



**CITY OF SOMERVILLE**  
Commonwealth of Massachusetts  
93 Highland Avenue  
Somerville, MA 02143  
(617) 625-6600

## **BUSINESS LICENSE APPLICATION - Small Wireless Facility**

File #: 19-014870

License #: BL19-000109

Address: 435 SOMERVILLE AVE

Licensee: Matthew Pricco Network Building + Consulting

DBA Name: ExteNet Systems, Inc.

Business Ownership Type: Corporation

Legal Name of Entity: ExteNet Systems, Inc.

Owners/Officers: James A. Hyde, H. Anthony Lehv, Daniel L. Timm,

### **License Information:**

**Do you believe this to be a 6409(a) application?:**

**Describe the reason for the work, and the intended beneficiaries:**

**Provide the detailed description of the work that should appear on the License:**

Installation of a small cell wireless facility on a wood utility pole in the public right-of-way at 435 Somerville Ave as depicted on the drawings accompanying this application. The facility will improve wireless communications services for residents, businesses, and visitors in the vicinity.

**# of installations on existing poles: 1**

**# of installations on new poles:**

**Provide the legal name of the entity that will own the License: ExteNet Systems, Inc.**

Approval Conditions:

**Approved By:**

**Hans Jensen, Approved**

**Karla Cuarezma, Approved**

**Malik Drayton, Approved with Conditions**

Approval Condition: MD20200621: Protect street tree at 437 Somerville Avenue using TREE BOX or TREE WRAPS. . TREE BOX shall be constructed from 2 in. x 4 in. lumber creating a box around the border of the tree pit with 2 in. x 4 in. lumber standing straight up at the corners and wrapped with orange snow fence. Detail attached. . TREE WRAPS (TREE TRUNK WRAPPING PROTECTION LUMBER) shall consist of 2 in. x 4 in. and 8 ft. height lumber wired together in close spacing with zip ties or 16 gauge galvanized steel wire to form a protective enclosure around tree trunks. Use burlap to

separate the wood from the bark if necessary to prevent wood from scraping or bruising bark. Do not use staples or puncture the trunk in any way.

APPROVAL CONDITION: MD20210621: Any tree roots less than two (2) inches in diameter that cannot be avoided during construction shall be carefully and cleanly cut with a clean pair of pruning shears or loppers. Roots are to be cut back flush with the edge of the trench. If any tree roots greater than two (2) inches in diameter are encountered, stop work immediately and contact the City Urban Forester. Any and all pruning of roots greater than 2 inches in diameter must be completed under the supervision of the City Urban Forester.

APPROVAL CONDITION: MD20210621: Contractor shall take all necessary precautions to avoid damaging any tree or tree part with equipment.

**John Power, Approved with Conditions**

Electrical Review approved, conditional upon electrical permit application/approval for scope of work.

**Eric Weisman, Approved**

**John J. Long, Approved**



**April 12, 2021**

**Extenet  
C/O Lilian Mendonca  
10 N. Southwood Dr  
Nashua, NH 03063**

**Re: Eversource Work Order # 4972292 - for 435 Somerville Avenue, Somerville, MA**

To Whom It May Concern:

Eversource has reviewed your streetlight node application and site plans dated 3/19/21 and approve of your service being connected in Eversource MH# 8643.

Please feel free to contact me with any questions or concerns.

Sincerely,

*John Daly*

=====  
**John Daly**, Manager – Electric Service Support - Eastern MA  
**Eversource Energy**  
1 NSTAR Way  
Westwood, MA 02090  
☎ (781) 441-3206  
☎ (781) 441-8721  
✉ [john.daly.jr@eversource.com](mailto:john.daly.jr@eversource.com)



LATITUDE: 42.382118°  
LONGITUDE: -71.102143°

**NE-MA-BSTN3N01-TMO**  
**NE-MA-BSTN3N01-03318 / NE3212BA\_21LAB**  
**PROPOSED SMALL CELL NODE**  
435 SOMERVILLE AVENUE, SOMERVILLE, MA 02143  
CITY OF SOMERVILLE, MIDDLESEX COUNTY



Know what's below.  
Call before you dig.

ENGINEERING FIRM



APPLICANT



SITE INFORMATION

NE-MA-BSTN3N01-03318  
TMO ID: NE3212BA\_21LAB  
435 SOMERVILLE AVENUE  
SOMERVILLE, MA 02143  
MIDDLESEX COUNTY

DESIGN RECORD

| REV | DATE     | DESCRIPTION         | BY  |
|-----|----------|---------------------|-----|
| 3   | 01/28/20 | POLE HEIGHT REVISED | DRG |
| 2   | 09/23/19 | REVISED             | NSB |
| 1   | 08/06/19 | STAMP ADDED         | CWE |
| 0   | 04/26/19 | PRELIMINARY         | ALM |

