SITE NAME: NEWBURGH MALL NATIONAL SITE ID: 321G4060 CASPR #: 2191351888

at&t

LTE#: NWL04060, FA#: 10123650, SITE#: PGHK060 MONOPOLE

ENGINEERING

2010 BUILDING CODE OF NEW YORK STATE NFPA 70 — NATIONAL ELECTRIC CODE 2010 FIRE CODE OF NEW YORK STATE 2010 ENERGY CONSERVATION CONSTRUCTION CODE OF NEW YORK STATE

GENERAL NOTES

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

PROJECT DESCRIPTION

UPGRADE OF EXISTING TELECOMMUNICATIONS FACILITY, INCLUDING INSTALLATION OF (3) NEW ANTENNAS, (6) RADIO HEAD UNITS, JUNCTION BOXES AND ASSOCIATED APPURTENANCES ON AN EXISTING MONOPOLE AND A RACK IN THE EXISTING EQUIPMENT SHELTER AT GRADE.

SITE INFORMATION

ORANGE

-74.07361

PROPERTY OWNER:

5020 RTE 9W STE 101 NEWBURGH NY 12550

TOWER OWNER: SITE CONTACT: CROWN COMMUNICATIONS 46 BROADWAY, ALBANY, NY 12204

CROWN COMMUNICATIONS 46 BROADWAY, ALBANY, NY 12204

COUNTY:

LATITUDE (NAD 83):

41.52167 FROM RFDS

LONGITUDE (NAD 83):

ZONING JURISDICTION: TOWN OF NEWBURGH

ZONING DISTRICT:

IB-INTERSTATE BUSINESS

SECTION: BLOCK: LOT:

35 1

OCCUPANCY GROUP:

TELECOMMUNICATION FACILITY

CENTRAL HUDSON GAS & ELECTRIC

POWER COMPANY:
TELEPHONE COMPANY

(845) 452-2700 VERIZON (800) 843-2255

SITE ACQUISITION MANAGER:

BLACK & VEATCH DOUG FETKOWITZ (201) 310-9408

A/E CONTACT:

TECTONIC MIKE PATEL (845) 567-6656

CONSTRUCTION MANAGER:

BLACK & VEATCH JASON RAYMOND (315) 378-2537

RF ENGINEER:

BLACK & VEATCH GENE CHANG (201) 289-0908

RF DATA SHEET NOTE

NEW ANTENNA INFORMATION SHOWN TAKEN FROM AT&T RFDS VERSION, VO3.1, DATED 08/03/12.

CONTACT INFORMATION

ENGINEER:

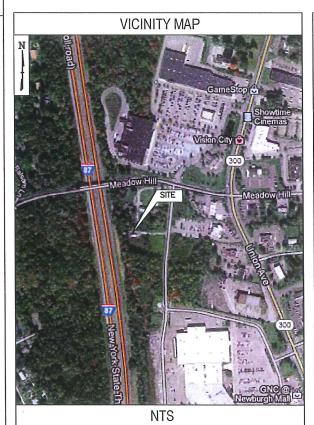
TECTONIC ENGINEERING & SURVEYING CONSULTANTS P.C. 1279 ROUTE 300 NEWBURGH, NY 12550

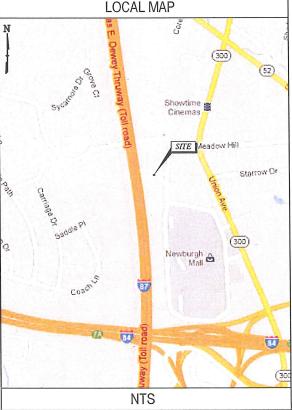
MIKE PATEL

CONTACT:

PHONE:

(845) 567-6656 (EXT. 808)





DRIVING DIRECTIONS

FROM AT&T OFFICE HEAD NORTHEAST ON US-202 N-MT KEMBLE AVE TOWARD ZAMROK WAY, TURN RIGHT ONTO MACCULLOCH AVE. TURN LEFT AT THE 3RD CROSS STREET ONTO MILLER RD. TURN RIGHT ONTO COUNTY ROAD 510-SOUTH ST CONTINUE TO FOLLOW SOUTH ST. SLIGHT LEFT ONTO MADISON AVE. TURN LEFT TO MERGE ONTO 1-287 N. ENTERING NEW YORK. KEEP LEFT AT THE FORK, FOLLOW SIGNS FOR 1-87 N/NY-17 N-ALBANY AND MERGE ONTO 1-87 N-NY-17 N. CONTINUE TO FOLLOW 1-87 N. TAKE EXIT 17 FOR NEW YORK 300-NEW YORK 17K TOWARD NEWBURGH. TURN LEFT ONTO UNION AVE. TAKE THE 3RD LEFT ONTO MEADOW HILL. DESTINATION WILL BE ON THE LEFT AT 7 MEADOW HILL RD NEWBURGH. NY 12550.

	DRAWING INDEX
SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
A-1	SITE PLAN & SHELTER PLAN
A-2	ELEVATION, ANTENNA PLANS & DETAILS
A-3	ANTENNA & EQUIPMENT DETAILS
E-1	ELECTRICAL DC ONE-LINE DIAGRAM
G-1	GROUNDING PLAN & NOTES
G-2	GROUNDING DETAILS
GN-1	NOTES
	,
-	
-	

DO NOT SCALE DRAWINGS

THESE DRAWINGS ARE FORMATTED FOR 24"X36". OTHER SIZED VERSIONS ARE NOT PRINTED TO THE SCALE SHOWN. CONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.







NEW CINGULAR WIRELESS PCS, LLC 340 MOUNT KEMBLE AVENUE MORRISTOWN, NJ 07960



BLACK & VEATCH CORPORATION 45 EISENHOWER DRIVE SUITE 240 PARAMUS, NJ 07652

TECTONIC

- PLANNING
 ENGINEERII
- ENGINEERING
 SURVEYING
- CONSTRUCTION MANAGEMENT

TECTONIC Engineering & Surveying Consultants P.C. 1279 ROUE 300 Newburgh, NY 12550 Phone: (845) 567-6656 Fax: (845) 567-8703

 PROJECT NO:
 6307.321G4060

 DRAWN BY:
 MT

 CHECKED BY:
 MP/TN

2	01/02/13	PER STR. ANALYSIS REPORT
Λ	11/21/12	FOR CONSTRUCTION
◬	11/13/12	ISSUED FOR PERMIT
REV	DATE	DESCRIPTION



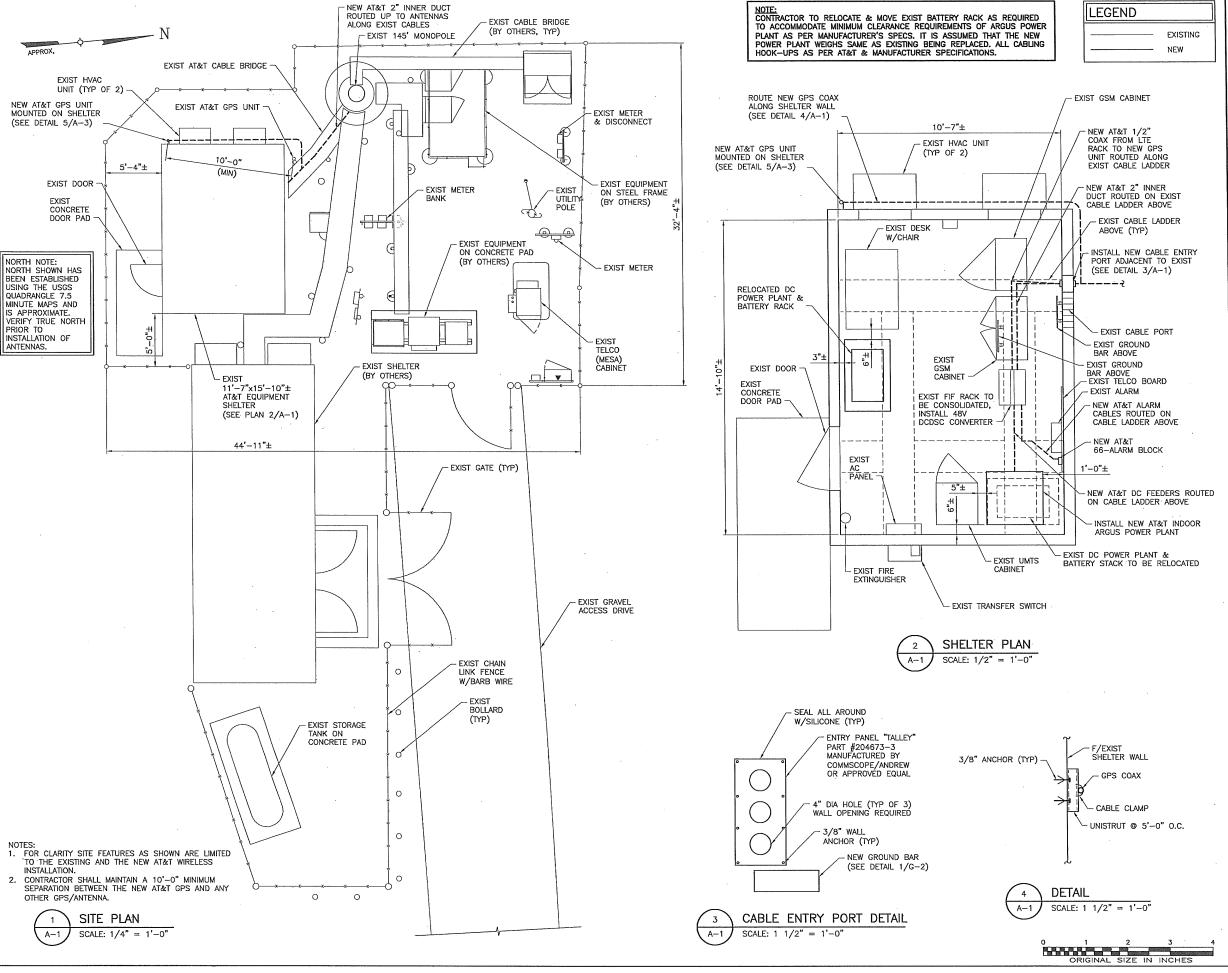
UNAUTHORIZED ALTERATION OR ADDITIONS TO A PLAN BEARING A LICENSED ENGINEER'S OR SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

