

SHEET INDEX

| | |
|----------------------|--|
| ARCHITECTURAL | |
| T-1 | TITLE SHEET |
| SP-1 | GENERAL NOTES |
| A-1 | OVERALL SITE PLAN |
| A-2 | ENLARGE SITE PLAN AND ANTENNA SCHEDULE |
| A-3 | ANTENNA LAYOUT PLANS |
| A-4 | PARTIAL GARAGE LEVEL PLAN |
| A-5.1 | NORTHEAST ELEVATIONS |
| A-5.2 | SOUTHWEST ELEVATIONS |
| A-5.3 | PARTIAL NORTHWEST ELEVATIONS |
| A-6 | DETAILS |
| ELECTRICAL | |
| E-1 | ANTENNA GROUNDING PLANS, DETAILS and NOTES |

CITY OF SEATTLE CODE COMPLIANCE:
 2012 SBC, STANDARDS AND AMENDMENTS
 2012 SMC, STANDARDS AND AMENDMENTS
 2012 SFC, STANDARDS AND AMENDMENTS
 2012 UFC, STANDARDS AND AMENDMENTS, WAC 51-56, 51-57

PROJECT SUMMARY

APPLICANT:
 VERIZON WIRELESS
 3245 158TH AVE SE, M6231
 BELLEVUE, WA 98008

APPLICANT AGENT:
 ODELIA PACIFIC CORPORATION
 1215 4TH AVENUE, SUITE 1900
 SEATTLE, WA 98161
 CONTACT: SARAH TELSCHOW
 CELL: 206-919-6268
 FAX: 206-490-3839
 EMAIL: STELSCHOW@ODELIA.COM

LEASING CONSULTANT:
 ODELIA PACIFIC CORPORATION
 1215 4TH AVENUE, SUITE 1900
 SEATTLE, WA 98161
 CONTACT: GLENN PRIEST
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 FAX: 206-490-3839
 EMAIL: GPRIEST@ODELIA.COM

DESIGN CONSULTANT:
 CAMP ASSOCIATES INC.
 19401 40TH AVE W, SUITE 200
 LYNNWOOD, WA 98036
 CONTACT: ERIC CAMP
 PHONE: 425-740-6392

LEGAL DESCRIPTION:
 FOR GL 1 & 2 & BLKS F & G OF THE 2ND SUPL PLAT OF LK WN SH LDS TGV 2ND CL SHLDS ADJ ALL LY WLY OF W MGN LK WN BLVD - LESS FOR N OF S LN OF N 1076.80 FT SD GL 1 & ITS WLY PROD - LESS FOR THOF S OF LN BEG AT NXN 1902.66 FT S & PLW N LN GL 1 & W MGN LK WN BLVD TH S 03-09-13 E ALG W MGN T5 FT TO TPOB OF DESC LN TH N 88-35-53 W TO INNER HARBOR LN & TERMINUS THIS LN - LESS FOR CONV BY REC 8907281491 AKA LOT B KK ALT LL *LL-91-50 REC 9104302101

SITE NAME: SEA - CARILLON POINT
SITE ADDRESS: 3000 CARILLON POINT KIRKLAND, WA 98033
LAND OWNER: CARILLON PROPERTIES W BLVD. 3000 CARILLON POINT KIRKLAND, WA 98033
STRUCTURE OWNER: CARILLON PROPERTIES W BLVD. 3000 CARILLON POINT KIRKLAND, WA 98033
JURISDICTION: CITY OF KIRKLAND, WA
PARCEL NUMBER: 172505-9058
ZONING: PLA 15A
OCCUPANCY: USE GROUP B (BUSINESS)
CONSTRUCTION TYPE: 5B

ZON09-00001, BLD09-00001

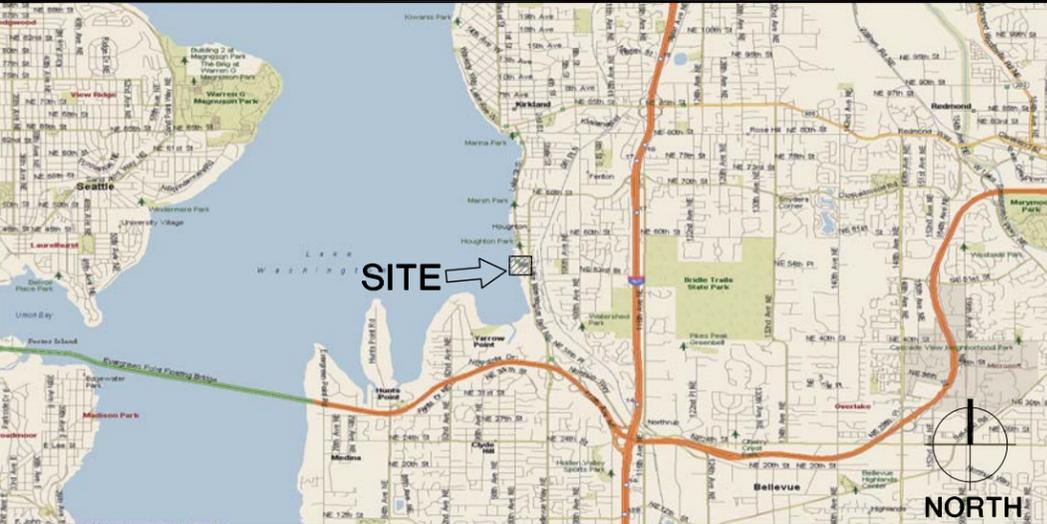
PROJECT DESCRIPTION:
 THE SCOPE OF WORK INCLUDES:
 UPDATE/REPLACE (6) PANEL ANTENNAS, AND ADD ANCILLARY EQUIPMENT

CONFIDENTIAL AND PROPRIETARY
 Not for disclosure outside VERIZON WIRELESS without permission.

SIGNATURE BLOCK

| TITLE | SIGNATURE | DATE |
|----------------------|-----------|------|
| CONSTRUCTION MANAGER | | |
| RF ENGINEER | | |
| REAL ESTATE | | |
| SITE ACQUISITION | | |
| PROPERTY OWNER | | |
| TOWER OWNER | | |

AREA MAP



DRIVING DIRECTIONS FROM VERIZON WIRELESS (3245 158TH AVE SE, BELLEVUE WA):
 1) DEPART 3245 158TH AVE SE, BELLEVUE, WA 98008 ON 158TH AVE SE (SOUTH-WEST)
 2) TURN RIGHT (WEST) ONTO SE EASTGATE WAY 3) TURN LEFT (WEST) ONTO RAMP I-90 W / SEATTLE
 4) TAKE RAMP (LEFT) ONTO I-90 (MOUNTAINS TO SOUND GREENWAY-I-90)
 5) AT EXIT 10, TURN RIGHT ONTO RAMP I-405 S / I-405 N / BELLEVUE / EVERETT / RENTON / TACOMA
 6) TAKE RAMP (RIGHT) ONTO I-405 N / BELLEVUE / EVERETT 7) AT EXIT 14, TURN RIGHT ONTO RAMP WA-520 E / WA-520 W / SEATTLE / REDMOND 8) TAKE RAMP (LEFT) ONTO WA-520 WA-520 W / SEATTLE 9) KEEP RIGHT ONTO RAMP 108TH AVE NE
 10) TURN RIGHT (NORTH) ONTO 108TH AVE NE, THEN IMMEDIATELY TURN LEFT (WEST) ONTO NORTHPUR WAY
 11) BEAR RIGHT ONTO LAKE WASHINGTON BLVD NE 12) TURN LEFT (WEST) ONTO LAKEVIEW DRIVE
 13) TURN RIGHT ONTO CARILLON POINT 14) ARRIVE AT 1200 CARILLON POINT, KIRKLAND, WA 98033



SEA - CARILLON POINT

(AWS)
 3000 CARILLON POINT
 KIRKLAND, WA 98033

LAT: 47° 39' 27.30" N
 LONG: 122° 12' 20.00" W
 ELEVATION: 50.0 FEET (AMSL)



SEA - CARILLON POINT
 (AWS)
 3000 CARILLON POINT
 KIRKLAND, WA 98033

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PROJECT MANAGER: EJC

PREPARED BY: GA

APPROVED BY: EJC

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| GA | 11/19/13 | PRELIM PERMIT ISSUE |
| GA | 11/15/13 | PRELIM PERMIT ISSUE |

SHEET NAME
TITLE SHEET

SHEET NUMBER
T1.0

PROJECT NUMBER
 20130995344

CONTRACTOR NOTES:

THE ARCHITECT/ENGINEERS HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. CONTRACTORS BIDDING THE JOB ARE NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS. THE BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE ARCHITECT/ENGINEERS OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED OTHERWISE.

GENERAL NOTES:

DRAWINGS ARE NOT TO BE SCALED, WRITTEN DIMENSIONS TAKE PRECEDENCE, AND THIS SET OF PLANS IS INTENDED TO BE USED FOR DIAGRAMMATIC PURPOSES ONLY, UNLESS NOTED OTHERWISE. THE GENERAL CONTRACTOR'S SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR, AND ANYTHING ELSE DEEMED NECESSARY TO COMPLETE INSTALLATIONS AS DESCRIBED HEREIN.

PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS INVOLVED SHALL VISIT THE JOB SITE AND FAMILIARIZE THEMSELVES WITH ALL CONDITIONS AFFECTING THE NEW PROJECT, WITH THE CONSTRUCTION AND CONTRACT DOCUMENTS, FIELD CONDITIONS AND CONFIRM THAT THE PROJECT MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH CONSTRUCTION. ANY ERRORS, OMISSIONS, OR DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE ARCHITECT/ENGINEER IN WRITING.

THE GENERAL CONTRACTOR SHALL RECEIVE WRITTEN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT DOCUMENTS.

THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.

THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO MANUFACTURERS' / VENDOR'S SPECIFICATIONS UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.

ALL WORK PERFORMED ON PROJECT AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS, AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK.

THE STRUCTURAL COMPONENTS OF THIS PROJECT SITE/FACILITY ARE NOT TO BE ALTERED BY THIS CONSTRUCTION PROJECT UNLESS NOTED OTHERWISE.

ANTENNA SUPPORTING POLE IS UNDER A SEPARATE CONTRACT. THE CONTRACTOR SHALL ASSIST ANTENNA INSTALLATION SUB-CONTRACTOR IN TERMS OF COORDINATION AND SITE ACCESS. ERECTION SUB-CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTION OF PERSONNEL AND PROPERTY FROM HAZARDOUS EXPOSURE TO OVERHEAD DANGERS.

GENERAL CONTRACTOR SHALL PROVIDE AT THE PROJECT SITE A FULL SET OF CONSTRUCTION DOCUMENTS UPDATED WITH THE LATEST REVISIONS AND APPENDIX OR CLARIFICATIONS FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.

DETAILS INCLUDED HEREIN ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB CONDITIONS OR SITUATIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE SCOPE OF WORK.

THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION UPON COMPLETION OF WORK. CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.

CONTRACTOR SHALL ENSURE THE GENERAL WORK AREA IS KEPT CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.

THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND NATIONAL CODES, REGULATIONS AND SAFETY REGULATIONS, ALL OSHA REGULATIONS, ALL PUBLIC AND MUNICIPAL AUTHORITIES, AND ANY UTILITY COMPANIES' REGULATIONS AND DIRECTIVES.

THE DRAWINGS AND SPECIFICATIONS ARE A GENERAL DIRECTIVE FOR THE SCOPE OF WORK. EXACT DIMENSIONS AND LOCATIONS MAY CHANGE IN THE FIELD. THE CONTRACTOR IS TO VERIFY THE DIMENSIONS AND LOCATIONS AND REPORT ANY AND ALL DISCREPANCIES TO REPRESENTATIVE. ANY MINOR ERRORS AND OMISSIONS IN THE DRAWINGS AND SPECIFICATIONS DOES NOT EXCUSE THE CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.

