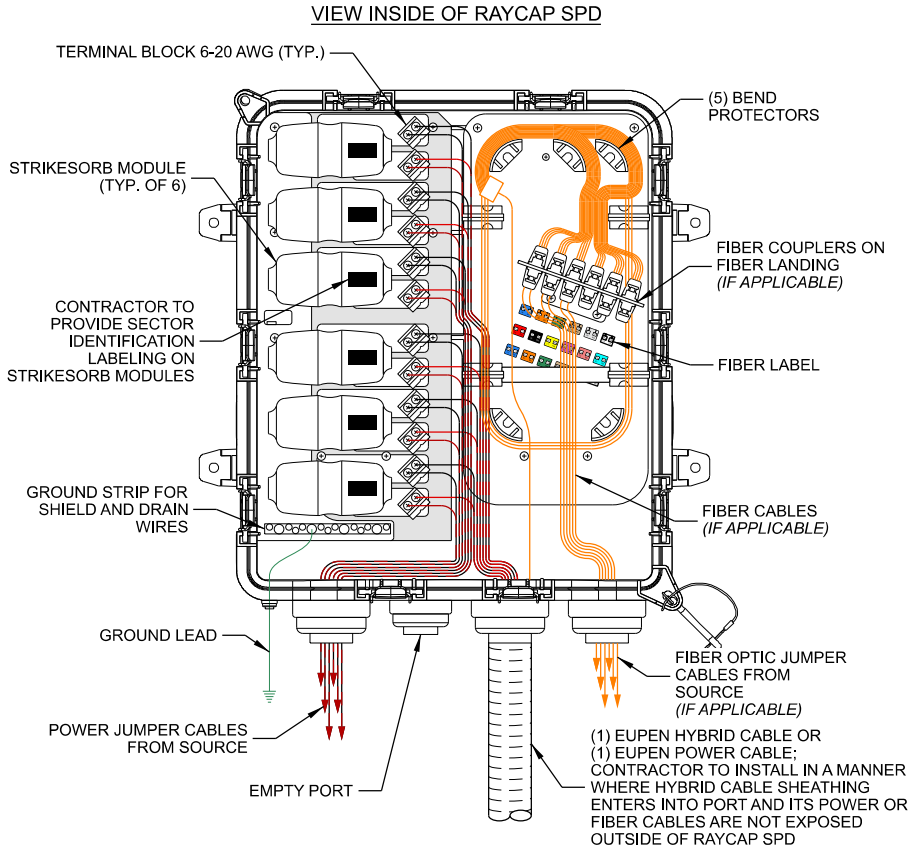
MANUFACTURER: SITE PRO 1
MODEL: STK2-U
UNIVERSAL TOWER STANDOFF KIT
FITS 1-1/2" DIA. TO 3" DIA. ROUND MEMBERS
MODEL: 78SS-A
7/8" STACKABLE SNAP-IN HANGER
MODEL: BCU78X
UNIVERSAL BARREL CUSHION
ACCEPTS 0.16" TO 0.55" O.D. CABLES
7/8" MATING HANGER