SITE NAME: NEWBURGH MALL
SITE #: 321G4060
ADDRESS: 7 MEADOW HILL ROAD
NEWBURGH, NY 12550
LTE

SHEET TITLE
TITLE SHEET

SHEET NUMBER

T-1





NEW CINGULAR WIRELESS PCS, LLC 340 MOUNT KEMBLE AVENUE MORRISTOWN, NJ 07960



BLACK & VEATCH CORPORATION 45 EISENHOWER DRIVE SUITE 240 PARAMUS, NJ 07652

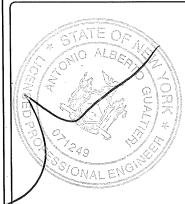
TECTONIC

- SURVEYING CONSTRUCTION MANAGEMENT

TECTONIC Engineering & Surveying Consultants P.C. 1279 ROUTE 300 Newburgh, NY 12550 Phone: (845) 567-6658 Fax: (845) 567-8703

6307.321G4060 PROJECT NO: DRAWN BY: МТ MP/TN CHECKED BY:

-		
		1
2	01/02/13	PER STR. ANALYSIS REPORT
Λ	11/21/12	FOR CONSTRUCTION
◬	11/13/12	ISSUED FOR PERMIT
REV	DATE	DESCRIPTION



UNAUTHORIZED ALTERATION OR ADDITIONS TO A PLAN BEARING A LICENSED ENGINEER'S OR SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE

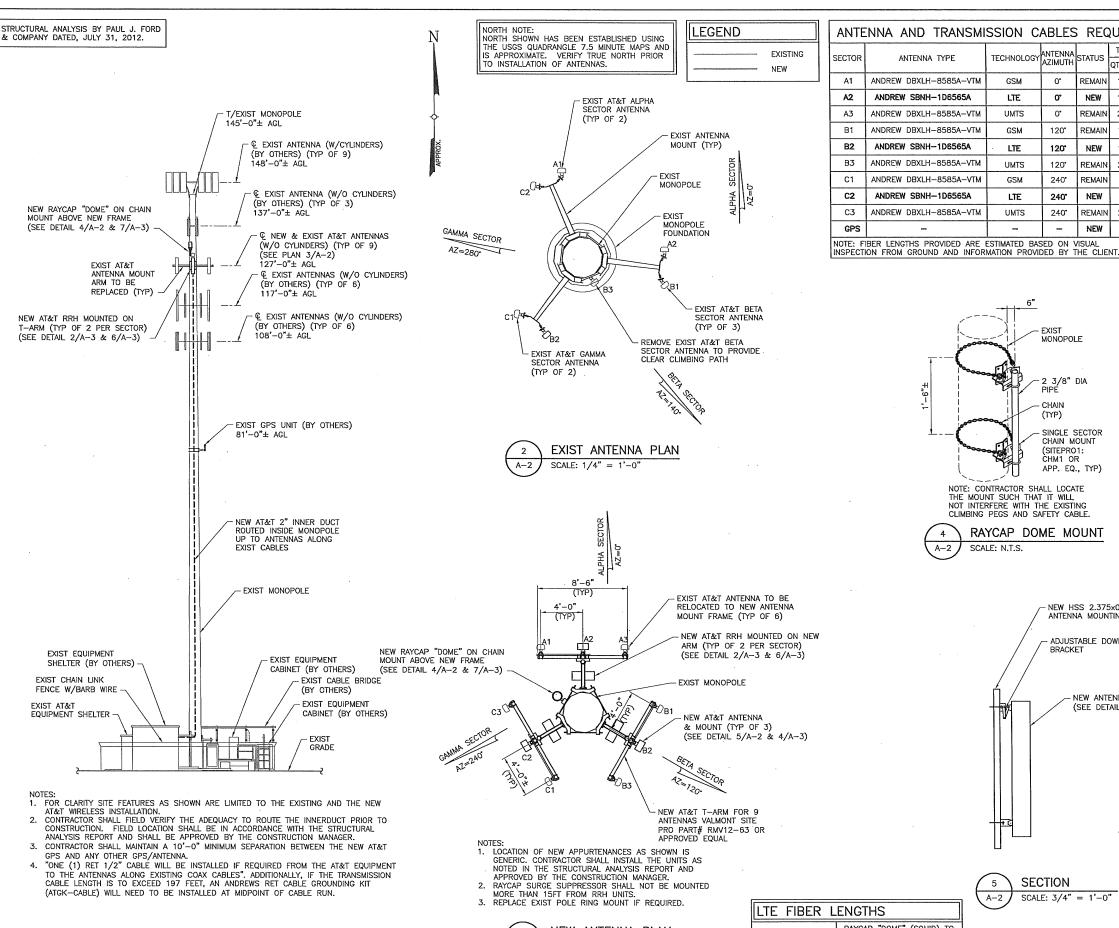
SITE NAME: NEWBURGH MALL SITE #: 321G4060 ADDRESS: 7 MEADOW HILL ROAD NEWBURGH, NY 12550 LTE

SHEET TITLE

SITE PLAN & SHELTER PLAN

SHEET NUMBER

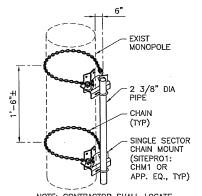
A-1



ELEVATION

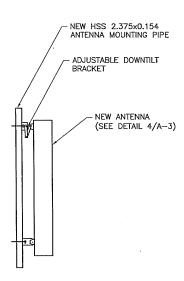
SCALE: 3/32" = 1'-0"

	ANTE	INNA AND TRANSMI	SSION C	ABLES	REC	UIF	REME	NT	
	COTOD	ANTENNA TAOF	TECHNOLOGY	ANTENNA	CTATHC	TRANSMISSION CABLE			
3	ECTOR	ANTENNA TYPE	TECHNOLOGY	AZIMUTH	SIAIUS	QTY.	LENGTH	TYPE	
	A1	ANDREW DBXLH-8585A-VTM	GSM	0,	REMAIN	1	145'	1 5/8" COAX	
Γ	A2	ANDREW SBNH-1D6565A	LTE	0°	NEW	1	145'	FIBER	
Γ	A3	ANDREW DBXLH-8585A-VTM	UMTS	0,	REMAIN	2	145'	1 5/8" COA	
	В1	ANDREW DBXLH-8585A-VTM	GSM	120"	REMAIN	1	145'	1 5/8" COA	
	B2	ANDREW SBNH-1D6565A	· LTE	120°	NEW	1	145'	FIBER	
	В3	ANDREW DBXLH-8585A-VTM	UMTS	120°	REMAIN	2	145'	1 5/8" COA	
Γ	C1	ANDREW DBXLH-8585A-VTM	GSM	240	REMAIN	1	145'	1 5/8" COA	
Γ	C2	ANDREW SBNH-1D6565A	LTE	240°	NEW	1	145'	FIBER	
Γ	C3	ANDREW DBXLH-8585A-VTM	UMTS	240*	REMAIN	2	145'	1 5/8" COA	
Γ	GPS	-	_	_	NEW	1	25'	1/2" COAX	



NOTE: CONTRACTOR SHALL LOCATE THE MOUNT SUCH THAT IT WILL NOT INTERFERE WITH THE EXISTING CLIMBING PEGS AND SAFETY CABLE.