CONTRACTOR IS RESPONSIBLE FOR FIELD MEASUREMENTS TO CONFIRM LENGTHS OF CABLE TRAYS AND ELECTRICAL LINES AND ANTENNA MOUNTING.

VERIFICATION THAT EXISTING TOWER/POLE/STRUCTURE CAN SUPPORT THE PROPOSED ANTENNA, COAX & ADDITIONAL EQUIPMENT LOADING IS TO BE DONE BY OTHERS.

METAL NOTES:

PART 1 - GENERAL

- 1. SECTION INCLUDES: STRUCTURAL STEEL FRAMING MEMBERS, BASE PLATES, PLATES, BARS AND GROUTING UNDER BASE PLATES.
2. SUBMITTALS: SHOP DRAWINGS: INDICATE SIZES, SPACING, AND LOCATIONS OF STRUCTURAL MEMBERS, OPENINGS, CONNECTIONS, CAMBERS, LOADS, AND WELDED SECTIONS.
3. QUALITY ASSURANCE
A. FABRICATE STRUCTURAL STEEL MEMBERS IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
B. PERFORM DESIGN UNDER DIRECT SUPERVISION OF A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE.

PART 2 - PRODUCTS

- 1. MATERIALS:
A. STRUCTURAL STEEL MEMBERS: ASTM A572, GRADE 50
B. STRUCTURAL TUBING: ASTM A500, GRADE B
C. PIPE: ASTM A53, TYPE E OR S, GRADE B
D. BOLTS, NUTS, AND WASHERS: ASTM A325
E. ANCHOR BOLTS: ASTM A307
F. WELDING MATERIALS: AWS D11, TYPE REQUIRED FOR MATERIALS BEING WELDED
G. GROUT: NON-SHRINK TYPE, PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING ADDITIVES, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 10000 psi AT 28 DAYS.
H. SHOP AND TOUCH-UP PRIMER: SSPC 15, TYPE 1, RED OXIDE
I. TOUCH-UP PRIMER FOR GALV. SURFACES: ZINC RICH TYPE

- 2. FABRICATION: CONTINUOUSLY SEAL JOINTED MEMBERS BY CONTINUOUS WELDS. GRIND EXPOSED WELDS SMOOTH.
3. FINISH:
A. PREPARE STRUCTURAL COMPONENT SURFACES IN ACCORDANCE WITH SSPC SP-1 TO SP-10 PROCEDURES.
B. STRUCTURAL STEEL MEMBERS SHALL BE HOT DIPPED GALVANIZED.

PART 3 - EXECUTION

- 1. EXAMINATION AND PREPARATION: VERIFY THAT THE FIELD CONDITIONS ARE ACCEPTABLE.
2. ERECTION:
A. ALLOW FOR ERECTION LOADS. PROVIDE TEMPORARY BRACING TO MAINTAIN FRAMING IN ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRIDGING AND BRACING.
B. FIELD WELD COMPONENTS INDICATED ON SHOP DRAWINGS.
C. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE ARCHITECT/ENGINEER.
D. AFTER ERECTION, TOUCH-UP WELDS, ABRASIONS, AND SURFACES NOT SHOP PRIMED OR GALVANIZED WITH TOUCH-UP PRIMERS AS SPECIFIED UNDER SECTION 05000-METALS, PART 2 - PRODUCTS, H & I. SURFACES TO BE IN CONTACT WITH CONCRETE NOT INCLUDED.
3. FIELD QUALITY CONTROL: FIELD INSPECTION OF MEMBERS, CONNECTIONS, WELDS AND TORQUING.

TELECOMMUNICATIONS WIRING COMPONENTS (COAXIAL ANTENNA CABLE)

- 1. GENERAL
A. ALL MATERIALS, PRODUCTS OR PROCEDURES INCORPORATED INTO WORK SHALL BE NEW AND OF STANDARD COMMERCIAL QUALITY.
B. CERTAIN MATERIALS AND PRODUCTS WILL BE SUPPLIED BY THE OWNER (REFER TO GENERAL CONDITIONS FOR THE LIST OF OWNER FURNISHED EQUIPMENT, MATERIALS AND SUPPLIES FOR THESE ITEMS). THE CONTRACTOR IS RESPONSIBLE FOR PICKUP AND DELIVERY OF ALL SUCH MATERIALS.
C. ALL OTHER MATERIALS AND PRODUCTS SPECIFIED IN THE CONTRACT DOCUMENTS SHALL BE SUPPLIED BY THE CONTRACTOR.
2. MATERIALS:
A. COAXIAL CABLE:
1. INSTALL COAXIAL CABLE AND TERMINATIONS BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS WITH COAXIAL CABLES SUPPORTED AT NO MORE THAN 3'-0" O.C. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURERS' REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF EQUIPMENT LOCATION UNLESS OTHERWISE STATED.
2. ALL COAX RUN LENGTHS GREATER THAN 143 FEET SHALL BE 1-5/8" AND IN LENGTH LESS THAN OR EQUAL TO 143 FEET SHALL BE 1/8".
3. ANTENNA AND COAXIAL CABLE GROUNDING
A. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS)
4. COAXIAL CABLE IDENTIFICATION
A. TO PROVIDE EASY IDENTIFICATION AND UNIFORM MARKING OF ANTENNA CABLING, PLASTIC TAGS SHALL BE USED AT THE FOLLOWING LOCATIONS:
1. FIRST LOCATION IS AT THE END OF THE COAX NEAREST THE ANTENNA (WHERE THE COAXIAL CABLE AND JUMPER ARE CONNECTED).
2. SECOND LOCATION IS INSIDE THE EQUIPMENT SHELTER NEAR THE WAVEGUIDE ENTRY PORT.
B. USE ANDREW CABLE TIES (PT.# 21290) TO SECURE IDENTIFICATION TAGS.
5. TESTING
VERIZON WIRELESS SHALL PROVIDE AN INDEPENDENT TESTING AGENCY TO PERFORM THE COAXIAL SWEET TEST & REPORT. THE CONTRACTOR IS TO PROVIDE CLIMBER / QUALIFIED PERSONNEL TO ASSIST IN ANY REPAIRS AND WEATHERPROOFING ONCE THE TEST IS COMPLETE. THE CONTRACTOR IS TO PROVIDE VERIZON WIRELESS A MINIMUM OF 48 HOURS NOTICE PRIOR TO THE TIME OF THE SWEET TEST.

ELECTRICAL NOTES:

INSTALLATION OF SECONDARY POWER AND CONNECTION TO METER SHALL BE COMPLETED IN COMPLIANCE WITH NATIONAL ELECTRIC CODE, NFPA 70, AND THE STATE LAWS, RULES AND REGULATIONS FOR INSTALLING ELECTRIC WIRES & EQUIPMENT, ALL LATEST ISSUE, AND WITH SPECIFICATIONS PER A.S.T.M. B 231, B 400, I.C.E.A. 9651-401, I.C.E.A. P01-510, & LOCAL P.U.D.

PROVIDE A METER BASE PER LOCAL UTILITY STANDARDS. MOUNT ON SIDE OF OWNER FURNISHED BACK BOARD.

UNDERGROUND CONDUIT SHALL BE RIGID POLYVINYL CHLORIDE CONDUIT, SCHEDULE 40, TYPE 1, CONFORMING TO UL ARTICLE 651; WESTERN PLASTICS OR CARLON MANUFACTURER. COUPLINGS SHALL BE SLIP-ON, SOLVENT SEALED T PIPE, SOLVENT, WESTERN TYPE COMPATIBLE WITH PVC DUCT. ALL BENDS SHALL BE "WIDE SWEEP" TYPE WITH A 24" MINIMUM RADIUS. ALL CONDUIT UNDER ROADS SHALL BE RGS, (OR PVC ENCASED IN 8'X8' RED CONCRETE DUCTBANK).

CONDUIT USED INDOORS SHALL BE EMT, AND RIGID GALVANIZED STEEL FOR OUTDOORS. COUPLINGS SHALL BE RIGID STEEL AND COMPRESSION TYPE FOR EMT. SET SCREW FITTINGS ARE NOT PERMITTED. FOR ALL STUBS-UPS, USE RIGID GALVANIZED STEEL CONDUIT.

WIRE AND CABLE SHALL BE OF THE TYPE AND SIZE AS REQUIRED BY NEC. THERE WILL BE NO SPLICES ALLOWED. PROVIDE HDPE PULLING HAND HOLES AS NEEDED.

CONTRACTOR SHALL PROVIDE TEST OF THE GROUNDING SYSTEM BY CERTIFIED TESTING AGENT. PROVIDE INDEPENDENT TEST RESULTS TO THE PROJECT MANAGER FOR REVIEW. GROUNDING SYSTEM RESISTANCE TO GROUND SHALL NOT EXCEED 5 OHMS. ALL ABOVE GRADE INTERIOR GROUNDING CONNECTORS SHALL BE DOUBLE-LUG COMPRESSION TYPE. ALL BELOW GRADE AND EXPOSED EXTERIOR GROUNDING CONNECTIONS TO PERMANENT EQUIPMENT AND FIXED BUILDING ELEMENTS SHALL BE CADWELD TYPE. CARE SHALL BE TAKEN TO REVIEW CONNECTION LOCATIONS AND MATERIAL TYPES TO AVOID POSSIBLE GALVANIC CORROSION. ALL EXPOSED GROUNDING CONNECTIONS TO BE COATED WITH ANTI-CORROSIIVE AGENT SUCH AS 'NO-OXY', 'NOALOX', OR 'FENETROX'. VERIFY PRODUCT WITH PROJECT MANAGER. ALL BOLTS, WASHERS AND NUTS USED ON GROUNDING CONNECTIONS SHALL BE STAINLESS STEEL.

ALL EXTERIOR GROUND BARS SHALL BE COATED WITH ANTI-CORROSIIVE AGENT SUCH AS LPS-3 OR AS PER NOTE 6 ABOVE.

ALL JUNCTION AND OUTLET BOXES TO BE LABELED WITH KROY TAPE, OR EQUAL, DESIGNATING ALL CIRCUIT NUMBERS CONTAINED IN EACH BOX.

CONTRACTOR TO ENSURE ILC PROVIDED WITH (2) INTERNAL TVSS.

CONTRACTOR SHALL COORDINATE WITH SITE SURVEY TO LOCATE EXISTING UNDERGROUND UTILITIES. WHEREVER POTENTIAL CONFLICTS/ INTERFERENCES EXIST, HAND EXCAVATE TO AVOID DAMAGE. CONTACT ALL UTILITIES TO LOCATE UNDERGROUND PIPING IN PUBLIC ROW.

VERIFY THAT A.I.C. OF THE UTILITY DOES NOT EXCEED THE A.I.C. RATING OF THE PROVIDED EQUIPMENT SHELTER PACKAGE. IF OVER 10KVA, PROVIDE FUSIBLE SERVICE ENTRANCE SWITCH AND CONFIRM LOWERING OF AIC TO ACCEPTABLE LEVELS.

UTILITY POINTS OF SERVICE AND WORK / MATERIALS SHOWN ARE BASED UPON PRELIMINARY INFORMATION PROVIDED BY THE UTILITY COMPANIES AND ARE FOR BID PURPOSES ONLY.

CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK / MATERIALS REQUIREMENTS AND CONSTRUCT TO UTILITY COMPANY ENGINEERING PLANS AND SPECIFICATIONS ONLY. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, FULL ROPES, CABLES, FULL BOXES, CONCRETE ENCASEMENT OF CONDUIT (IF REQUIRED), TRANSFORMER PAD, BARRIERS, POLE RISERS, TRENCHING, BACKFILL, PAY ALL UTILITY COMPANY FEES AND INCLUDE ALL REQUIREMENTS IN SCOPE OF WORK.