7/8" STACKABLE SNAP-IN HANGER,
SITE PRO 1 PART # 78SS-A OR
APPROVED EQUIVALENT

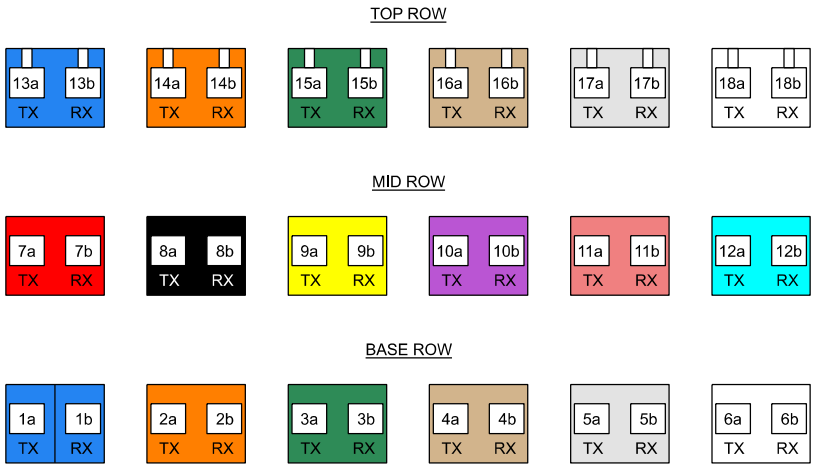
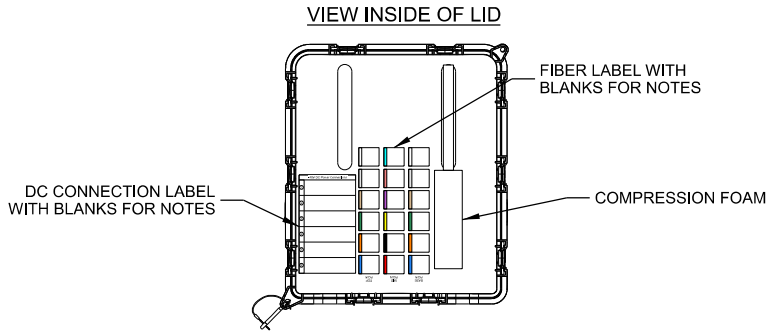


UNIVERSAL BARREL CUSHIONS,
SITEPRO1 PART # BCU78X;
ACCEPTS 0.16" TO 0.55" O.D. CABLES;
MATING HANGER SIZE 7/8"

C JUMPER ATTACHMENT



D RAYCAP SURGE PROTECTOR DEVICE (SPD) CABLING



E FIBER LABEL

THIS SPACE INTENTIONALLY LEFT BLANK

CONSULTANT:

Edge
Consulting Engineers, Inc.
624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
www.edgeconsult.com

CLIENT:

uscellular
U.S. CELLULAR
8410 W. BRYN MAWR AVE.
SUITE 700
CHICAGO, IL 60631

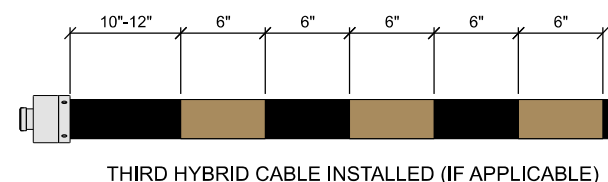
ENGINEER SEAL:

- APPROVED -
SEE G-001 FOR ENGINEER'S
STAMP AND SIGNATURE

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

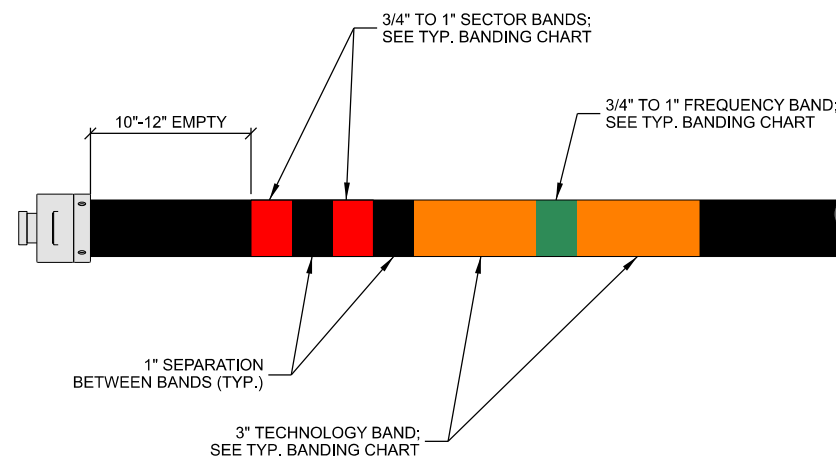
CABLE DETAILS
WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN

SUBMITTAL:		
INT.	DATE:	DESCRIPTION:
DJO	11/30/23	REV. A
SRC	12/22/23	REV. 0
CHECKED BY:		ABB
PLOT DATE:		12/22/2023
PROJECT NUMBER:		38050
SET TYPE:		FINAL
SHEET NUMBER:		T-502

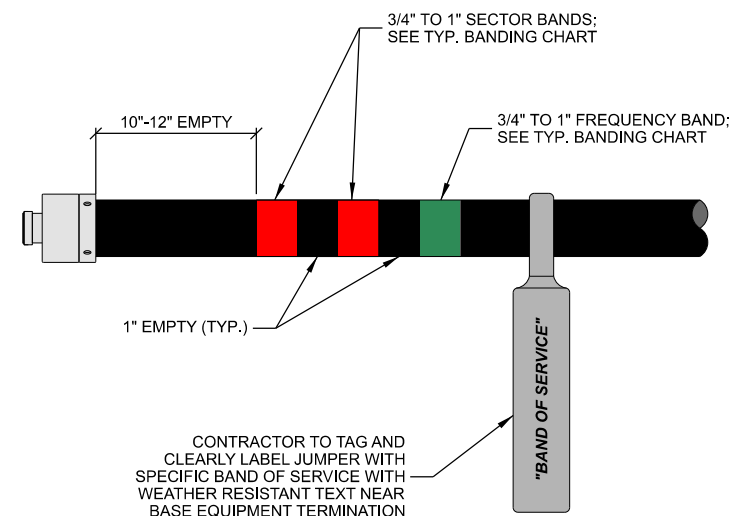


- | | |
|--------|---|
| NOTES: | |
| 1. | AT THE TOP OF THE TOWER/BUILDING/WATER TOWER AND AT THE ENTRY POINT OF THE GROUND LEVEL JUNCTION BOX, HYBRID CABLES MUST BE BANDED IN ACCORDANCE TO THE ILLUSTRATION ABOVE. |
| 2. | REFER TO LATEST EDITION OF U.S. CELLULAR STANDARD: SD72 TO VERIFY CURRENT COLOR CODING |

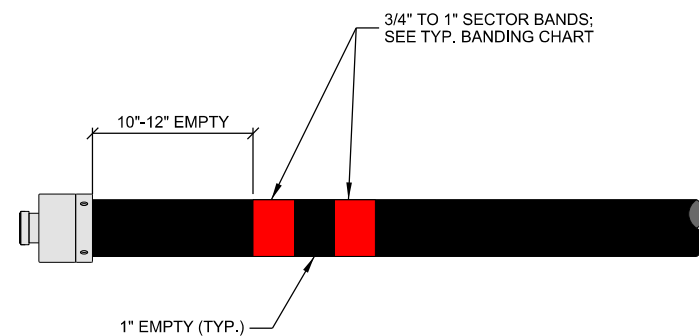
A TYP. HYBRID COLOR CODE



TYP. COAX JUMPER BANDING



TYP. POWER & FIBER JUMPER BANDING



TYP. RET CABLE BANDING

RET SECTOR BAND			
SECTOR	ASSIGNED COLOR	LINE 1	LINE 2
ALPHA	RED	(1) RED BAND	(2) RED BANDS
BETA	WHITE	(1) WHITE BAND	(2) WHITE BANDS
GAMMA	BLUE	(1) BLUE BAND	(2) BLUE BANDS

SECTOR BAND (MOST COMMON CASE: SINGLE TECHNOLOGY WITHIN THE SECTOR)					
SECTOR	ASSIGNED COLOR	LINE 1	LINE 2	LINE 3	LINE 4
ALPHA	RED	(1) RED BAND	(2) RED BANDS	(3) RED BANDS	(4) RED BANDS
BETA	WHITE	(1) WHITE BAND	(2) WHITE BANDS	(3) WHITE BANDS	(4) WHITE BANDS
GAMMA	BLUE	(1) BLUE BAND	(2) BLUE BANDS	(3) BLUE BANDS	(4) BLUE BANDS
DELTA (IF APPLICABLE)	GREEN	(1) GREEN BAND	(2) GREEN BANDS	(3) GREEN BANDS	(4) GREEN BANDS
EPSILON (IF APPLICABLE)	VIOLET	(1) VIOLET BAND	(2) VIOLET BANDS	(3) VIOLET BANDS	(4) VIOLET BANDS
ZETA (IF APPLICABLE)	BROWN	(1) BROWN BAND	(2) BROWN BANDS	(3) BROWN BANDS	(4) BROWN BANDS