RAYCAP DOME MOUNT A-2 SCALE: N.T.S.







LTE FIBER L	ENGTH:	S		
RAYCAP "DOME" (SQUID)	RAYCAP "DOME" (SQUID) TO SECTOR LTE ANTENNA			
(3000)	ALPHA	BETA	GAMMA	
145 ' ±	7 ' ±	10 ' ±	12 ' ±	





NEW CINGULAR WIRELESS PCS, LLC 340 MOUNT KEMBLE AVENUE MORRISTOWN, NJ 07960



BLACK & VEATCH CORPORATION 45 EISENHOWER DRIVE SUITE 240 PARAMUS, NJ 07652

TECTONIC

Phone: (845) 567-6656 Fax: (845) 567-8703 www.tectonicengineering.co

6307.321G4060 PROJECT NO: DRAWN BY: MT CHECKED BY: MP/TN

2	01/02/13	PER STR. ANALYSIS REPORT
Φ	11/21/12	FOR CONSTRUCTION
▲	11/13/12	ISSUED FOR PERMIT
REV	DATE	DESCRIPTION

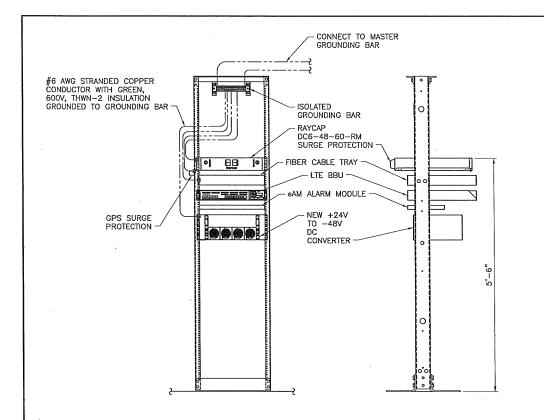


PLAN BEARING A LICENSED ENGINEER'S OR SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

SITE NAME: NEWBURGH MALL SITE #: 321G4060 ADDRESS: 7 MEADOW HILL ROAD NEWBURGH, NY 12550 LTE

> SHEET TITLE ELEVATION, ANTENNA PLANS & DETAILS

> > SHEET NUMBER A-2



19" LTE EQUIPMENT RACK

SCALE: NTS

A-3

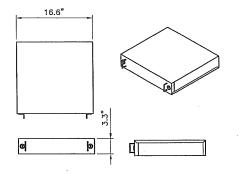
ISOMETRIC

RRH DETAILS

FRONT

700 MHZ RRH

(WEIGHT: 51 LBS)



RAYCAP DC6-48-60-RM

NOMINAL OPERATING VOLTAGE:

48 VDC

NOMINAL DISCHARGE CURRENT: MAXIMUM DISCHARGE CURRENT: 20 kA 8/20μs 60 kA 8/20μs

MAXIMUM CONTINUOUS OPERATING VOLTAGE: 75 VDC

VOLTAGE PROTECTION RATING:

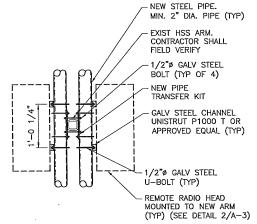
400 V

TOTAL WEIGHT:

53 lbs

RACK MOUNT DC SURGE SUPPRESSOR

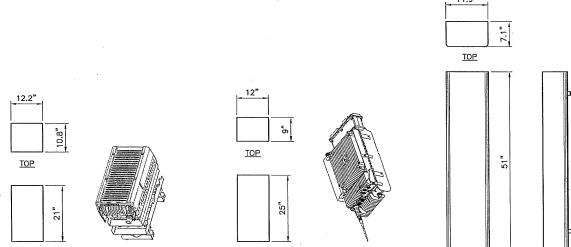
SCALE: NTS



NOTE:
MOUNTING OF RRH TO UNISTRUT CHANNEL SHALL BE PER
MANUFACTURER DIRECTION. SEPARATION OF CHANNELS SHALL BE PER
MANUFACTURER'S MOST CURRENT SPECIFICATION/INSTRUCTIONS.



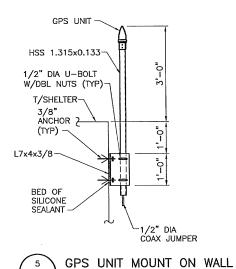
DC6-48-60-18-8F



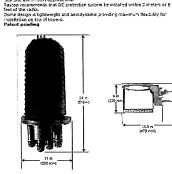
AWS LTE RRH

(WEIGHT: 43 LBS)

FRONT



SCALE: 3/4" = 1'-0"



Addition of Pleasant with the American State of the American State

(WEIGHT: 33 LBS)

ANTENNA DETAIL SCALE: 1'' = 1'-0''



RAYCAP "DOME" DETAIL SCALE: N.T.S.



NEW CINGULAR WIRELESS PCS, LLC 340 MOUNT KEMBLE AVENUE MORRISTOWN, NJ 07960



BLACK & VEATCH CORPORATION 45 EISENHOWER DRIVE SUITE 240 PARAMUS, NJ 07652

- PLANNING
 ENGINEERING
 SURVEYING
 CONSTRUCTION MANAGEMENT

TECTOMIC Engineering & Surveying Consultants P.C. 1279 ROUTE 300 Newburgh, NY 12550 Phone: (845) 567-6656 Fax: (845) 567-8703 www.tectoniongineering.com

DRAWN BY:	М
	М
CHECKED BY:	MP/TN

01/02/13 PER STR. ANALYSIS REPORT 11/21/12 FOR CONSTRUCTION ↑ 11/21/12 FOR CONSTRUCTION
↑ 11/13/12 ISSUED FOR PERMIT



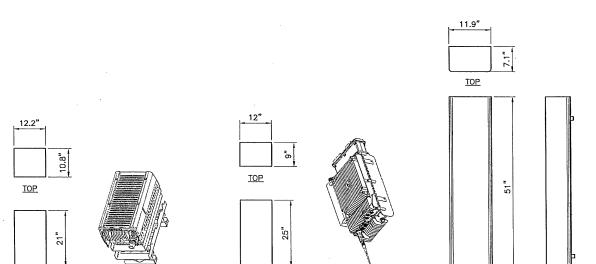
UNAUTHORIZED ALTERATION OR ADDITIONS TO A PLAN BEARING A LICENSED ENGINEER'S OR SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

SITE NAME: NEWBURGH MALL SITE #: 321G4060 ADDRESS: 7 MEADOW HILL ROAD NEWBURGH, NY 12550 LTE

> SHEET TITLE
> ANTENNA & EQUIPMENT DETAILS

> > SHEET NUMBER

A-3

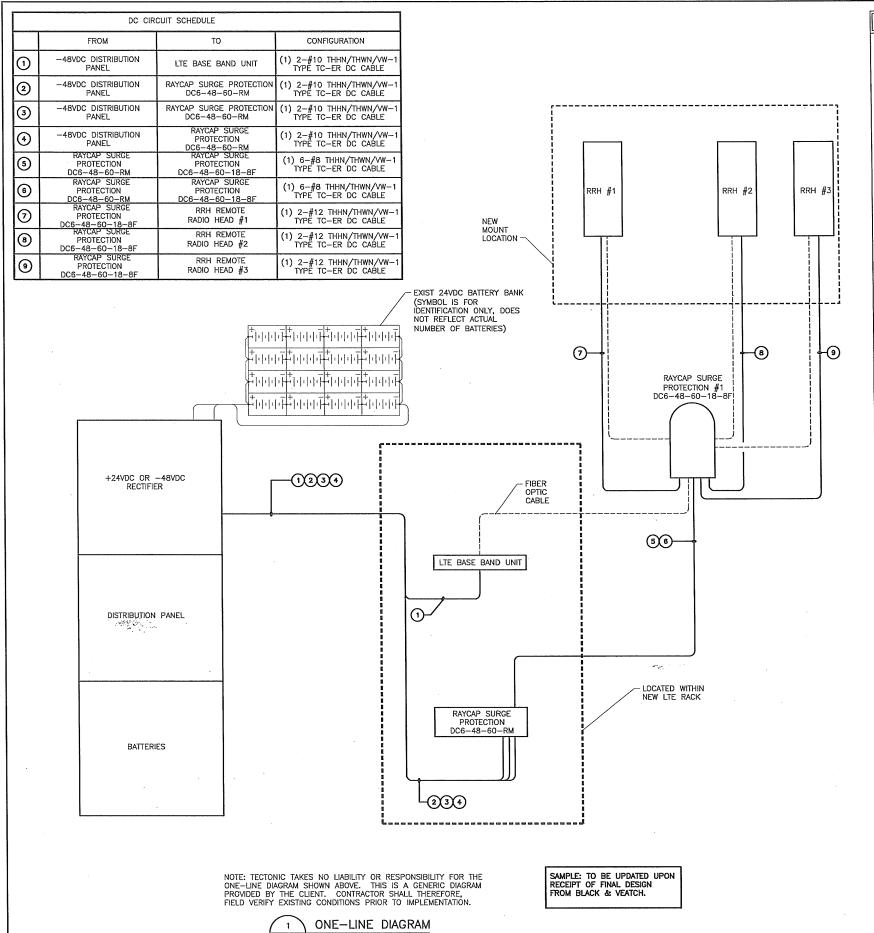


ISOMETRIC

FRONT

ANDREW SBNH-1D6565A

(WEIGHT: 34.8 LBS)