GROUNDING NOTES:

- 1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE DESIGN AND CONSTRUCTION SPECIFICATIONS AND ALL APPLICABLE LOCAL CODES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
3. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
4. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
5. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING TWO (2) HIGH PRESS CRIMPS.
6. ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6' FOR EVERY ADDITIONAL CONNECTION.
7. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
8. ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG TIN PLATED COPPER UNLESS OTHERWISE INDICATED.
9. GROUND RODS SHALL BE STAINLESS STEEL OR COPPER CLAD STEEL, 5/8" 10-FT. LONG (OR NOTED OTHERWISE ON PLANS), AND SHALL BE DRIVEN VERTICALLY WITH THEIR TOPS 18" BELOW FINAL GRADE OR 6' BELOW FROST LINE FOR MAXIMUM DEPTH.
10. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
11. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
12. GROUND RING SHALL BE LOCATED A MINIMUM OF 24" BELOW GRADE OR 6' MINIMUM BELOW THE FROST LINE.
13. INSTALL GROUND CONDUCTORS AND GROUND ROD MINIMUM OF 1'-0" FROM EQUIPMENT CONCRETE PAD, SPREAD FOOTING, OR FENCE.
14. EXOTHERMIC WELD GROUND CONNECTION TO FENCE POST: TREAT WITH A COLD GALVANIZED SPRAY.
15. OBSERVE N.E.C. AND LOCAL UTILITY REQUIREMENTS FOR ELECTRICAL SERVICE GROUNDING
16. GROUNDING ATTACHMENT TO TOWER SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS OR AT GROUNDING POINTS PROVIDED (2 MINIMUM)
17. MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS.
18. CONTRACTOR TO VERIFY CURRENT GROUNDING STANDARDS PRIOR TO CONSTRUCTION.

1 GENERAL NOTES

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SEA - CARILLON POINT (AWS) 3000 CARILLON POINT KIRKLAND, WA 98033

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PROJECT MANAGER: EJC

PREPARED BY: GA

APPROVED BY: EJC

Table with 3 columns and 2 rows containing dates and permit status (e.g., GA 11/19/13 PRELIM PERMIT ISSUE)

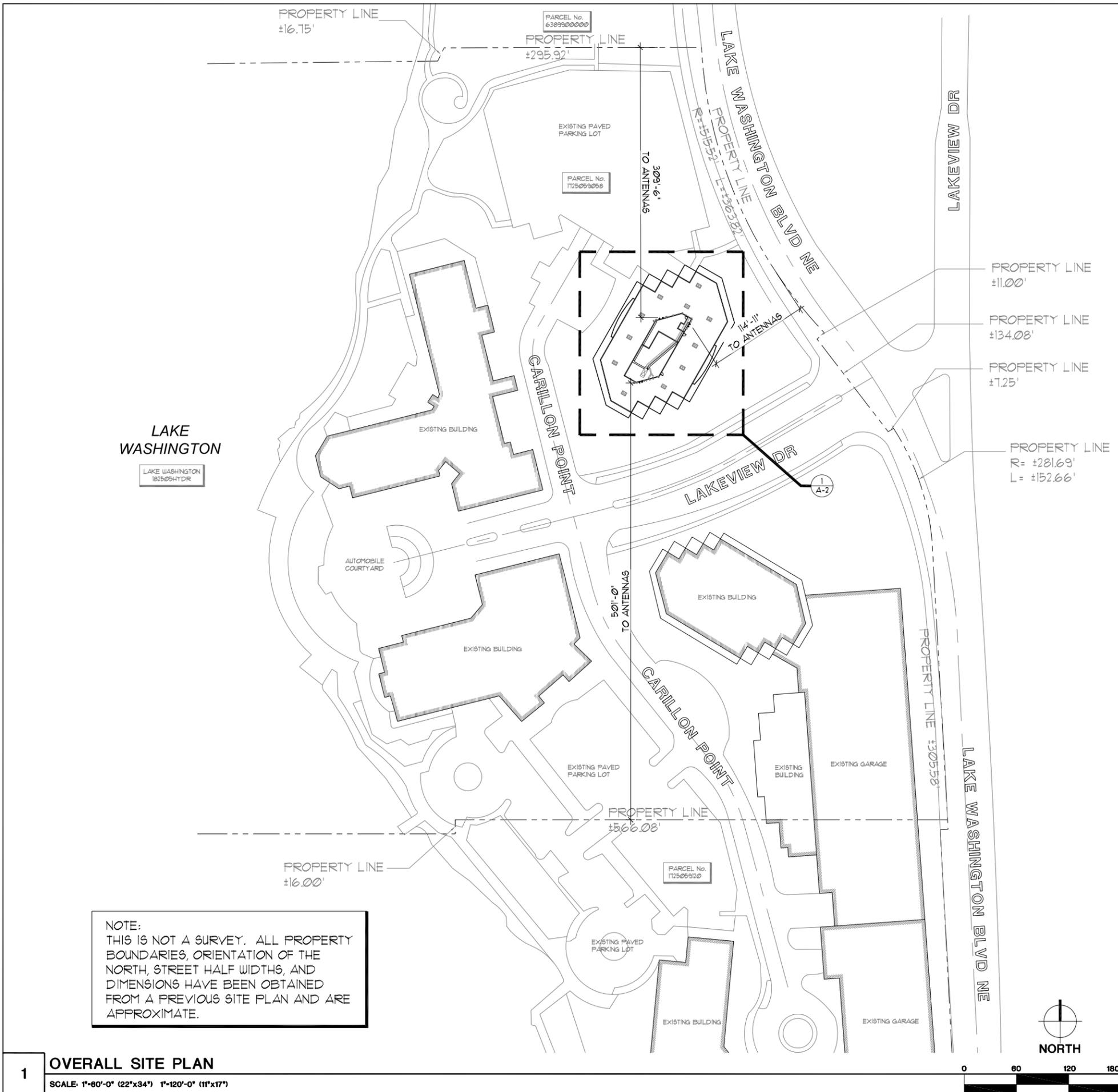
SHEET NAME

GENERAL NOTES

SHEET NUMBER

SP-1

PROJECT NUMBER 20130995344



FOR GL 1 & 2 & BLKS F & G OF THE 2ND SUPL PLAT OF LK WN SH LDS TGV 2ND CL SHLDS ADJ ALL LY WLY OF W MGN LK WN BLVD-LESS FOR N OF S LN OF N 1076.80 FT SD GL 1 & ITS WLY PROD - LESS FOR TH OF S OF LN BEG AT NXN 1902.66 FT & PLW N LN GL 1 & W MGN LK WN BLVD TH S 03-03-13 E ALG W MGN 75 FT TO TPOB OF DESC LN TH N 88-35-53 W TO INNER HARBOR LN & TERMINUS THIS LN - LESS FOR CONV BY REC 8907281491 AKA LOT B KK ALT LL *LL-91-50 REC 9104302101

4 LEGAL DESCRIPTION

SCALE: NO SCALE



3 VICINITY MAP

SCALE: NO SCALE

| EXISTING | | NEW |
|-------------|-----------------------------|-------------|
| —SAS— | SANITARY SEWER | —SAS— |
| —STS— | STORM SEWER | —STS— |
| —W— | WATER MAIN | —W— |
| ⊕ | SANITARY MANHOLE ELEVATIONS | ⊕ |
| ⊕ | STORM STRUCTURE ELEVATIONS | ⊕ |
| --- | PROPERTY LINE & ROW | --- |
| ↗ | SURFACE DRAINAGE | ↗ |
| ○ | LIGHT STANDARD | ● |
| ○ | STREET LIGHT | ● |
| 672.75 | SPOT ELEVATION | 672.75 |
| 672 | CONTOUR | 672 |
| —G—G— | GAS MAIN | —G—G— |
| ⊙ | MANHOLE | ⊙ |
| ○ | CATCH BASIN | ● |
| ○ | FIRE HYDRANT | ● |
| --- | EASEMENT LINE | --- |
| --- | FENCE | --- |
| ---UE/UT--- | BURIED UTILITY LINE | ---UE/UT--- |
| ⊕ | UTILITY POLE | ⊕ |
| ---OE/OT--- | OVERHEAD UTILITY LINE | ---OE/OT--- |
| | BUILDING | |

2 LEGEND

SCALE: NO SCALE



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(AWS)
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SHEET NAME

OVERALL SITE PLAN

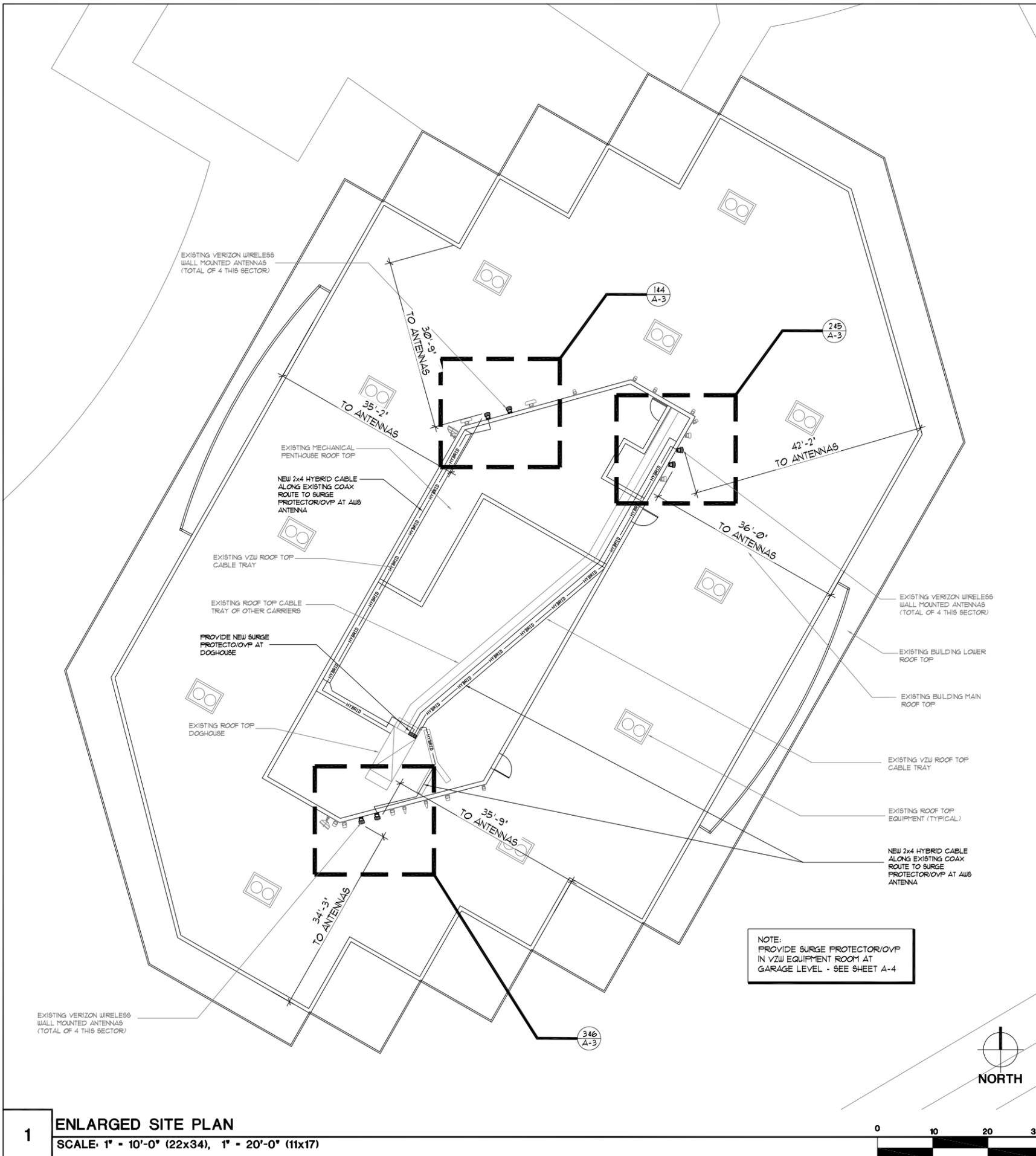
SHEET NUMBER

A-1

PROJECT NUMBER
20130995344

1 OVERALL SITE PLAN

SCALE: 1"=60'-0" (22"x34") 1"=120'-0" (11"x17")