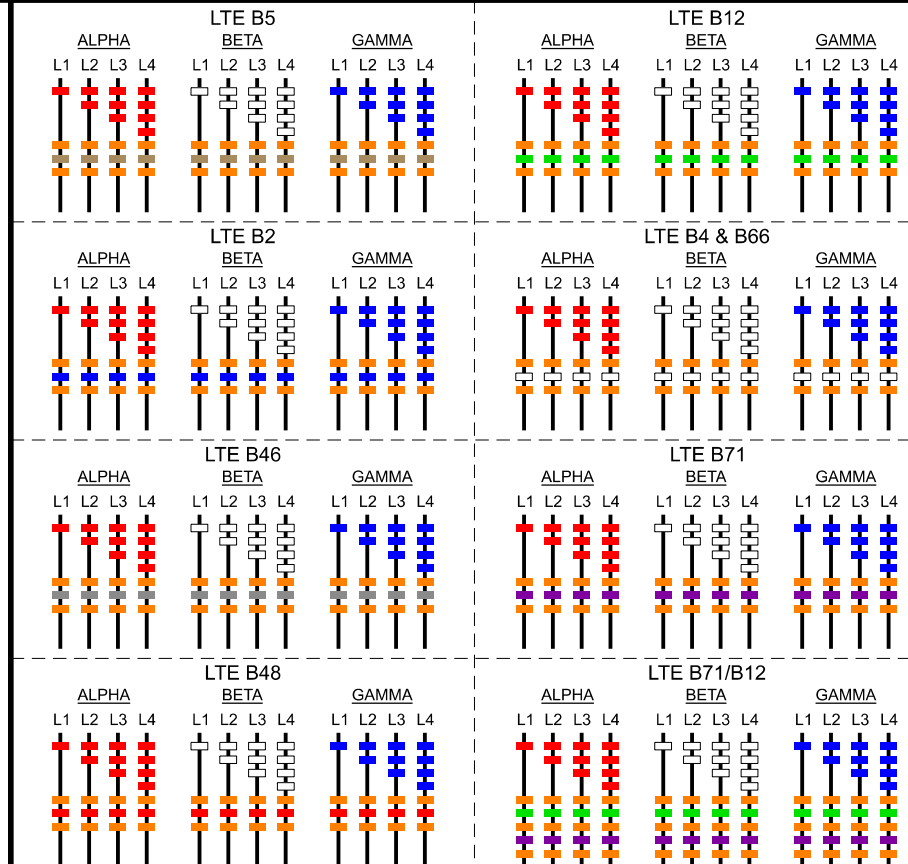
SECTOR BAND (EXCEPTION CASE: ALPHA SECTOR CDMA ON 1 & 4, LTE ON 2 & 3)					
SECTOR	ASSIGNED COLOR	LINE 1 (CDMA)	LINE 2 (LTE)	LINE 3 (LTE)	LINE 4 (CDMA)
ALPHA	RED	(1) RED BAND	(1) RED BAND	(2) RED BANDS	(2) RED BANDS

TECHNOLOGY BAND	
TECHNOLOGY	BANDING
CDMA	YELLOW
GSM	VIOLET
LTE	ORANGE

FREQUENCY BAND		
FREQUENCY	BAND	BANDING
600 (LTE)	B71	VIOLET
700 (LTE)	B12	GREEN
800/850 (LTE)	B5	BROWN
1900 (PCS)	B2	BLUE
2100 (AWS)	B4 & B66	WHITE
3500 (CBRS)	B48	RED
5100 (LAA)	B46	GREY