E-1

SCALE: NTS

ELECTRICAL NOTES

- THE CONTRACTOR IS RESPONSIBLE FOR OBTAINING AND COORDINATING ALL REQUIRED LOCAL BUILDING DEPARTMENT INSPECTIONS AND APPROVALS. ALL ELECTRICAL WORK IS TO BE PERFORMED BY AN INDIVIDUAL LICENSED IN THE JURISDICTION OF THE PROPOSED WORK.
- 2. THE ENTIRE SYSTEM SHALL CONFORM TO ALL STATE AND LOCAL BUILDING CODES AND THE LATEST ADOPTED ADDITION OF THE NATIONAL ELECTRIC CODE.
- THE CONTRACTOR SHALL FURNISH AND INSTALL ALL ITEMS INDICATED ON THESE DRAWINGS.
- 4. ALL EXTERIOR DEVICES SHALL BE RATED FOR EXTERIOR USE "3R".
- 5. THE CONTRACTOR IS RESPONSIBLE FOR ALL CLEARING AND EXCAVATING FOR NEW UTILITY POLES OR UNDERGROUND UTILITY RUNS. COORDINATE WITH THE LOCAL UTILITY COMPANIES TO DETERMINE WHAT DEVICES ARE SUPPLIED AND INSTALLED AS THE SECONDARY ELECTRIC AND TELEPHONE SERVICE VERSUS UTILITY COMPANIES RESPONSIBILITIES.
- . ALL MATERIALS AND DEVICES INSTALLED SHALL BE NEW AND IN WORKING ORDER. DEVICES AND MATERIALS SHALL BE LISTED AND BEAR THE "UL" SEAL OF APPROVAL AND INSPECTION LABEL "J".
- 7. THE CONTRACTOR IS TO DEMONSTRATE TO A CLIENT'S PROJECT MANAGER THAT THE SYSTEM IS FULLY ENERGIZED AND WORKING AS INTENDED. CONDUCT CONTINUITY, SHORT CIRCUIT AND FALL OF POTENTIAL GROUNDING TEST. SUBMIT TEST RESULTS TO THE PROJECT MANAGER.
- 8. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
- 9. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANEL BOARD, PULL BOX, J-BOX, SWITCH PLATE, ETC., IN COMPLIANCE WITH OSHA
- 10. LABEL EACH PANEL BOARD CIRCUIT DIRECTORY CARD, IDENTIFY THE "LOAD SERVED", "SPARE" OR "SPACE"
- 11. THE ENTIRE ELECTRICAL SYSTEM SHALL BE GROUNDED. GROUNDING SHALL BE #2 AWG SOLID TINNED ANNEALED COPPER, UNLESS OTHERWISE NOTED.
- 12. THE CONTRACTOR IS RESPONSIBLE FOR ALL TRENCHING, BACK FILLING AND REPAIRING OF EXISTING SURFACES CUT AND REMOVED FOR UNDERGROUND UTILITY RUNS.
- 13. THE CONTRACTOR IS RESPONSIBLE FOR ALL CUTTING, PATCHING, DRILLING, CHASING HOLES AND SLEEVES IN EXISTING BUILDING WALLS AND FLOORS REQUIRED TO INSTALL THE NEW ELECTRICAL SERVICE, FIRE —RATED WALL SHALL BE PATCH WITH 3M FIRE SEAL OR EQUAL, RATING AS REQUIRED. ALL PENETRATIONS THRU EXTERIOR WALLS SHALL BE CAULKED WEATHER TIGHT.
- 14. THE CONTRACTOR IS TO SUPPLY ALL HANGERS, SUPPORTS, FASTENERS AND HARDWARE FOR A COMPLETE INSTALLATION. ALL OF THE ABOVE SHALL BE ZINC-COATED. IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO VERIFY ALL FIELD CONDITIONS PRIOR TO ORDERING LENGTHS OF MATERIAL.
- 15. PRIOR TO THE WIRE INSTALLATION OR BACK FILL OF THE UTILITY TRENCH, THE CONTRACTOR IS TO COORDINATE ALL INSPECTIONS OF THE CONDUIT, SWEEPS AND ANY UTILITY POLE RISERS WITH THE LOCAL UTILITY COMPANY.
- 16. ALL SECONDARY CONDUITS USED FOR EXTERIOR UNDERGROUND UTILITIES SHALL BE PVC SCHEDULE #40, SCHEDULE #80 UNDER ROADWAYS. MINIMUM BEND RADIUS SHALL BE 36". ALL CONDUITS SHALL HAVE MINIMUM OF TWO (2) DRAG LINES. PULL BOXES ARE TO BE INSTALLED WHEN LENGTHS EXCEED 100 FEET. COORDINATE SIZE OF CONDUITS REQUIRED BY THE UTILITY COMPANIES.
- 17. ALL CIRCUIT BREAKERS, FUSES AND FIELD INSTALLED ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THAN THE MAXIMUM SHORT CIRCUIT TO WHICH THEY MAY BE SUBJECT AND MINIMUM RATING OF 22,000 A.I.C.
- 18. GENERAL CONTRACTOR IS TO COORDINATE ALL OF HIS WORK TO MINIMIZE THE DISTURBANCE TO THE EXISTING SITE OCCUPANTS' WORKERS OR ACCESS REQUIRED BY THE GENERAL PUBLIC OR MAINTENANCE PERSONNEL.
- 19. ANY DISRUPTION OF THE EXISTING ELECTRICAL SERVICE MUST BE COORDINATED WITH OTHER SITE OCCUPANTS.
- 20. ANY DISRUPTION OF THE EXISTING SITE CONDITIONS SHALL BE RETURNED TO THEIR PREVIOUS CONDITION OR BETTER.

- 21. BBU REQUIRES ONE (1) 1/0 CIRCUIT WITH SINGLE POLE 60 AMP BREAKER.
- 22. RRH REQUIRES THREE (3) #8 CIRCUITS WITH THREE (3) SINGLE POLE 10 AMP BREAKERS.



NEW CINGULAR WIRELESS PCS, LLC 340 MOUNT KEMBLE AVENUE MORRISTOWN, NJ 07960



BLACK & VEATCH CORPORATION 45 EISENHOWER DRIVE SUITE 240 PARAMUS, NJ 07652

TECTONIC

- PLANNING
 ENGINEERING
- ENGINEERING
- · CONSTRUCTION MANAGEMENT

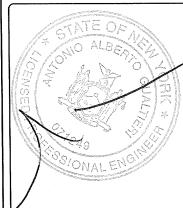
TECTONIC Engineering & Surveying Consultants P.C. 1279 ROUTE 300 Newburgh, NY 12550 Phone: (845) 567—6656 Fix: (845) 567—8703 wave techniquenoineering.com

PROJECT NO: 6307.32164060

DRAWN BY: MT

CHECKED BY: MP/TN

/2\	01/02/13	PER STR. ANALYSIS REPORT
Δ		FOR CONSTRUCTION
◬	11/13/12	ISSUED FOR PERMIT
REV	DATE	DESCRIPTION



UNAUTHORIZED ALTERATION OR ADDITIONS TO A PLAN BEARING A LICENSED ENGINEER'S OR SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