| ANTENNA / COAX SCHEDULE | | | | | | | | |
|-------------------------|------------------|--------------------|--------------|---------|----------|----------------------|-----------|-------------|
| SECTOR | ANTENNA QUANTITY | ANTENNA TIP HEIGHT | ANTENNA SIZE | AZIMUTH | DOWNTILT | NUMBER OF CABLE RUNS | COAX SIZE | COAX LENGTH |
| ALPHA | 1 EXISTING (850) | 9'1"-0" | 4'-0" | 345° | 0 | 2 EXISTING | 1 5/8" | 195' |
| ALPHA | 1 NEW (PCS) | 9'1"-0" | 4'-3" | 345° | 0 | DIPLEXED W/ 850 | -- | -- |
| ALPHA | 1 NEW (AWS) | 9'1"-0" | 4'-3" | 345° | 0 | -- | -- | -- |
| ALPHA | 1 EXISTING (100) | 9'1"-0" | 4'-0" | 345° | 5 | 2 EXISTING | 1 5/8" | 195' |
| BETA | 1 EXISTING (850) | 9'1"-0" | 4'-0" | 90° | 0 | 2 EXISTING | 1 5/8" | 195' |
| BETA | 1 NEW (PCS) | 9'1"-0" | 4'-3" | 90° | 0 | DIPLEXED W/ 850 | -- | -- |
| BETA | 1 NEW (AWS) | 9'1"-0" | 4'-3" | 90° | 0 | -- | -- | -- |
| BETA | 1 EXISTING (100) | 9'1"-0" | 4'-0" | 90° | 0 | 2 EXISTING | 1 5/8" | 195' |
| GAMMA | 1 EXISTING (850) | 9'1"-0" | 4'-0" | 110° | 0 | 2 EXISTING | 1 5/8" | 195' |
| GAMMA | 1 NEW (PCS) | 9'1"-0" | 4'-3" | 110° | 0 | DIPLEXED W/ 850 | -- | -- |
| GAMMA | 1 NEW (AWS) | 9'1"-0" | 4'-3" | 110° | 0 | -- | -- | -- |
| GAMMA | 1 EXISTING (100) | 9'1"-0" | 4'-0" | 110° | 0 | 2 EXISTING | 1 5/8" | 195' |
| HYBRID CABLE | N/A | N/A | N/A | N/A | N/A | 1 NEW | 6x12 | 195' |

NOTE: PROVIDE (1) NEW 6x12 HYBRID CABLE RUN FROM SURGE PROTECTOR/OVP AT EQUIPMENT RM TO SURGE PROTECTOR AT ROOF TOP DOGHOUSE
 NOTE: PROVIDE (3) NEW 2x4 HYBRID CABLES FROM SURGE PROTECTOR AT ROOF TOP DOGHOUSE TO SURGE PROTECTORS AT ANTENNAS
 NOTE: PROVIDE (1) NEW SURGE PROTECTOR/OVP AT EACH SECTOR FOR A TOTAL OF 3)
 NOTE: PROVIDE (2) NEW RRU AT EACH SECTOR FOR AWS + PCS ANTENNAS



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PROJECT MANAGER: EJC

PREPARED BY: GA

APPROVED BY: EJC

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| GA | 11/15/13 | PRELIM PERMIT ISSUE |

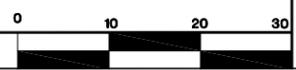


SHEET NAME
 ENLARGED
 SITE PLAN
 AND ANTENNA
 SCHEDULE

SHEET NUMBER
 A-2

PROJECT NUMBER
 20130995344

1 ENLARGED SITE PLAN
 SCALE: 1" = 10'-0" (22x34), 1" = 20'-0" (11x17)



TOP OF PENTHOUSE ROOF
ELEVATION: +98'-0" A.G.L.

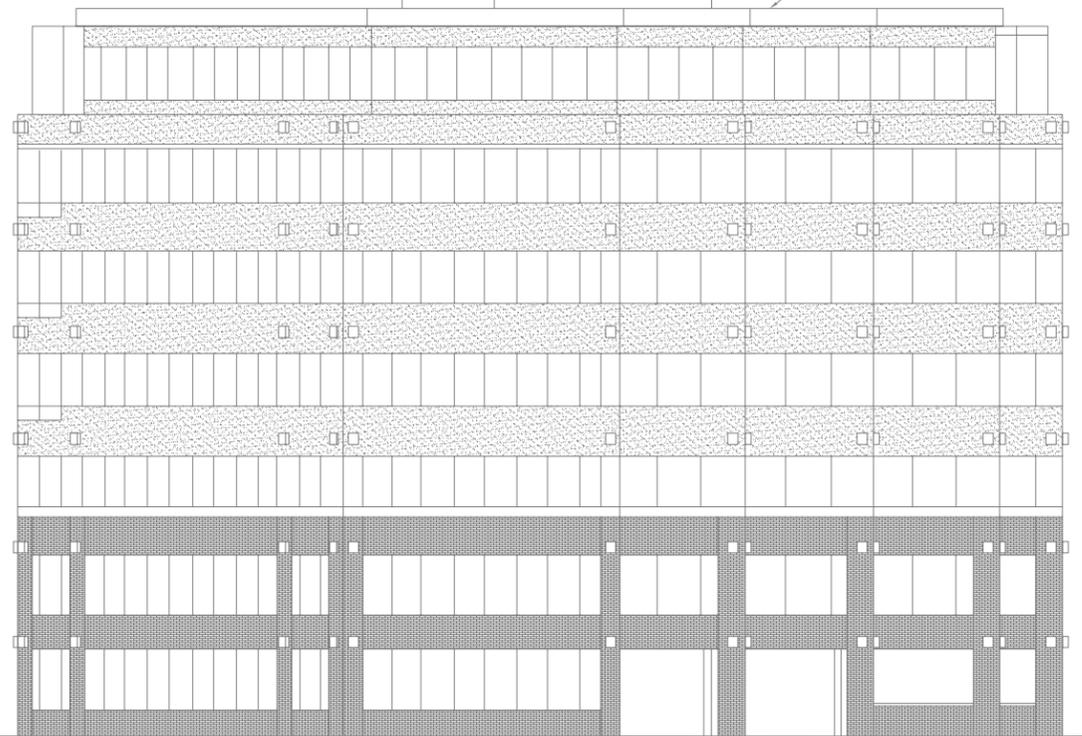
TIP HEIGHT EXISTING ANTENNAS
ELEVATION: +91'-0" A.G.L.

EXISTING DOGHOUSE ATOP
PENTHOUSE

EXISTING WALL MOUNTED
VERIZON WIRELESS
ANTENNAS (4 PER SECTOR,
TOTAL OF 12)

EXISTING ANTENNAS (BY
OTHER CARRIER)

EXISTING BUILDING



FINISH GRADE
ELEVATION: 0'-0"

2 EXISTING NORTHWEST ELEVATION

SCALE: 3/32"=1'-0" (22"x34") 3/64"=1'-0" (11"x17")

TOP OF PENTHOUSE ROOF
ELEVATION: +98'-0" A.G.L.

TIP HEIGHT NEW ANTENNAS
ELEVATION: +91'-0" A.G.L.

EXISTING DOGHOUSE ATOP
PENTHOUSE

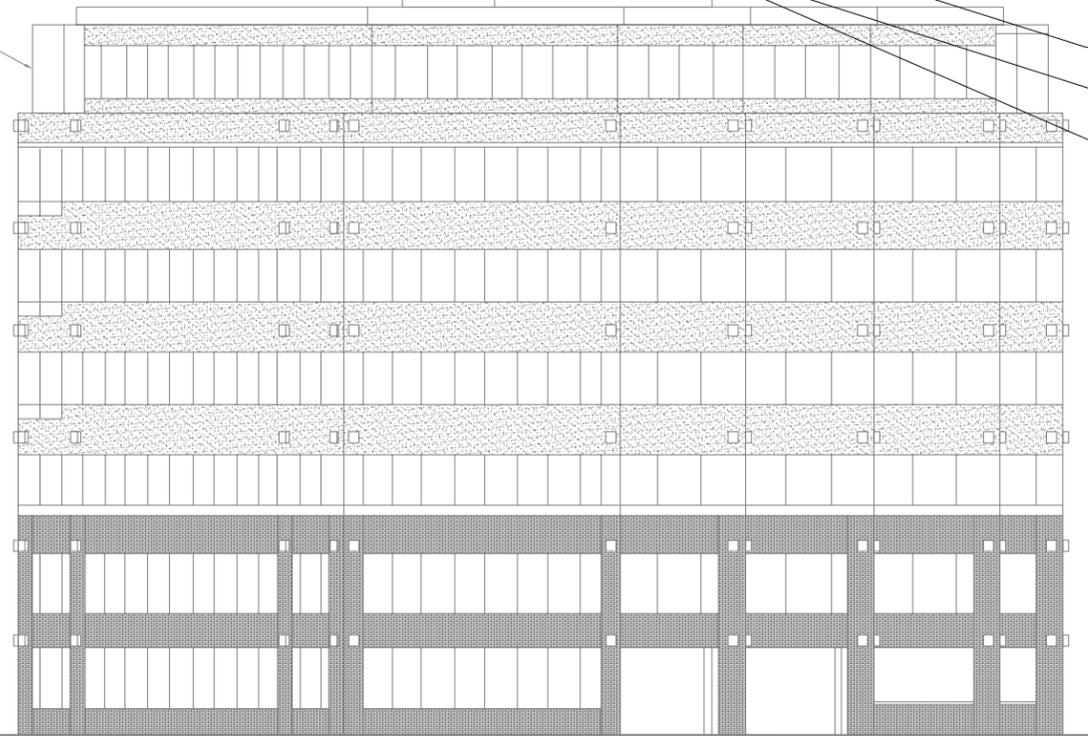
HYBRID

EXISTING WALL MOUNTED
VERIZON WIRELESS
ANTENNAS (2 PER SECTOR,
TOTAL OF 6)

EXISTING ANTENNAS (BY
OTHER CARRIER)

EXISTING BUILDING

PAINT NOTE:
ALL ANTENNAS, ANCILLARY EQUIPMENT,
AND CABLES TO BE PAINTED TO
MATCH EXISTING CONDITIONS



NEW WALL MOUNTED V2U ANTENNAS
(2 PER SECTOR, TOTAL OF 6) (2 A-6)

NEW SURGE PROTECTOR/OVP
MOUNTED BELOW ANTENNA (4 A-6)

NEW RRU MOUNTED BELOW ANTENNA (3 A-6)

FINISH GRADE
ELEVATION: 0'-0"

1 PROPOSED NORTHWEST ELEVATION

SCALE: 3/32"=1'-0" (22"x34") 3/64"=1'-0" (11"x17")