PROFESSIONAL STAMP



ENGINEER

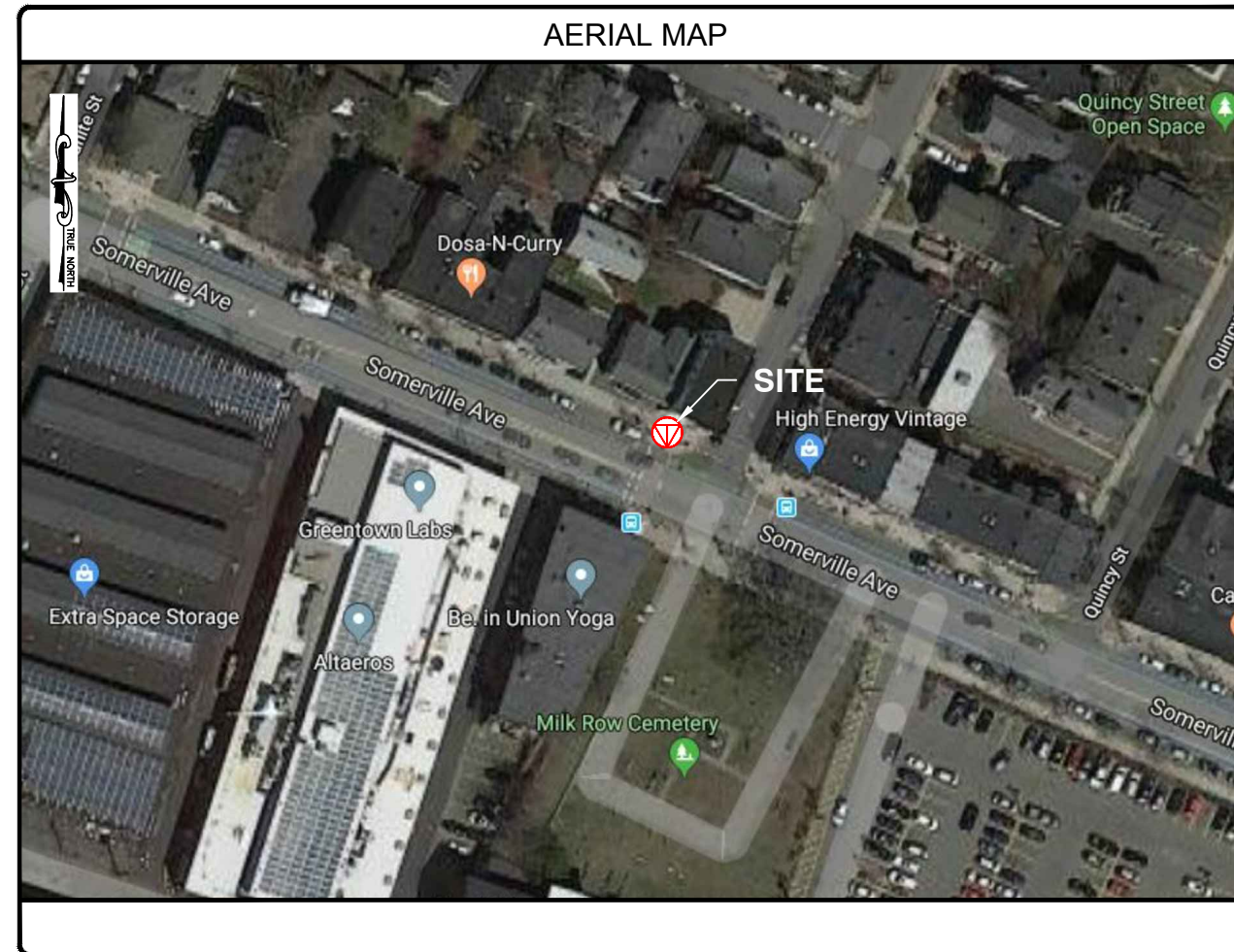
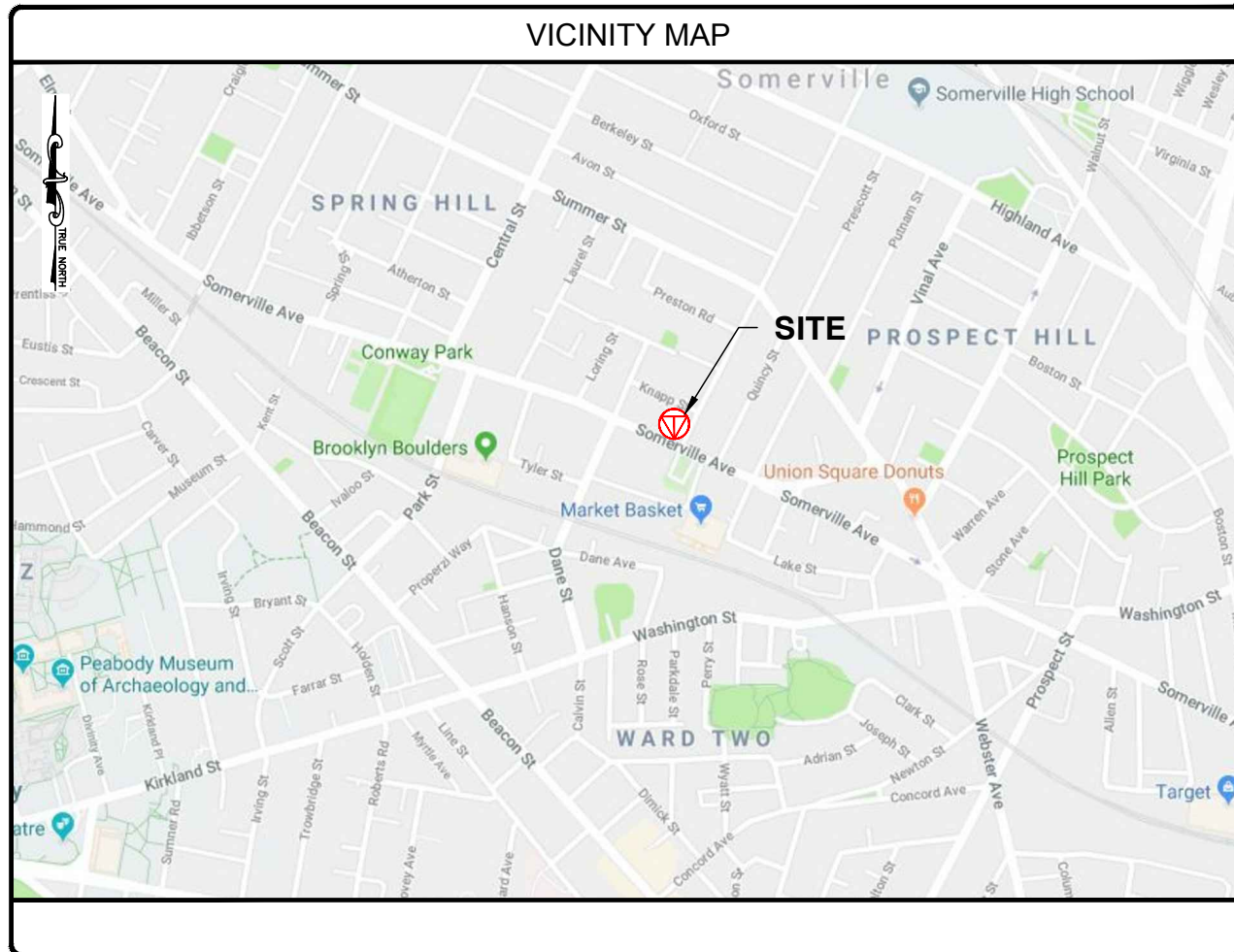
KRUPAKARAN KOLANDAIVELU, P.E.  
MA PROFESSIONAL ENGINEER LIC. #50019