- | | |
|-------|---|
| NOTE: | |
| 1. | REFER TO LATEST EDITION OF U.S. CELLULAR STANDARD: STD72 TO VERIFY CURRENT COLOR CODING |

F TYP. BANDING CHART



F TYP. COAX COLOR CODE STANDARD

CONSULTANT:



CLIENT:



ENGINEER SEAL:

- APPROVED -
SEE G-001 FOR ENGINEER'S
STAMP AND SIGNATURE

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

CABLE BANDING DETAILS
WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN

SUBMITTAL •

INT.	DATE:	DESCRIPTION
DJO	11/30/23	REV. A
SRC	12/22/23	REV. 0

SRC	12/22/23	REV.0
-----	----------	-------

CHECKED	APP
---------	-----

BY	ADD
----	-----

PLOT	12/22/2023
------	------------

DATE	12/22/2023
------	------------

PROJECT	28050
---------	-------

NUMBER	38050
--------	-------

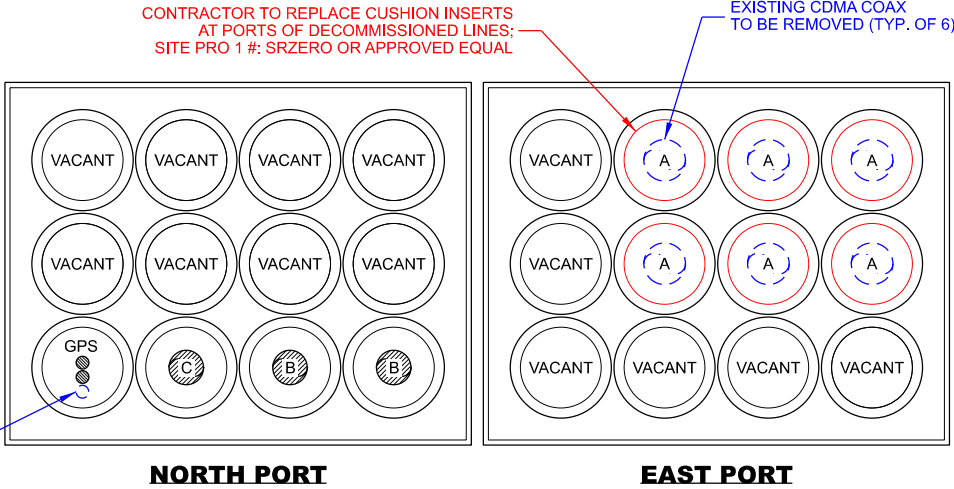
SET	FINAL
-----	-------

SET TYPE	FINAL
1	1
2	2
3	3
4	4
5	5
6	6
7	7
8	8
9	9
10	10
11	11
12	12
13	13
14	14
15	15
16	16
17	17
18	18
19	19
20	20
21	21
22	22
23	23
24	24
25	25
26	26
27	27
28	28
29	29
30	30
31	31
32	32
33	33
34	34
35	35
36	36
37	37
38	38
39	39
40	40
41	41
42	42
43	43
44	44
45	45
46	46
47	47
48	48
49	49
50	50
51	51
52	52
53	53
54	54
55	55
56	56
57	57
58	58
59	59
60	60
61	61
62	62
63	63
64	64
65	65
66	66
67	67
68	68
69	69
70	70
71	71
72	72
73	73
74	74
75	75
76	76
77	77
78	78
79	79
80	80
81	81
82	82
83	83
84	84
85	85
86	86
87	87
88	88
89	89
90	90
91	91
92	92
93	93
94	94
95	95
96	96
97	97
98	98
99	99
100	100