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PROJECT MANAGER: EJC

PREPARED BY: GA

APPROVED BY: EJC

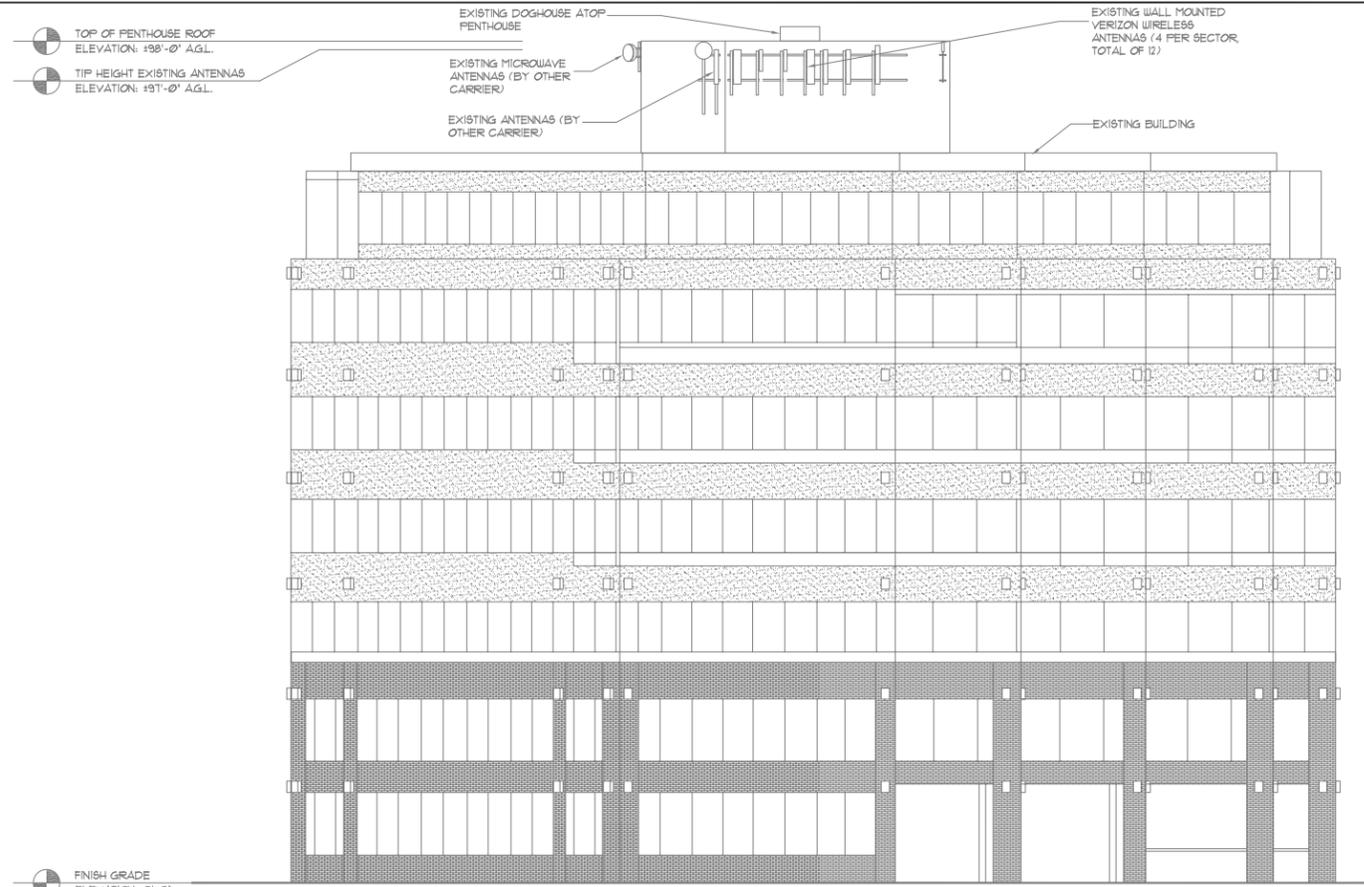
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SHEET NAME
ELEVATIONS

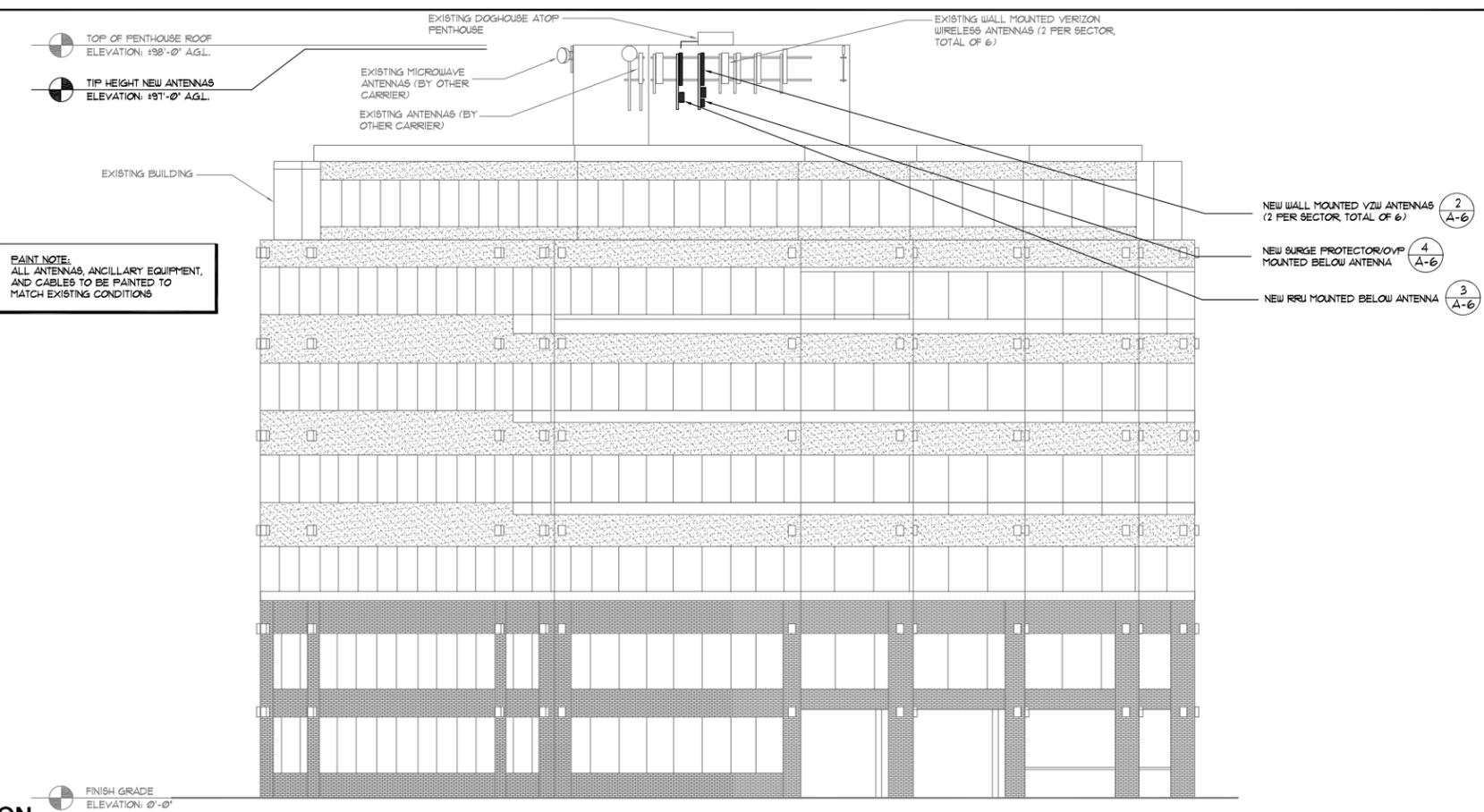
SHEET NUMBER
A-5.1

PROJECT NUMBER
20130995344



2 EXISTING SOUTHEAST ELEVATION

SCALE: 3/32"=1'-0" (22"x34") 3/64"=1'-0" (11"x17")



1 PROPOSED SOUTHEAST ELEVATION

SCALE: 3/32"=1'-0" (22"x34") 3/64"=1'-0" (11"x17")



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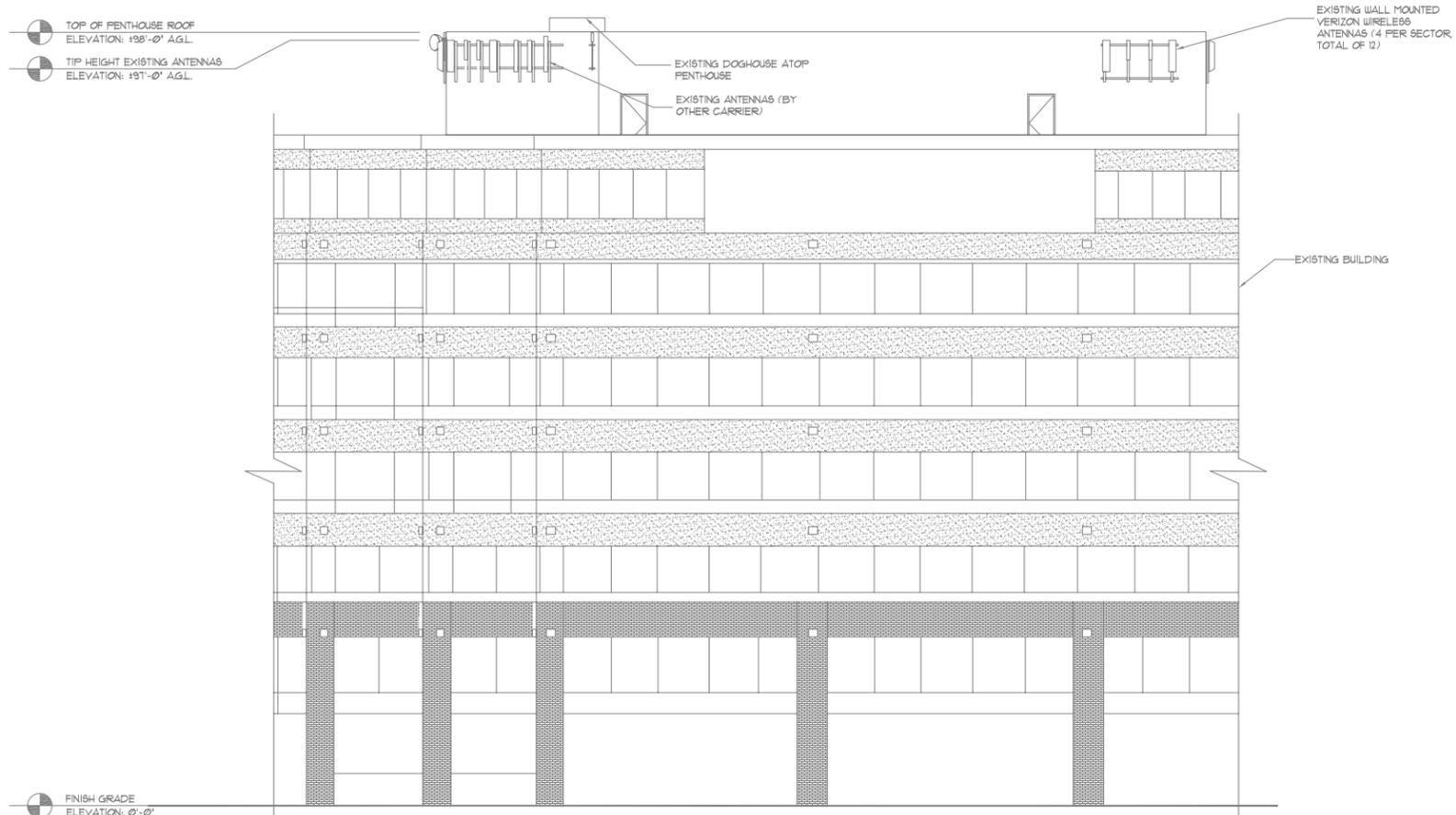
APPROVED BY: EJC