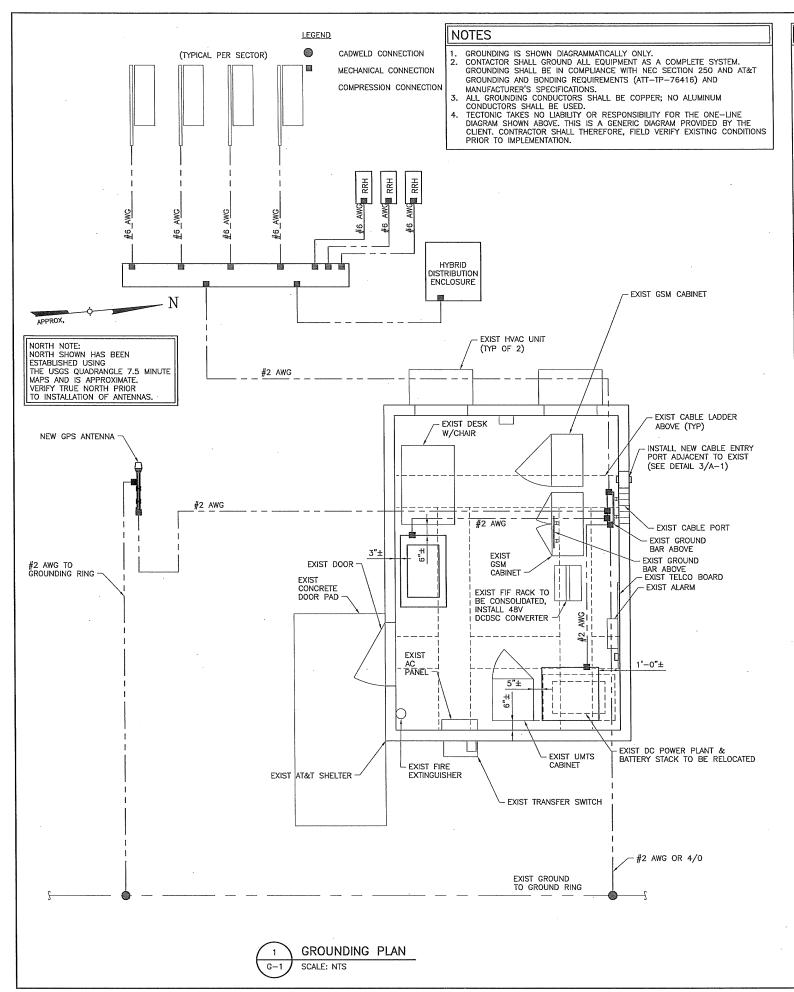
SITE NAME: NEWBURGH MALL
SITE #: 321G4060

ADDRESS: 7 MEADOW HILL ROAD
NEWBURGH, NY 12550
LTE

SHEET TITLE
ELECTRICAL DC
ONE—LINE DIAGRAM

SHEET NUMBER

E-1



GROUNDING KEY NOTES

- A. EXTERIOR GROUND RING: #2 AWG SOLID COPPER, BURIED AT A DEPTH OF AT LEAST 30 INCHES BELOW GRADE, OR 6 INCHES BELOW THE FROST LINE AND APPROXIMATELY 24 INCHES FROM THE EXTERIOR WALL OR FOOTING. (ATT-TP-76416 2.2.3.5/7.5.1)
- TOWER GROUND RING: THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S IFGS. AND/OR GUY ANCHORS. WHERE SEPARATE SYSTEMS HAVE BEEN PROVIDED FOR THE TOWER AND THE BUILDING, AT LEAST TWO BONDS SHALL BE MADE BETWEEN THE TOWER RING GROUND SYSTEM AND THE BUILDING RING GROUND SYSTEM USING MINIMUM #2 AWG SOLID COPPER CONDUCTORS. (ATT-TP-76416 7.5.1)
- INTERIOR GROUND RING: #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR EXTENDED AROUND THE PERIMETER OF THE EQUIPMENT AREA. ALL NON-TELECOMMUNICATIONS RELATED METALLIC OBJECTS FOUND WITHIN A SITE SHALL BE GROUNDED TO THE INTERIOR GROUND RING WITH #6 AWG STRANDED
- GREEN INSULATED CONDUCTOR. (ATT-TP-75416 7.6.4)
 BOND TO INTERIOR GROUND RING: #2 AWG SOLID TINNED COPPER WIRE PRIMARY BONDS SHALL BE
 PROVIDED AT LEAST AT FOUR POINTS ON THE INTERIOR GROUND RING, LOCATED AT THE CORNERS OF THE BUILDING (ATT-TP-76416 7.5.2.2)
- THE BUILDING. (ATT—TP—764TB 7.5:2:2)

 E. GROUND ROD: UL LISTED COPPER CLAD STEEL. MINIMUM 5/8* DIAMETER BY EIGHT FEET LONG. ALL GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR. (ATT—TP—76416 1.4 / 7.5.1)

 F. CELL REFERENCE GROUND BAR: POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS. (ATT-76416 7.6.5)
- HATCH PLATE GROUND BAR: BOND TO THE INTERIOR GROUND RING WITH TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS. WHEN A HATCH-PLATE AND A CELL REFERENCE GROUND BAR ARE BOTH PRESENT, THE CRGB MUST BE CONNECTED TO THE HATCH-PLATE AND TO THE INTERIOR GROUND RING USING TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS.
- EXTERIOR CABLE ENTRY PORT GROUND BARS: LOCATED AT THE ENTRANCE TO THE CELL SITE BUILDING. BOND TO GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTORS WITH AND EXOTHERMIC WELD AND INSPECTION SLEEVE. (ATT-TP-76416 7.6.7.2)
- TOWER EXIT GROUND BAR: #2 AWG SOLID TINNED COPPER BOND TO THE TOWER GROUND RING. (ATT-TP-76416: 7.55)
- TELCO GROUND BAR: BOND TO BOTH CELL REFERENCE GROUND BAR AND EXTERIOR GROUND RING.
- (ATT-TP-76416 7.6.8)
 FRAME BONDING: THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK. BOND THE FRAME GROUND BUS TO THE "SECTION OF THE CELL REFERENCE GROUND BAR. (ATT-TP-76416 7.8) INTERIOR UNIT BONDS: METAL FRAMES, CABINETS AND INDIVIDUAL METALLIC UNITS LOCATED WITH THE
- AREA OF THE INTERIOR GROUND RING REQUIRE A #6 AWG STRANDED GREEN INSULATED COPPER BOND
- TO THE INTERIOR GROUND RING. (ATT-TP-76416 7.12.3.1)
 M. FENCE AND GATE GROUND: METAL FENCES WITHIN 7 FEET OF THE EXTERIOR GROUND RING OR OBJECTS BONDED TO THE EXTERIOR GROUND RING SHALL BE BONDED TO THE GROUND RING WITH A #2 AWG SOLID TINNED COPPER CONDUCTOR AT AN INTERVAL NOT EXCEEDING 25 FEET. BONDS SHALL BE MADE AT EACH GATE POST AND ACROSS GATE OPENINGS. (ATT-TP-76416 7.12.2.2)
 EXTERIOR UNIT BONDS: METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE
- BONDED TO THE EXTERIOR GROUND RING. (ATT-TP-76416 7.4.2.6)
- O. ICE BRIDGE SUPPORTS: EACH ICE BRIDGE LEG SHALL BE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED COPPER CONDUCTOR. PROVIDE EXOTHERMIC WELDS AT BOTH THE ICE BRIDGE LEG AND BURIED GROUND RING. (ATT-TP-76416 7.4.2.6)

GROUNDING NOTES

- THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY ALL APPLICABLE CODES. ALL GROUNDING WORK SHALL BE IN ACCORDANCE WITH AT&T. ALL BUS CONNECTORS SHALL BE TWO—HOLE, LONG—BARREL TYPE COMPRESSION LUGS, T&B OR EQUAL, UNLESS OTHERWISE NOTED ON DRAWINGS. ALL LUGS SHALL BE ATTACHED TO BUSSES USING BOLTS, NUTS, AND LOCK WASHERS. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED.
- 4. ALL CONNECTORS SHALL BE CRIMPED USING HYDRAULIC CRIMPING TOOLS, T&B #TBM 8 OR EQUIVALENT. ALL CONNECTIONS SHALL BE MADE TO BARE METAL, ALL PAINTED SURFACES SHALL BE FILED TO ENSURE PROPER CONTACT. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL
- CONNECTIONS ARE TO HAVE A NON-OXIDIZING AGENT APPLIED PRIOR TO INSTALLATION.
- ALL COPPER BUSSES SHALL BE CLEANED, POLISHED, AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED. ALL BENDS SHALL BE AS SHALLOW AS POSSIBLE, WITH NO TURN SHORTER THAN AN 8-INCH NOMINAL
- GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER AND ANNEALED #2. ALL GROUNDING CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH WALLS, FLOORS, OR CEILINGS. IF CONDUCTORS MUST RUN THROUGH EMT, BOTH ENDS OF CONDUIT SHALL BE
- GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.

 GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 10 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
- 10. ALL ROOF TOP ANTENNA MOUNTS SHALL BE GROUNDED WITH A #2 GROUND WIRE CONNECTED TO THE NEAREST GROUND BUS. ALL CONNECTIONS ARE TO BE CAD-WELDED IF POSSIBLE.