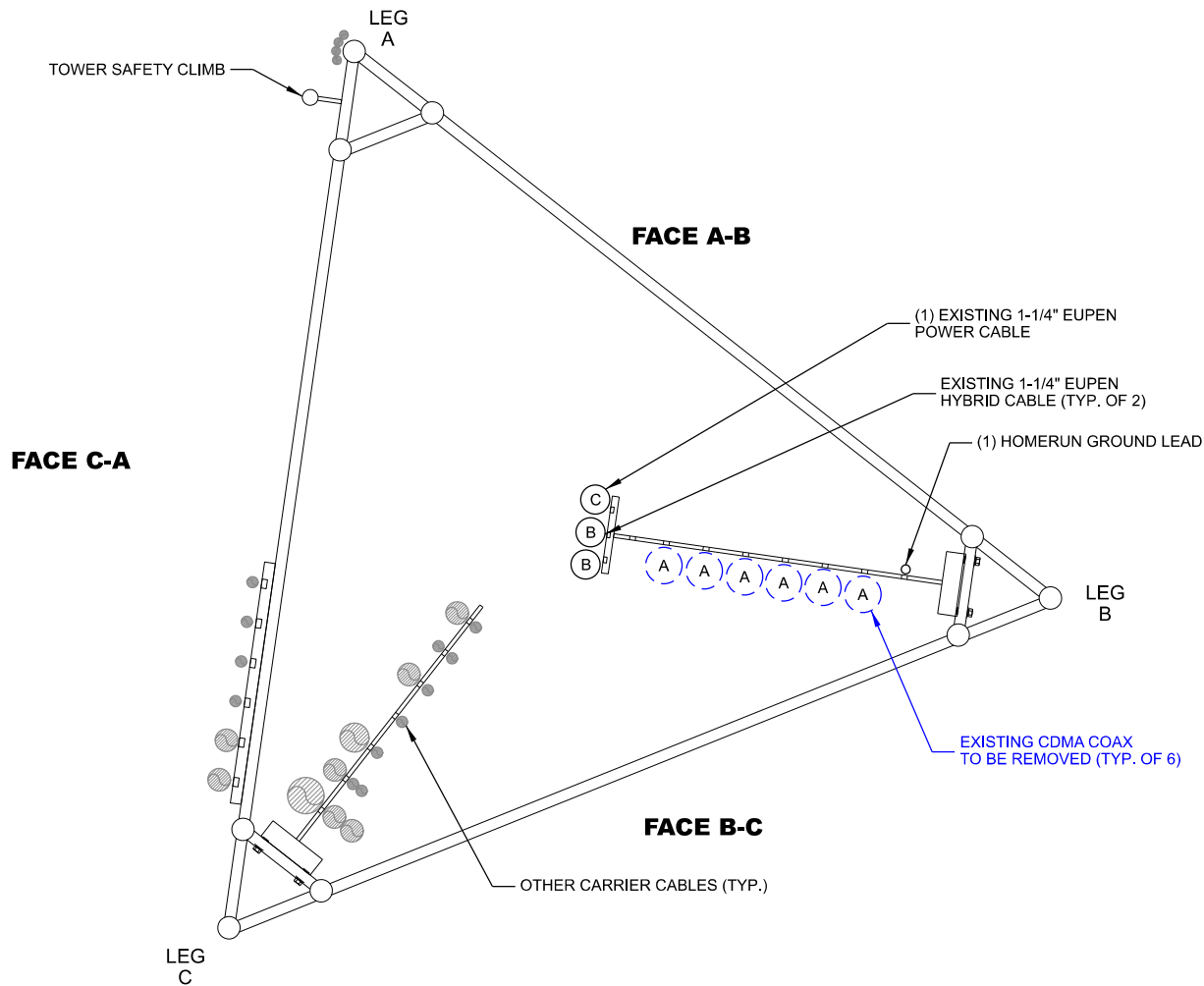
SHEET T-501

LEGEND: (THIS SHEET)