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SHEET NAME
ELEVATIONS

SHEET NUMBER
A-5.2

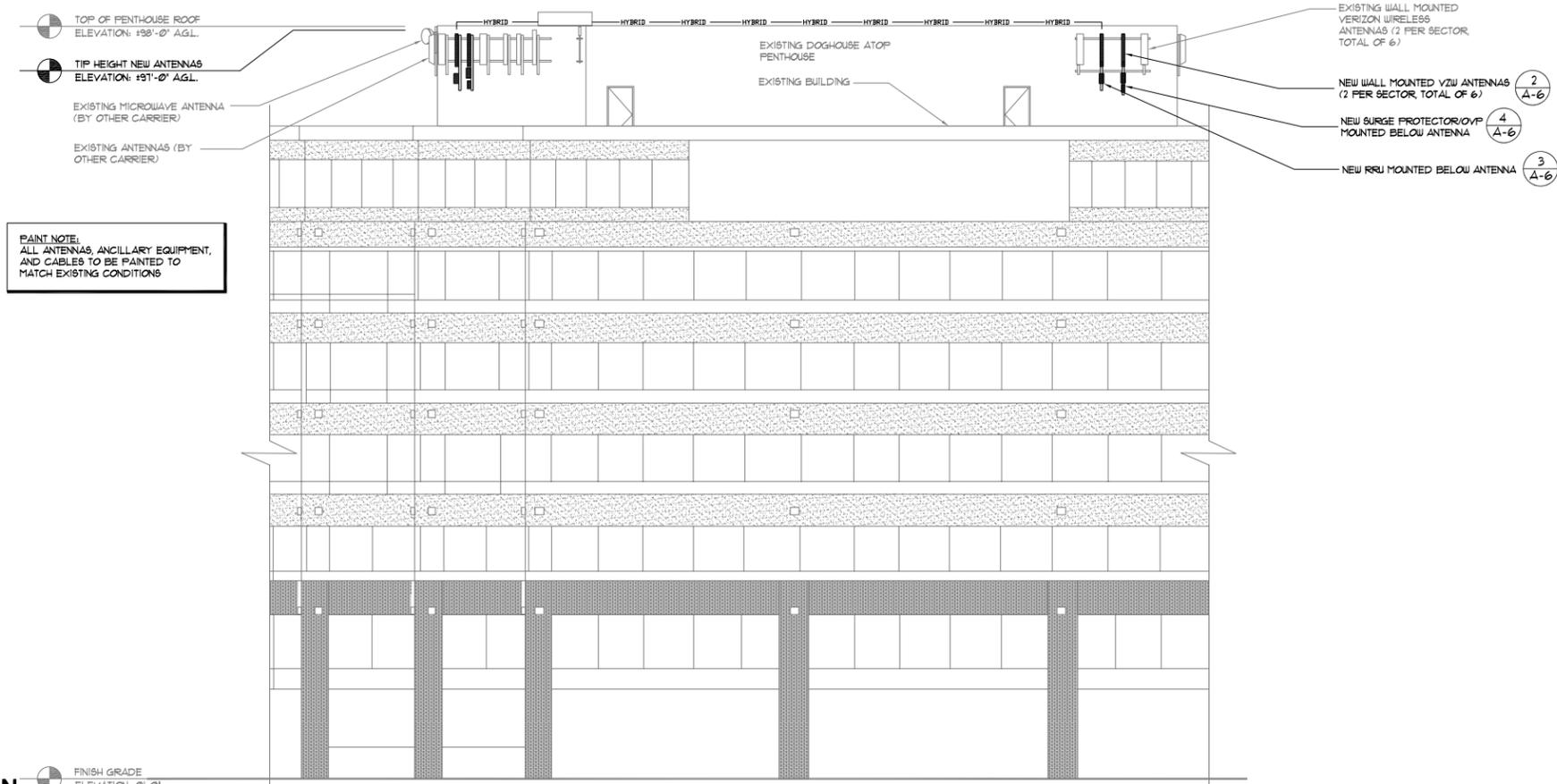
PROJECT NUMBER
20130995344



2 EXISTING PARTIAL SOUTHWEST ELEVATION

SCALE: 3/32"=1'-0" (22"x34") 3/64"=1'-0" (11"x17")

FINISH GRADE
ELEVATION: 0'-0"



1 PROPOSED PARTIAL SOUTHWEST ELEVATION

SCALE: 3/32"=1'-0" (22"x34") 3/64"=1'-0" (11"x17")

FINISH GRADE
ELEVATION: 0'-0"



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PROJECT MANAGER: EJC

PREPARED BY: GA

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| GA | 11/15/13 | PRELIM PERMIT ISSUE |

SHEET NAME
ELEVATIONS

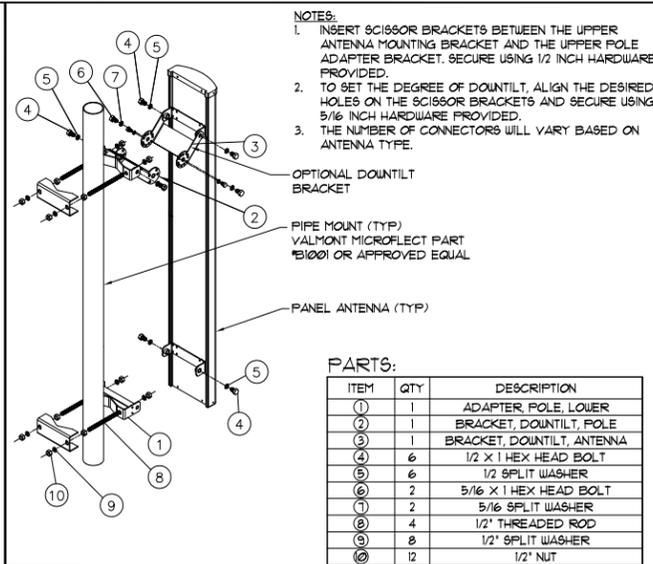
SHEET NUMBER
A-5.3

PROJECT NUMBER
20130995344

GENERAL NOTES:

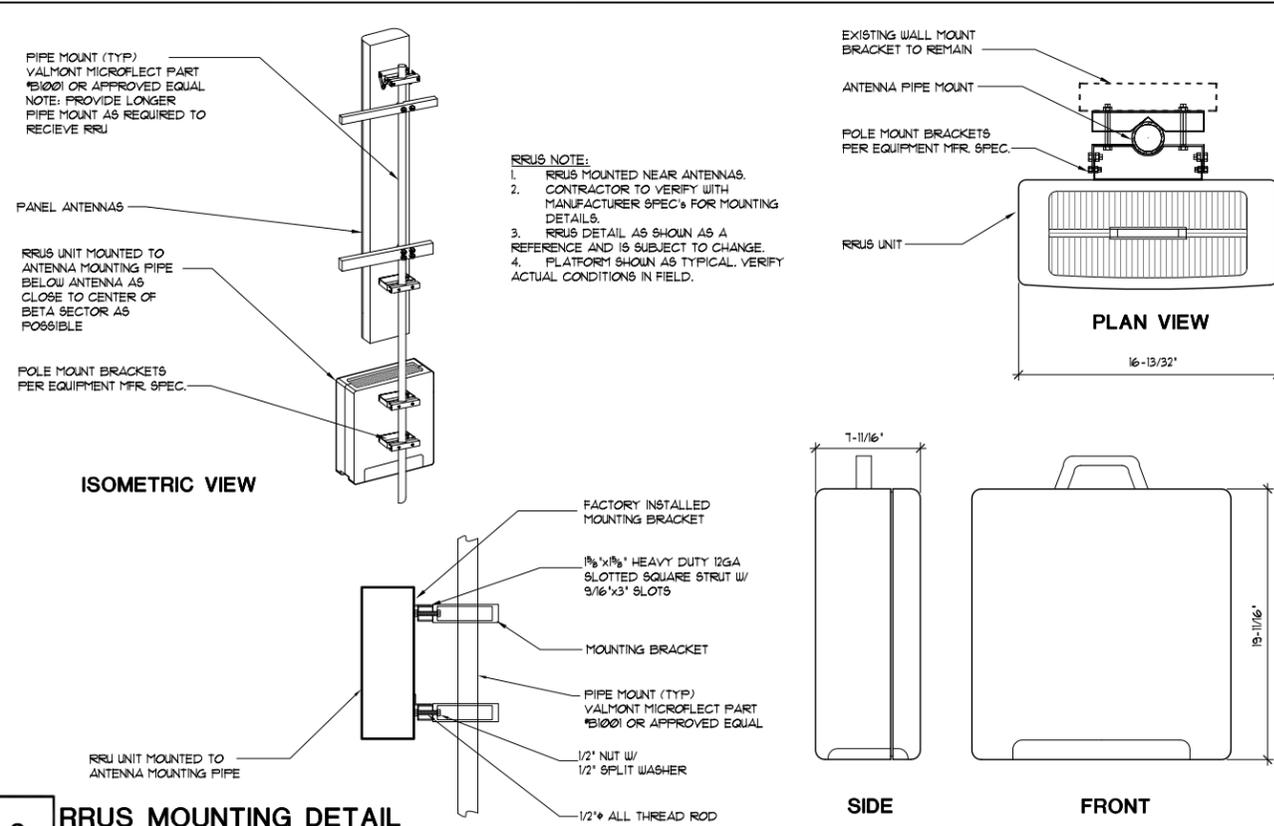
1. THE CONTRACTOR SHALL COMPLY WITH ALL LOCAL AND NATIONAL CODES, REGULATIONS AND SAFETY REGULATIONS, ALL OSHA REGULATIONS, ALL PUBLIC AND MUNICIPAL AUTHORITIES, AND ANY UTILITY COMPANIES' REGULATIONS AND DIRECTIVES.
2. THE DRAWINGS AND SPECIFICATIONS ARE A GENERAL DIRECTIVE FOR THE SCOPE OF WORK. EXACT DIMENSIONS AND LOCATIONS MAY CHANGE IN THE FIELD. THE CONTRACTOR IS TO VERIFY THE DIMENSIONS AND LOCATIONS AND REPORT ANY AND ALL DISCREPANCIES TO REPRESENTATIVE. ANY MINOR ERRORS AND OMISSIONS IN THE DRAWINGS AND SPECIFICATIONS DOES NOT EXCUSE THE CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. CONTRACTOR IS RESPONSIBLE FOR FIELD MEASUREMENTS TO CONFIRM LENGTHS OF CABLE TRAYS AND ELECTRICAL LINES AND ANTENNA MOUNTING.
4. VERIFICATION THAT EXISTING TOWER/POLE CAN SUPPORT THE PROPOSED ANTENNA, COAX & ADDITIONAL EQUIPMENT LOADING IS TO BE DONE BY OTHERS.