 11. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL SUBMIT TEST REPORTS TO THE PROJECT MANAGER.
- 12. GROUNDING CONNECTION TO TRAVEL IN A DOWNWARD DIRECTION.
- 13. ALL EXPOSED #2 WIRE MUST BE TINN NOT BTW.
- 14. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUNDING BAR. ROUTE CONDUCTORS TO BURIED GROUNDING RING AND PROVIDE PARALLEL EXOTHERMIC WELD.
- 15. ALL GROUNDING BARS SHALL BE STAMPED IN TO THE METAL "IF STOLEN DO NOT RECYCLE." THE CONTRACTOR SHALL USE PERMANENT MARKER TO DRAW THE LINES BETWEEN EACH SECTION AND LABEL EACH SECTION ("P", "A", "N", "I") WITH 1" HIGH LETTERS.
- 16. ALL HARDWARE SHALL BE STAINLESS STEEL 3/8" DIAMETER OR LARGER. ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING LOCK WASHERS, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE
- 17. FOR GROUND BOND TO STEEL ONLY: INSERT A CADMIUM FLAT WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.
- 18. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUNDING CONDUCTOR DOWN TO GROUNDING BUS.
- 19. NUT & WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUNDING BAR AND BOLTED ON THE BACK SIDE. INSTALL BLACK HEAT—SHRINKING TUBE, 600 VOLT INSULATION, ON ALL GROUNDING TERMINATIONS. THE INTENT IS TO WEATHERPROOF THE COMPRESSION CONNECTION. 20. SUPPLIED AND INSTALLED BY CONTRACTOR
- 21. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUNDING BAR AS REQUIRED, PROVIDING 50% SPARE CONNECTION POINTS
- 22. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).





NEW CINGULAR WIRELESS PCS, LLC 340 MOUNT KEMBLE AVENUE MORRISTOWN, NJ 07960



BLACK & VEATCH CORPORATION 45 EISENHOWER DRIVE SUITE 240 PARAMUS, NJ 07652

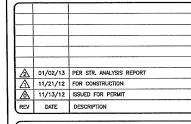
TECTONIC

- CONSTRUCTION MANAGEMENT

TECTOMIC Engineering & Surveying Consultants P.C. 1279 ROUTE 300 Newburgh, NY 12550

Phone: (845) 567-6656 Fax: (845) 567-8703

PROJECT NO: 6307.321G4060 DRAWN BY MT CHECKED BY MP/TN





INAUTHORIZED ALTERATION OR ADDITIONS TO A PLAN BEARING A LICENSED ENGINEER'S OR URVEYOR'S SEAL IS A VIOLATION OF SECTION 209 SUBDIVISION 2 OF THE NEW YORK STATE

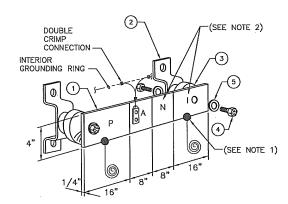
SITE NAME: NEWBURGH MALL SITE #: 321G4060 ADDRESS: 7 MEADOW HILL ROAD NEWBURGH, NY 12550 LTE

SHEET TITLE **GROUNDING PLAN & NOTES**

SHEET NUMBER

G-1

· · · · · · · · · · · · · · · · · · ·						
	NEWTO	N INSTRUMENT COI BUTNER, N.C.				
NO	REQUIRED	PART NUMBER	DESCRIPTION			
①	1	1/4"x4"x48"	SOLID GROUNDING BAR			
2	2	A-6056	WALL MOUNTING BRACKET			
3	2	3061-4	INSULATORS			
4	4	3012-1	5/8"-11x1" H.H.C.S.			
(5)	4	3015-8	5/8" LOCKWASHER			



(MGB) REFERENCE GROUNDING BAR

G-2

SCALE: NTS

EACH GROUNDING CONDUCTOR TERMINATING ON ANY GROUNDING BAR SHALL HAVE AN IDENTIFICATION TAG ATTACHED AT EACH END THAT WILL IDENTIFY ITS ORIGIN AND DESTINATION

SECTION "P" - SURGE PROTECTORS

(EC) CELL REFERENCE GROUNDING BAR (IF COLLOCATED)

(EC) GENERATOR FRAMEWORK (IF AVAILABLE) (#2 AWG) (EC) TELCO GROUNDING BAR (#2 AWG)

(EC) COMMERCIAL POWER COMMON NEUTRAL/GROUNDING BOND (3/0)

(EC) FIBER GROUNDING BAR (#2 AWG)
(EC) POWER ROOM REFERENCE GROUNDING BAR (#2 AWG)

(AT&T) RECTIFIER FRAMES

SECTION "A" - SURGE ABSORBERS

(EC) INTERIOR GROUNDING RING (#2 AWG)
(EC) EXTERNAL EARTH GROUNDING FIELD (BURIED GROUNDING

(EC) METALLIC COLD WATER PIPE (IF AVAILABLE) (1/0 AWG) (EC) BUILDING STEEL (IF AVAILABLE) (1/0 AWG)

SECTION "N" - NON-ISOLATED GROUNDING ZONE EQUIPMENT

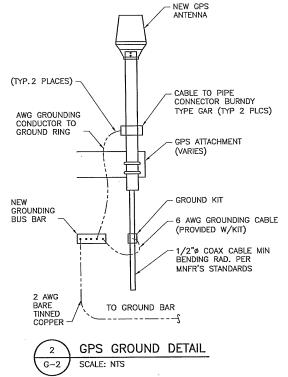
(EC) MISC. NON-ISOLATED GROUNDING ZONE EQUIPMENT (AT&T)-48V POWER SUPPLY RETURN BARE

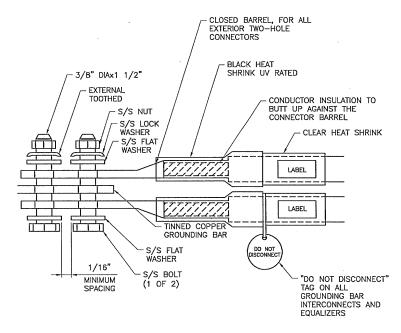
SECTION "I" - ISOLATED GROUNDING ZONE

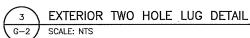
(AT&T) ALL ISOLATED GROUNDING REFERENCE

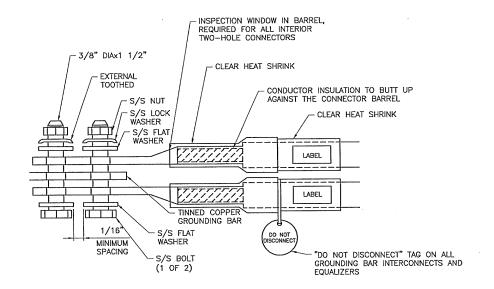
(AT&T) GROUNDING WINDOW BAR

GENERIC DETAILS, CONTRACTOR TO FIELD VERIFY EXISTING CONDITIONS PRIOR TO IMPLEMENTATION. CONTACT CONSTRUCTION MANAGER AND/OR DESIGN ENGINEER FOR APPROVAL.









INTERIOR TWO HOLE LUG DETAIL SCALE: NTS G-2





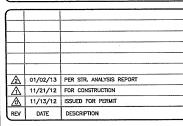
BLACK & VEATCH CORPORATION 45 EISENHOWER DRIVE SUITE 240 PARAMUS, NJ 07652

TECTONIC

- PLANNING
 ENGINEERING
 SURVEYING
 CONSTRUCTION MANAGEMENT
- TECTORIC Engineering & Surveying Consultants P.C. 1279 ROUTE 300 Newburgh, NY 12550

Phone: (845) 567-6656 Fax: (845) 567-8703

PROJECT NO: 6307.321G4060 DRAWN BY: MT MP/TN CHECKED BY:





UNAUTHORIZED ALTERATION OR ADDITIONS TO A PLAN BEARING A LICENSED ENGINEER'S OR SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE EDUCATION LAW.

SITE NAME: NEWBURGH MALL SITE #: 321G4060 ADDRESS: 7 MEADOW HILL ROAD NEWBURGH, NY 12550

> SHEET TITLE GROUNDING DETAILS

LTE

SHEET NUMBER

G-2

GENERAL CONSTRUCTION NOTES

- ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE NEW YORK STATE BUILDING CODE, LATEST VERSION AND ALL OTHER APPLICABLE CODES AND
- EXISTING BUILDING INFORMATION WAS OBTAINED BASED ON A LIMITED SITE INSPECTION BY TECTONIC ENGINEERING.
 OCCUPANCY IS LIMITED TO PERIODIC MAINTENANCE AND INSPECTION,
- APPROXIMATELY 2 TIMES PER MONTH, BY AT&T TECHNICIANS. NO NOISE, SMOKE, DUST OR ODOR WILL RESULT FROM THIS PROPOSAL
- OUTDOOR STORAGE AND SOLID WASTE CONTAINERS ARE NOT PROPOSED
- ALL MATERIALS SHALL BE FURNISHED AND WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS.
- SUBCONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS REQUIRED FOR CONSTRUCTION.
- SUBCONTRACTOR SHALL BE RESPONSIBLE FOR REPAIRING ANY DAMAGE CAUSED BY THE CONSTRUCTION OPERATION.
- 9. SUBCONTRACTOR SHALL REMOVE ALL TRASH AND DEBRIS FROM THE SITE ON A DAILY BASIS.