— EXISTING TO REMAIN
— TO BE REMOVED
— PROPOSED

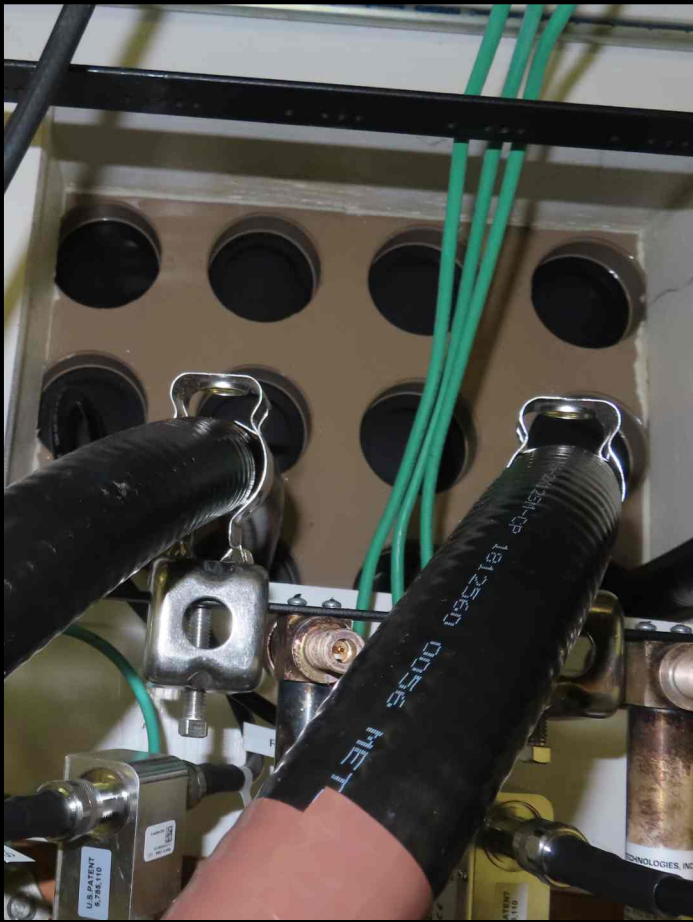


A SHELTER COAX PORT (INTERIOR VIEW)



B TOWER CABLE LAYOUT

COAX SYMBOL	(#) SIZE	MOUNTING TYPE	CARRIER / OWNER	TECHNOLOGY	MOUNT HEIGHT
A	(6) 1-5/8"	SNAP-INS	U.S. CELLULAR	CDMA	148.5'
B	(2) 1-1/4"	SNAP-INS	U.S. CELLULAR	HYBRID	148.5'
C	(1) 1-1/4"	SNAP-INS	U.S. CELLULAR	POWER	148.5'



C SHELTER COAX PORT (SHELTER INTERIOR)



E ICE BRIDGE HANGER



D SHELTER COAX PORT (SHELTER EXTERIOR)



F CABLE ROUTING UP TOWER LEG B

CONSULTANT:

Edge
Consulting Engineers, Inc.
624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
www.edgeconsult.com

CLIENT:

uscellular
U.S. CELLULAR
8410 W. BRYN MAWR AVE.
SUITE 700
CHICAGO, IL 60631

ENGINEER SEAL:

APPROVED
SEE G-001 FOR ENGINEER'S
STAMP AND SIGNATURE

I HEREBY CERTIFY THAT THIS PLAN SET WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION OTHER THAN THE EXCEPTIONS NOTED IN THE SHEET INDEX, AND THAT I AM A DULY LICENSED PROFESSIONAL ENGINEER UNDER THE LAWS OF THE STATE OF WISCONSIN.

**CABLE ROUTING
WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN**

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
DJO	11/30/23	REV. A
SRC	12/22/23	REV. 0