1 GENERAL NOTES



2 ANTENNA MOUNTING HARDWARE

NOT TO SCALE



3 RRUS MOUNTING DETAIL

NOT TO SCALE

INSTALLATION INSTRUCTIONS:

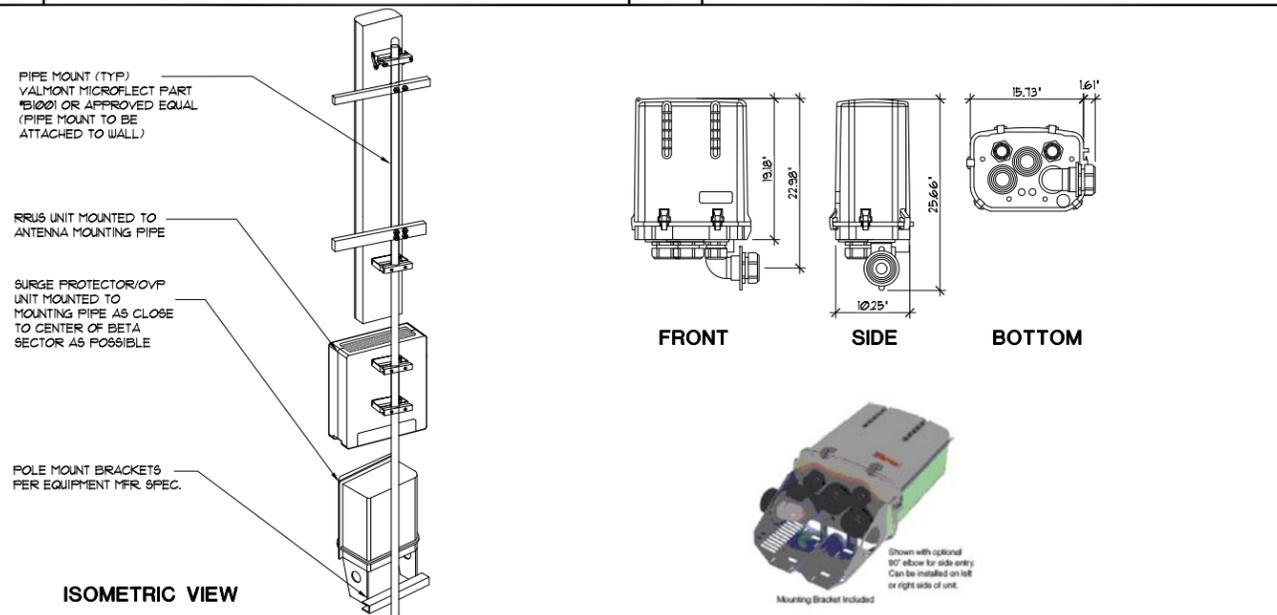
- *OTHER MICROFLECT SEALANTS MAY BE USED SUCH AS B184 SEALING TAPE OR B202 DUCT SEAL DEPENDING ON THE APPLICATION.
- *METAL, WOOD, PLASTIC: POSITION THE WAVEGUIDE ENTRY PLATE ON THE WALL, MAKING SURE THAT IT IS LEVELED AND MARK ALL THE HOLE LOCATIONS ON THE WALL.
- CUT THE LARGE HOLES FIRST, THEN DRILL 5/16" HOLES 1-3/8" DEEP FOR THE MOUNTING SCREWS. FOR METAL OR PLASTIC WALLS, INSERT THE APPLIED SCREW ANCHORS INTO THE MOUNTING HOLES. ATTACH THE ENTRY PLATE WITH THE PROVIDED SCREWS AND FINISH WASHERS.
- IF OTHER MOUNTING HARDWARE IS USED, IE. BOLTS AND NUTS, BE SURE TO USE THE PROVIDED FINISH WASHERS.
- APPLY B185 ALUMILASTIC SEALANT OR EQUAL (NOT SUPPLIED) ALONG THE SIDES AND TOP OF THE WAVEGUIDE ENTRY PLATE. ALSO COVER THE MOUNTING SCREWS WITH SEALANT.

ENTRY PANEL WITH 1-3/8" EDGE DIST.

| PRODUCT NUMBER | NUMBER OF PORTS | PORT LAYOUT | DIMENSIONS | | | | WALL OPENING |
|----------------|-----------------|-------------|------------|----|------|----|--------------|
| | | | W | H | C | D | |
| B199 | 1 | x | 7" | 7" | 5.5" | 4" | 4"x4" |

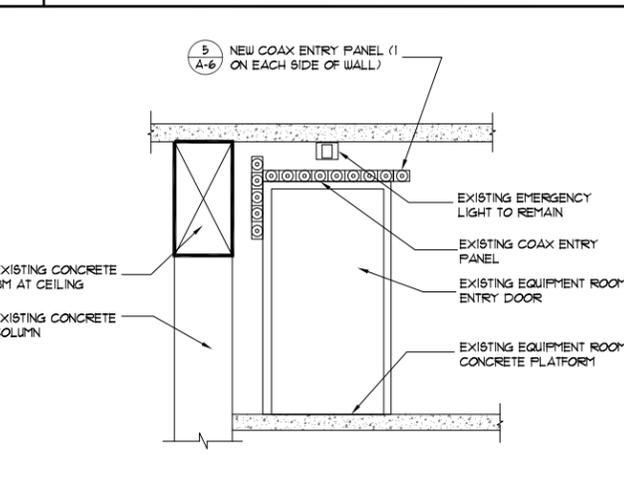
5 PORT WAVEGUIDE

NOT TO SCALE



4 SURGE PROTECTOR/OVP DETAILS

NOT TO SCALE



6 PARTIAL EQUIPMENT ROOM ELEVATION

NOT TO SCALE



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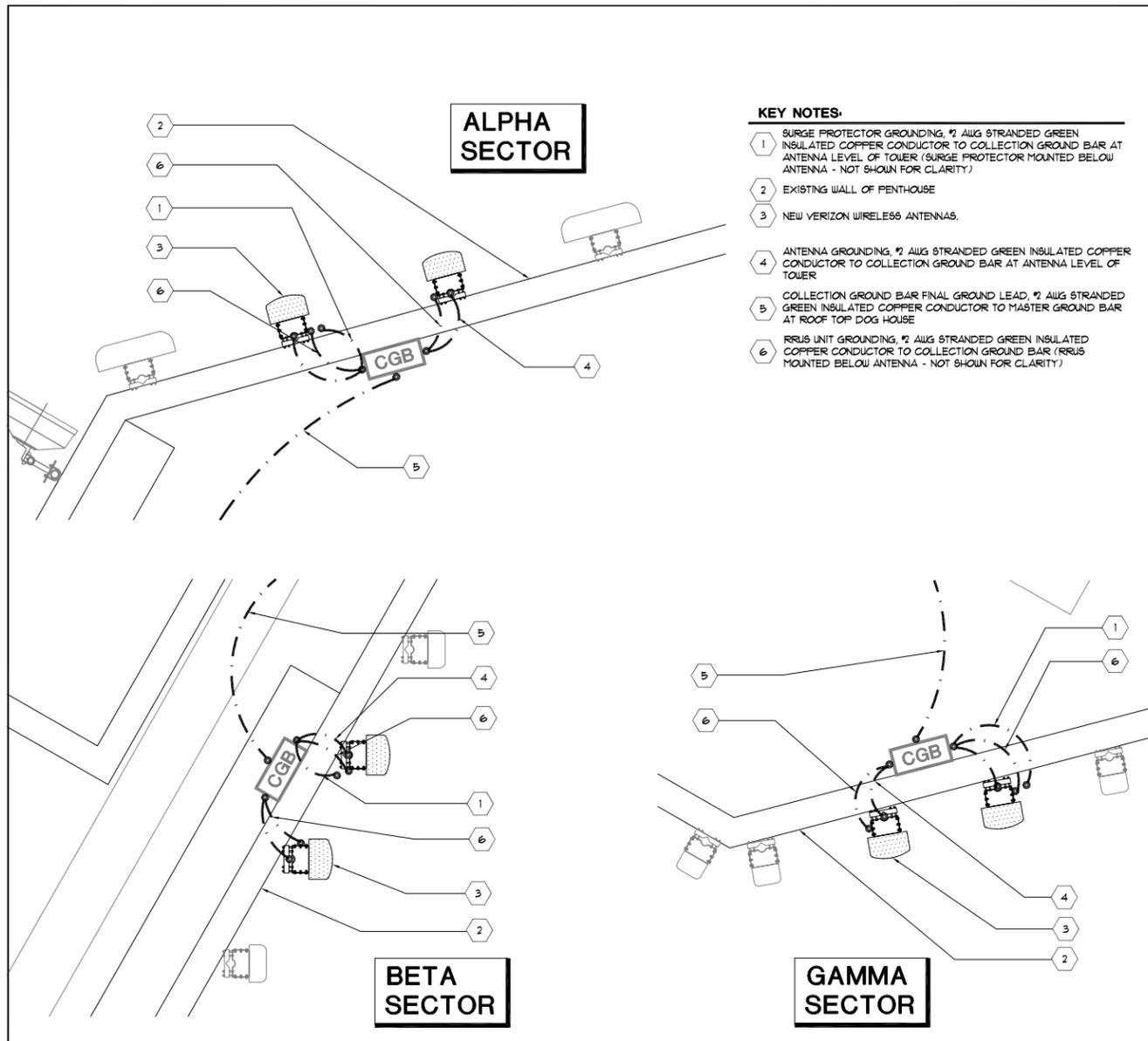
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SHEET NAME
DETAILS

SHEET NUMBER
A-6

PROJECT NUMBER
20130995344



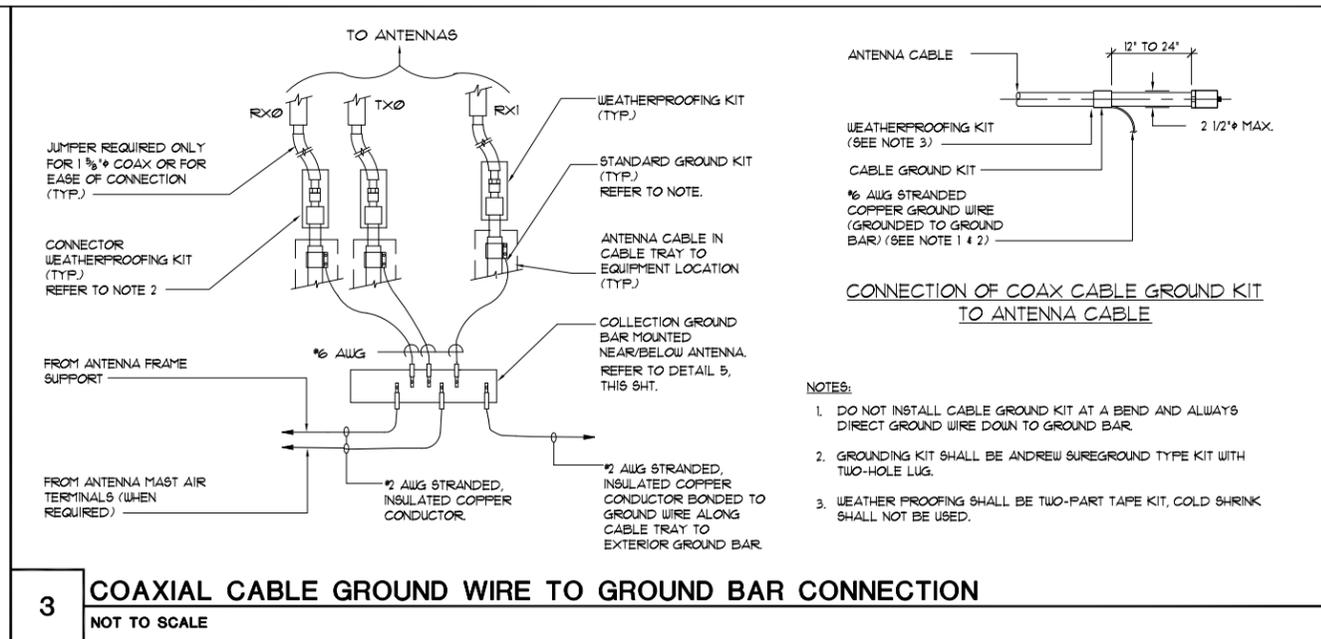
ALPHA SECTOR

BETA SECTOR

GAMMA SECTOR

KEY NOTES:

- 1 SURGE PROTECTOR GROUNDING, #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR TO COLLECTION GROUND BAR AT ANTENNA LEVEL OF TOWER (SURGE PROTECTOR MOUNTED BELOW ANTENNA - NOT SHOWN FOR CLARITY)
- 2 EXISTING WALL OF PENTHOUSE
- 3 NEW VERIZON WIRELESS ANTENNAS.
- 4 ANTENNA GROUNDING, #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR TO COLLECTION GROUND BAR AT ANTENNA LEVEL OF TOWER
- 5 COLLECTION GROUND BAR FINAL GROUND LEAD, #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR TO MASTER GROUND BAR AT ROOF TOP DOG HOUSE
- 6 RRUS UNIT GROUNDING, #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTOR TO COLLECTION GROUND BAR (RRUS MOUNTED BELOW ANTENNA - NOT SHOWN FOR CLARITY)

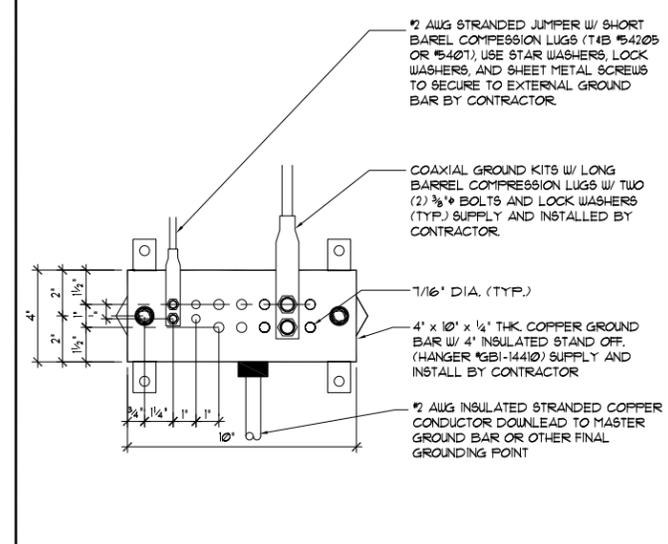


3 COAXIAL CABLE GROUND WIRE TO GROUND BAR CONNECTION
NOT TO SCALE

| LEGEND | |
|--------|---|
| ITEM | DESCRIPTION |
| ⊗ | 5/8" DIAMETER x 10'-0" LONG COPPER CLAD GROUND ROD, MINIMUM 42" BELOW GRADE, AT MINIMUM 10'-0" O.C. (HARGER 5810) |
| --- | #2 AWG TINNED SOLID BARE COPPER WIRE, MINIMUM 30" BELOW GRADE, OR 6" BELOW LOCAL FROST LINE |
| + | CADWELDED CONNECTION |

GENERAL NOTES:

1. ALL CADWELDED CONNECTIONS ON GALVANIZED SURFACES SHALL BE CLEANED THOROUGHLY AND COVERED WITH TWO (2) COATS OF SHERWIN WILLIAMS GALVANITE PAINT B350UB3 OR EQUAL.
2. ALL ELECTRICAL CADWELD AND MECHANICAL GROUND CONNECTIONS WILL HAVE NON-OXIDATION COMPOUND APPLIED TO CONNECTION.
3. ANY METAL OBJECTS WITHIN 6 FEET OF THE EXTERNAL GROUND RING SHALL BE GROUNDED.
4. ALL GROUNDING MATERIALS AND CADWELD MOLDS, SHOTS, ETC. SHALL BE FURNISHED AND INSTALLED BY CONTRACTOR UNLESS OTHERWISE NOTED.
5. THE ELECTRICAL CONTRACTOR SHALL FOLLOW GROUNDING SYSTEM INSTALLED AND TESTING PROCEDURES AS DESCRIBED IN THE GENERAL ELECTRICAL PROVISIONS.

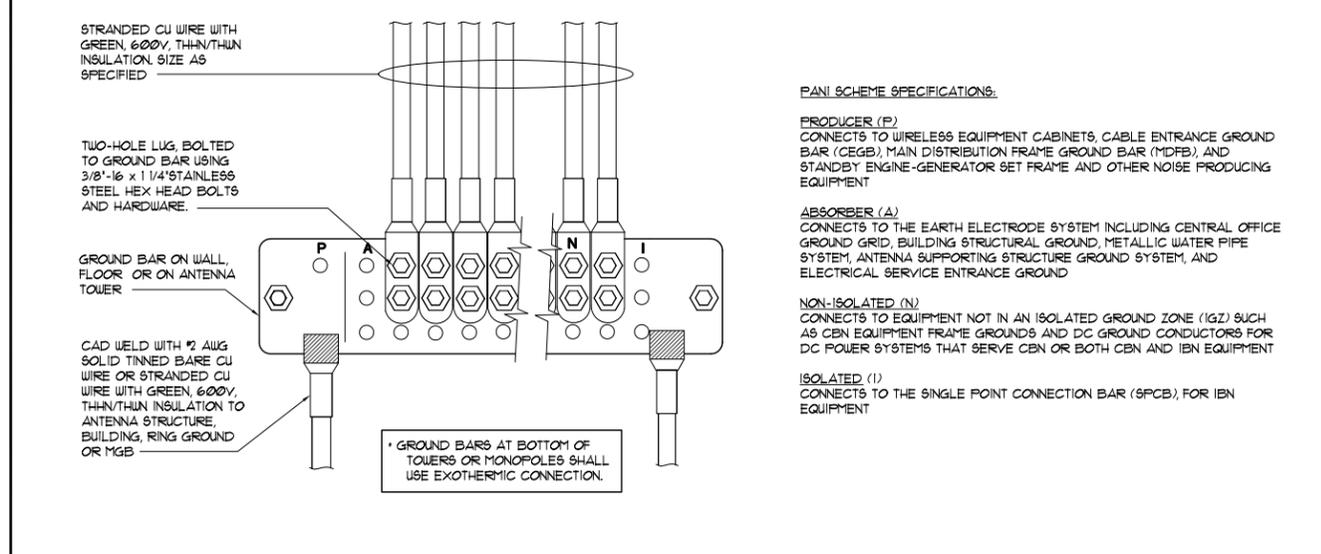


5 COLLECTION GROUND BAR
NOT TO SCALE

1 GROUNDING PLANS AND NOTES
SCALE: 1/2" = 1'-0" (22x34), 1/4" = 1'-0" (11x17)

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE DESIGN AND CONSTRUCTION SPECIFICATIONS AND ALL APPLICABLE LOCAL CODES.
2. ALL GROUNDING SHALL CONFORM TO THE CURRENT VERIZON WIRELESS STANDARDS.
3. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED.
4. THE CONTRACTOR IS RESPONSIBLE FOR PROPERLY SEQUENCING GROUNDING AND UNDERGROUND CONDUIT INSTALLATION AS TO PREVENT ANY LOSS OF CONTINUITY IN THE GROUNDING SYSTEM OR DAMAGE TO THE CONDUIT.
5. PREFABRICATED SHELTER WILL BE PROVIDED WITH INTERNAL WIRING AND EQUIPMENT INSTALLED. FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO DRAWINGS PROVIDED BY SHELTER MANUFACTURER.
6. FOR INTERIOR EQUIPMENT LAYOUT AND LOCATION, SEE SHELTER MANUFACTURER'S DRAWINGS AND SPECIFICATION. IN CASE OF CONFLICT THE DRAWINGS GOVERN.
7. ALL GROUND CONNECTIONS BELOW GRADE SHALL BE EXOTHERMIC (CADWELD).
8. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR & EXTERIOR) SHALL BE FORMED USING TWO (2) HIGH PRESS CRIMPS.
9. ALL EXOTHERMIC CONNECTIONS TO THE GROUND RODS SHALL START AT THE TOP & HAVE A VERTICAL SEPARATION OF 6" FOR EVERY ADDITIONAL CONNECTION.
10. ALL GROUNDING CONNECTORS TO BE CLEAN AND FREE OF PAINT AT THEIR MATING SURFACES AND INSTALL PER MANUFACTURER'S RECOMMENDATIONS. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
11. ALL EXTERIOR GROUND CONDUCTORS SHALL BE #2 AWG TIN PLATED COPPER UNLESS OTHERWISE INDICATED.
12. GROUND RODS SHALL BE STAINLESS STEEL OR COPPER CLAD STEEL, 5/8"Ø/10-FT. LONG, AND SHALL BE DRIVEN VERTICALLY WITH THEIR TOPS 18" BELOW FINAL GRADE OR 6" BELOW FROST LINE FOR MAXIMUM DEPTH.
13. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED. BACK TO BACK CONNECTIONS ON OPPOSITE SIDES OF THE GROUND BUS ARE PERMITTED.
14. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
15. GROUND RING SHALL BE LOCATED A MINIMUM OF 24" BELOW GRADE OR 6" MINIMUM BELOW THE FROST LINE.
16. INSTALL GROUND CONDUCTORS AND GROUND ROD MINIMUM OF 1'-0" FROM EQUIPMENT CONCRETE PAD, SPREAD FOOTING, OR FENCE.
17. EXOTHERMIC WELD GROUND CONNECTION TO FENCE POST: TREAT WITH A COLD GALVANIZED SPRAY.
18. OBSERVE N.E.C. AND LOCAL UTILITY REQUIREMENTS FOR ELECTRICAL SERVICE GROUNDING.
19. GROUNDING ATTACHMENT TO TOWER SHALL BE AS PER MANUFACTURER'S RECOMMENDATIONS OR AT GROUNDING POINTS PROVIDED (2 MINIMUM).
20. MAXIMUM RESISTANCE OF THE COMPLETED GROUND SYSTEM SHALL NOT EXCEED 5 OHMS.
21. MINIMUM BENDING RADIUS FOR GROUNDING CONDUCTORS IS 8' WHEN BENDING IS NECESSARY. GROUND CONDUCTORS ARE TO BE AS STRAIGHT AS POSSIBLE.
22. NO SPLICES PERMITTED IN GROUND CONDUCTORS.
23. ENSURE ALL MECHANICAL CONNECTORS ARE TORQUED TO THE MANUFACTURER'S SPECIFIED VALUES.
24. GROUND BARS SHALL NOT BE FIELD MODIFIED.
25. ALL HORIZONTAL FENCE SECTIONS TO BE GROUNDED WITH 8" SINGLE BARREL GROUND STRAPS.
26. USE PANI SCHEME FOR LOADING ON MGB AS DISCUSSED IN NSTD 119, 33 & 36.

2 GENERAL NOTES



6 GROUND BAR CONNECTION DETAIL AND NOTES
NOT TO SCALE



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PRODUCER (P)
CONNECTS TO WIRELESS EQUIPMENT CABINETS, CABLE ENTRANCE GROUND BAR (CEGB), MAIN DISTRIBUTION FRAME GROUND BAR (MDFB), AND STANDBY ENGINE-GENERATOR SET FRAME AND OTHER NOISE PRODUCING EQUIPMENT

ABSORBER (A)
CONNECTS TO THE EARTH ELECTRODE SYSTEM INCLUDING CENTRAL OFFICE GROUND GRID, BUILDING STRUCTURAL GROUND, METALLIC WATER PIPE SYSTEM, ANTENNA SUPPORTING STRUCTURE GROUND SYSTEM, AND ELECTRICAL SERVICE ENTRANCE GROUND

NON-ISOLATED (N)
CONNECTS TO EQUIPMENT NOT IN AN ISOLATED GROUND ZONE (IGZ) SUCH AS CBN EQUIPMENT FRAME GROUNDS AND DC GROUND CONDUCTORS FOR DC POWER SYSTEMS THAT SERVE CBN OR BOTH CBN AND IEN EQUIPMENT

ISOLATED (I)
CONNECTS TO THE SINGLE POINT CONNECTION BAR (SPCB), FOR IEN EQUIPMENT

SHEET NAME
GROUNDING PLAN, DETAIL AND NOTES

SHEET NUMBER
E-1

PROJECT NUMBER
20130995344