 10. INFORMATION SHOWN ON THESE DRAWINGS IS BASED ON A LIMITED SITE
- INSPECTION. SUBCONTRACTOR SHALL NOTIFY BLACK & VEATCH OF ANY DISCREPANCIES PRIOR TO ORDERING MATERIALS OR PROCEEDING WITH CONSTRUCTION.
- PROTECT EXISTING ROOFING WITH PLYWOOD OR PROTECTION BOARD IN ALL AREAS OF WORK. REPAIR ANY DAMAGE TO THE SATISFACTION OF THE BUILDING OWNER, AND MAINTAIN EXISTING ROOFING GUARANTEE BY USING OWNER'S ROOFING CONTRACTOR

ANTENNA NOTES

- DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL ALSO CONFORM TO ANSI/TIA-222-G-2005 "STRUCTURAL STANDARD FOR ANTENNA SUPPORTING STRUCTURES AND ANTENNAS".
- ALL ANTENNA MOUNTS AND ASSOCIATED APPURTENANCES SHALL BE INSTALLED WITH DOUBLE NUTS AND SHALL BE INSTALLED IN ACCORDANCE WITH MANUFACTURER'S SPECIFICATIONS.
- ALL CABLES SHALL BE GROUNDED WITH COAXIAL CABLE GROUNDING KITS. FOLLOW THE MANUFACTURER'S RECOMMENDATIONS GROUNDING AT THE ANTENNA LEVEL.
- GROUNDING AT MID LEVEL, TOWERS WHICH ARE OVER 200'-0", ADDITIONAL CABLE GROUNDING REQUIRED.
- GROUNDING AT BASE OF TOWER PRIOR TO TURNING HORIZONTAL GROUNDING OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.
- E. GROUNDING INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.
 ALL PROPOSED GROUNDING BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUNDING BAR DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUNDING BAR. TERMINATIONS MAY BE EXOTHERMIC OR
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ANTENNA AND THE COAX CONFIGURATION IS THE CORRECT MAKE AND MODELS. PRIOR TO
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S SPECIFICATION & RECOMMENDATIONS.
- CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
- IT IS THE CONTRACTORS RESPONSIBILITY TO VERIFY ANTENNA TMAS DIPLEXERS, AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S RECOMMENDATIONS
- 10. CONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.
- ALL OUTDOOR RF CONNECTORS/CONNECTIONS SHALL BE WEATHERPROOFED, EXCEPT THE RET CONNECTORS, USING BUTYL TAPE AFTER INSTALLATION AND FINAL CONNECTIONS ARE MADE. BUTYL TAPE SHALL HAVE A MINIMUM OF ONE—HALF TAPE WIDTH OVERLAP ON EACH TURN AND EACH LAYER SHALL BE WRAPPED THREE TIMES. WEATHERPROOFING SHALL BE SMOOTH WITHOUT BUCKLING. BUTYL BLEEDING IS NOT ALLOWED.
- 12. IF REQUIRED TO PAINT ANTENNAS AND/OR COAX: TEMPERATURE SHALL BE ABOVE 50° F
 - PAINT COLOR MUST BE APPROVED BY BUILDING OWNER/LANDLORD
 - FOR REGULATED TOWERS, FAA/FCC APPROVED PAINT IS REQUIRED.
 - DO NOT PAINT OVER COLOR CODING OR ON EQUIPMENT MODEL

STRUCTURAL STEEL NOTES

- DESIGN AND CONSTRUCTION OF STRUCTURAL STEEL SHALL CONFORM TO THE AMERICAN INSTITUTE OF STEEL CONSTRUCTION "SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS, ALLOWABLE STRESS DESIGN AND PLASTIC
- STRUCTURAL STEEL WIDE FLANGE SHAPES SHALL CONFORM TO ASTM A992, "STEEL FOR STRUCTURAL SHAPES FOR USE IN BUILDING FRAMING", GRADE 50, UNLESS OTHERWISE INDICATED. IF THE MEMBER SIZES INDICATED ARE NOT AVAILABLE IN THIS GRADE, ASTM A572 "HIGH-STRENGTH LOW-ALLOY COLUMBIUM-VANADIUM STRUCTURAL STEEL", GRADE 50, MAY BE
- HOLLOW STRUCTURAL SECTIONS (HSS) SHALL CONFORM TO ASTM A500 "COLD-FORMED WELDED & SEAMLESS CARBON STEEL STRUCTURAL TUBING IN ROUNDS AND SHAPES". GRADE B.
- MISCELLANEOUS STEEL, INCLUDING CHANNELS, ANGLES, PLATES, AND BARS SHALL CONFORM TO ASTM A36 "CARBON STRUCTURAL STEEL", UNLESS
- ANCHOR BOLTS SHALL CONFORM TO ASTM F1554 "ANCHOR BOLTS, STEEL, 36, 55, AND 105-KSI YIELD STRENGTH", GRADE 36
- STRUCTURAL CONNECTION BOLTS SHALL BE HIGH STRENGTH BOLTS CONFORMING TO ASTM A325 "STRUCTURAL BOLTS, STEEL, HEAT TREATED, 120/105 KSI MINIMUM TENSILE STRENGTH". BOLTS SHALL BE 3/4 INCH DIAMETER, TYPE X, UNLESS OTHERWISE NOTED
- MATCHING NUTS SHALL BE HEAVY HEX TYPE, CONFORMING TO ASTM A563 "CARBON AND ALLOY STEEL NUTS". WASHERS, WHERE REQUIRED, SHALL CONFORM TO ASTM F436 "HARDENED STEEL WASHERS"
- FIELD CONNECTIONS SHALL BE BOLTED UNLESS OTHERWISE INDICATED. ALL BOLTED CONNECTIONS SHALL BE MADE WITH NOT LESS THAN TWO (2) HIGH STRENGTH BOLTS, OR EQUIVALENT WELD.
- STRUCTURAL CONNECTIONS SHALL BE SNUG TIGHT IN ACCORDANCE WITH THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS "SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS", UNLESS OTHERWISE
- 10. BOLTS IN SLIP-CRITICAL CONNECTIONS SHALL BE FULLY PRETENSIONED BY THE TURN-OF-NUT METHOD IN ACCORDANCE WITH THE RESEARCH COUNCIL ON STRUCTURAL CONNECTIONS "SPECIFICATIONS FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS".
- . ANCHOR BOLTS SHALL BE TENSIONED BY THE TURN-OF-NUT METHOD AFTER GROUTING OF BASE PLATES.
- 12. CONTRACTOR SHALL COMPLY WITH AWS D1.1 "STRUCTURAL WEIDING CODE -STEEL" FOR PROCEDURES, APPEARANCE AND QUALITY OF WELDS, AND FOR METHODS USED IN CORRECTING WELDING. ALL WELDERS AND WELDING PROCESSES SHALL BE QUALIFIED IN ACCORDANCE WITH AWS "STANDARD QUALIFICATION PROCEDURES". AS STEEL BAR
- 13. GRATING GRATING SHALL BE TYPE "W/B" GALVANIZED WELDED IKG BORDEN, OR APPROVED EQUAL. BEARING BARS SHALL BE MANUFACTURED BY AS FOLLOWS: GRATING
- 14. BAND ALL EDGES. AND ATTACH TO SUPPORTING MEMBERS AT 18" ON CENTER WITH MODEL GG GALVANIZED G-CLIPS AS MANUFACTURED BY GRATING FASTENERS INC.
- 15. EXPANSION ANCHORS SHALL BE HILTI KWIK BOLT III OR APPROVED EQUAL. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS. MINIMUM EMBEDMENT SHALL BE 4-3/4" UNLESS
- 16. EPOXY ANCHOR ASSEMBLIES SHALL BE AS MANUFACTURED BY HILTI OR ENGINEER APPROVED EQUAL, AS FOLLOWS: BASE MATERIAL ANCHOR SYSTEM CONCRETE OR GROUTED CMU HIT HY-150
- 7. INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S WRITTEN
- 18. ALL INTERIOR STRUCTURAL STEEL SHALL BE SHOP PRIME COATED WITH A RUST-INHIBITIVE PRIMER EXCEPT AREAS TO BE FIREPROOFED NEED NOT BE PAINTED, SURFACE PREPARATION SHALL BE IN ACCORDANCE WITH THE PAINT MANUFACTURER'S RECOMMENDATIONS. AREAS WHICH MAY BE INACCESSIBLE AFTER INSTALLATION SHALL RECEIVE TWO (2) COATS OF PRIMER. SEE
- 19. FIELD CONNECTIONS AND DAMAGED OR ARRADED AREAS OF SHOP PRIME COAT SHALL BE TOUCH-UP PAINTED WITH COMPATIBLE FIELD PRIMER.
- 20. ALL EXTERIOR STEEL SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS OTHERWISE NOTED, ALL EXTERIOR BOLTS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE". UNLESS OTHERWISE NOTED.
- 21. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780 "REPAIR OF DAMAGED AND UNCOATED AREAS OF HOT-DIP GALVANIZED COATINGS".
- 22. ALL STEEL WORK SHALL BE SUBJECT TO SPECIAL INSPECTIONS DURING
- 23. THE NOTES CONTAINED HEREIN ARE NOT PROJECT SPECIFIC. THE CONTRACTOR SHALL UTILIZE ALL NOTES WHICH SOLELY PERTAIN TO THE WORK DEPICTED ON THESE DRAWINGS.