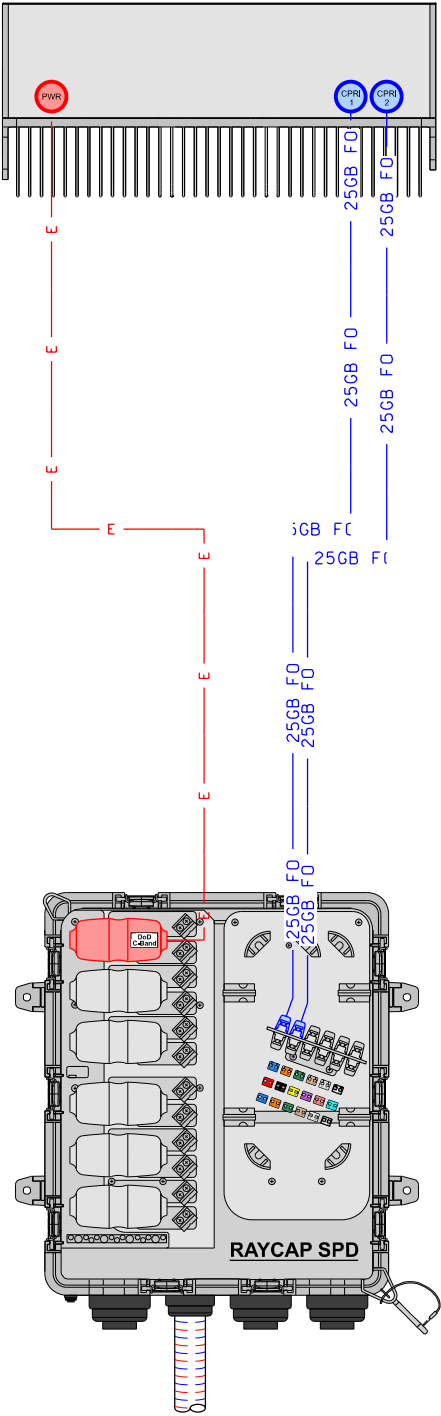
CHECKED BY	ABB
PLOT DATE	12/22/2023
PROJECT NUMBER	38050
SET TYPE	FINAL

SHEET NUMBER **V-501**



E// DoD 64T64R / C-Band 64T64R
PER SECTOR CONFIGURATION

DoD - C-Band DUAL BAND
INTEGRATED ANTENNA/RADIO



HYBRID CABLE TO
BASE EQUIPMENT

CABLE LEGEND

- EUPEN HYBRID CABLE
- FO FIBER JUMPER
- E POWER JUMPER

PLUMBING DIAGRAM: DoD (64T) - C-Band (64T) E//DBR

CONTAINS U.S. CELLULAR® CONFIDENTIAL INFORMATION. NOT FOR EXTERNAL USE OR DISCLOSURE WITHOUT PROPER AUTHORIZATION.

DATE CREATED: 11/14/2023

CONSULTANT:

Edge
Consulting Engineers, Inc.
624 WATER STREET
PRAIRIE DU SAC, WI 53578
608.644.1449 VOICE
608.644.1549 FAX
www.edgeconsult.com

CLIENT:

uscellular
U.S. CELLULAR
8410 W. BRYN MAWR AVE.
SUITE 700
CHICAGO, IL 60631

ENGINEER SEAL:

- APPROVED -
SEE G-001 FOR ENGINEER'S
STAMP AND SIGNATURE

I HEREBY CERTIFY THAT THIS PLAN
SET WAS PREPARED BY ME OR
UNDER MY DIRECT SUPERVISION
OTHER THAN THE EXCEPTIONS
NOTED IN THE SHEET INDEX, AND
THAT I AM A DULY LICENSED
PROFESSIONAL ENGINEER
UNDER THE LAWS OF THE
STATE OF WISCONSIN.

PLUMBING DIAGRAM
WATERTOWN DOWNTOWN (786369)
WATERTOWN, WISCONSIN

SUBMITTAL:

INT.	DATE:	DESCRIPTION:
DJO	11/30/23	REV. A
SRC	12/22/23	REV. 0

CHECKED BY:	ABB
PLOT DATE	12/22/2023
PROJECT NUMBER	38050
SET TYPE	FINAL
SHEET NUMBER	P-501

NOTES:

- ALL ANTENNA & RADIO UNIT DEPICTIONS ARE GENERIC AND ARE MEANT TO BE A REPRESENTATION OF THE INSTALLATION.
- ALL JUMPERS BETWEEN RADIO UNITS & ANTENNAS MUST BE THE SAME LENGTH. CONTRACTOR TO INSTALL WEATHERPROOF CAP ON ALL UN-USED PORTS.

C:\38050\38050\Design\CAD\CD\PlatIP-501.dgn