FIBER & POWER CABLE MOUNTING NOTES

- THE FIBER OPTIC TRUNK CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY. WHEN INSTALLING FIBER OPTIC TRUNK CABLES INTO A CABLE TRAY SYSTEM, THEY SHALL BE INSTALLED INTO AN INTER DUCT AND A PARTITION BARRIER SHALL BE INSTALLED BETWEEN 600 VOLT CABLES AND THE INTER DUCT IN ORDER TO SEGREGATE CABLE TYPES, OPTIC FIBER TRUNK CABLES SHALL HAVE APPROVED CABLE RESTRAINTS EVERY (60) SIXTY FEET AND SECURELY FASTENED TO THE CABLE TRAY SYSTEM. NFPA 70 (NEC) ARTICLE 770 RULES SHALL APPLY.
- THE TYPE TC-ER CABLES SHALL BE INSTALLED INTO CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY AND SHALL BE SECURED AT INTERVALS NOT EXCEEDING (6) SIX FEET. AN EXCEPTION: WHERE TYPE TC-ER CABLES ARE NOT SUBJECT TO PHYSICAL DAMAGE, CABLES SHALL BE PERMITTED TO MAKE A TRANSITION BETWEEN CONDUITS, CHANNEL CABLE TRAYS, OR CABLE TRAY WHICH ARE SERVING UTILIZATION EQUIPMENT OR DEVICES, A DISTANCE (6) SIX FEET SHALL NOT BE EXCEEDED WITHOUT CONTINUOUS SUPPORTING, NFPA 70 (NEC) ARTICLES 336 AND 392 RULES SHALL APPLY.
- WHEN INSTALLING OPTIC FIBER TRUNK CABLES OR TYPE TC-ER CABLES INTO CONDUITS, NFPA 70 (NEC) ARTICLE 300 RULES SHALL APPLY.

ANTENNA MOUNTING NOTES

- 1. DESIGN AND CONSTRUCTION OF ANTENNA SUPPORTS SHALL CONFORM TO CURRENT ANSI/TIA-222 OR APPLICABLE LOCAL CODES.
- 2. ALL STEEL MATERIALS SHALL BE GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123 "ZINC (HOT-DIP GALVANIZED) COATINGS ON IRON AND STEEL PRODUCTS", UNLESS NOTED OTHERWISE.
- ALL BOLTS, ANCHORS AND MISCELLANEOUS HARDWARE SHALL BE GALVANIZED IN ACCORDANCE WITH ASTM A153 "ZINC-COATING (HOT-DIP) ON IRON AND STEEL HARDWARE". LINEESS NOTED OTHERWISE.
- 4. DAMAGED GALVANIZED SURFACES SHALL BE REPAIRED BY COLD GALVANIZING IN ACCORDANCE WITH ASTM A780.
- 5. ALL ANTENNA MOUNTS SHALL BE INSTALLED WITH LOCK NUTS, DOUBLE NUTS AND SHALL BE TORQUED TO MANUFACTURER'S RECOMMENDATIONS.
- 6. CONTRACTOR SHALL INSTALL ANTENNA PER MANUFACTURER'S RECOMMENDATION FOR INSTALLATION AND GROUNDING.
- 7. ALL UNUSED PORTS ON ANY ANTENNAS SHALL BE TERMINATED WITH A 50-OHM LOAD TO ENSURE ANTENNAS PERFORM AS DESIGNED.
- 8. PRIOR TO SETTING ANTENNA AZIMUTHS AND DOWNTILTS, ANTENNA CONTRACTOR SHALL CHECK THE ANTENNA MOUNT FOR TIGHTNESS AND ENSURE THAT THEY ARE PLUMB. ANTENNA AZIMUTHS SHALL BE SET FROM TRUE NORTH AND BE ORIENTED WITHIN +/- 5% AS DEFINED BY THE RFDS. ANTENNA DOWNTILTS SHALL BE WITHIN +/- 0.5% AS DEFINED BY THE RFDS. REFER TO
- 9. JUMPERS FROM THE TMA'S MUST TERMINATE TO OPPOSITE POLARIZATION'S IN
- CONTRACTOR SHALL RECORD THE SERIAL #, SECTOR, AND POSITION OF EACH ACTUATOR INSTALLED AT THE ANTENNAS AND PROVIDE THE INFORMATION TO AT&T.
- 11. TMA'S SHALL BE MOUNTED ON PIPE DIRECTLY BEHIND ANTENNAS AS CLOSE TO ANTENNA AS FEASIBLE IN A VERTICAL POSITION.
- 12. ANTENNAS SHALL HAVE A 4'-0" MIN CENTER TO CENTER HORIZONTAL SEPARATION (U.N.O.).

TORQUE REQUIREMENTS

- 1. ALL RF CONNECTIONS SHALL BE TIGHTENED BY A TORQUE WRENCH.
- 2. ALL RF CONNECTIONS, GROUNDING HARDWARE AND ANTENNA HARDWARE SHALL HAVE A TORQUE MARK INSTALLED IN A CONTINUOUS STRAIGHT LINE FROM BOTH SIDES OF THE CONNECTION.
 - A. RF CONNECTION BOTH SIDES OF THE CONNECTOR
 - B. GROUNDING AND ANTENNA HARDWARE ON THE NUT SIDE STARTING FROM THE THREADS TO THE SOLID SURFACE. EXAMPLE OF SOLID SURFACE: GROUND BAR, ANTENNA BRACKET METAL.
- ALL 8M ANTENNA HARDWARE SHALL BE TIGHTENED TO 9 LB-FT (12 NM).
- 4. ALL 12M ANTENNA HARDWARE SHALL BE TIGHTENED TO 43 LB-FT (58 NM).
- 5. ALL GROUNDING HARDWARE SHALL BE TIGHTENED UNTIL THE LOCK WASHER COLLAPSES AND THE GROUNDING HARDWARE IS NO LONGER LOOSE.
- 6. ALL DIN TYPE CONNECTIONS SHALL BE TIGHTENED TO 18-22 LB-FT (24.4 - 29.8 NM).
- 7. ALL N TYPE CONNECTIONS SHALL BE TIGHTENED TO 15-20 LB-IN (1.7 -



NEW CINGULAR WIRELESS PCS, LLC 340 MOUNT KEMBLE AVENUE MORRISTOWN, NJ 07960



RIACK & VEATCH CORPORATION

EISENHOWER DRIVE SUITE 240
PARAMUS, NJ 07652

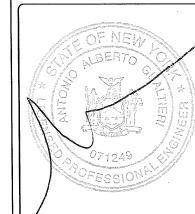
TECTONIC

- CONSTRUCTION MANAGEMENT
- TECTORIC Engineering & Surveying Consultants P.C. 1279 ROUTE 300
 Newburgh, NY 12550

(845) 567-6656 (845) 567-8703

PROJECT NO: 6307.321G4060 DRAWN BY: MT CHECKED BY MP/TN

2	01/02/13	PER STR. ANALYSIS REPORT
Δ	11/21/12	FOR CONSTRUCTION
◬	11/13/12	ISSUED FOR PERMIT
REV	DATE	DESCRIPTION



INAUTHORIZED ALTERATION OR ADDITIONS TO A PLAN BEARING A LICENSED ENGINEER'S OR SURVEYOR'S SEAL IS A VIOLATION OF SECTION 7209 SUBDIVISION 2 OF THE NEW YORK STATE

SITE NAME: NEWBURGH MALL SITE #: 321G4060 ADDRESS: 7 MEADOW HILL ROAD NEWBURGH, NY 12550

> SHEET TITLE NOTES

LTE

SHEET NUMBER

GN-1