SHEET TITLE

**TITLE SHEET**

SHEET NUMBER

SHEET  
**01 OF 06**



| PROJECT INFORMATION      |   |
|--------------------------|---|
| PROJECT NAME:            | NE-MA-BSTN3N01-TMO  |
| POLE TAG:                | NO TAG<br>LATITUDE: 42.382118°<br>LONGITUDE: -71.102143°                                  |
| JURISDICTION:            | CITY OF SOMERVILLE<br>MIDDLESEX COUNTY  |
| EXTENET PROJECT MANAGER: | RICK ANGELINI<br>3030 WARRENVILLE RD, SUITE 340<br>LISLE, IL 60532<br>NOC: (866) 892-5327 |
| HUB LOCATION:            | HUB: 4BS0364A<br>94 BEACON STREET<br>SOMERVILLE, MA 02143                                 |
| ELECTRIC COMPANY:        | EVERSOURCE  |

| CODE COMPLIANCE  |   |
|--|---|
| ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.   |   |
| <ul style="list-style-type: none"> <li>2015 INTERNATIONAL BUILDING CODE (MASSACHUSETTS AMENDED 9TH EDITION)</li> <li>2017 NATIONAL ELECTRICAL CODE</li> <li>NFPA 1-2015 EDITION</li> <li>2015 IFC - REFERENCE 527 CMR</li> <li>AMERICAN CONCRETE INSTITUTE</li> <li>AMERICAN INSTITUTE OF STEEL CONSTRUCTION</li> <li>MANUAL OF STEEL CONSTRUCTION 13TH EDITION</li> </ul> | <ul style="list-style-type: none"> <li>ANSI/TIA-222-G</li> <li>TIA 607</li> <li>INSTITUTE FOR ELECTRICAL &amp; ELECTRONICS ENGINEER 81</li> <li>IEEE C2 NATIONAL ELECTRIC SAFETY CODE LATEST EDITION</li> <li>TELECORDIA GR-1275</li> <li>ANSI/T 311</li> </ul> |

| DRAWING INDEX |                                |
|---------------|--------------------------------|
| 01            | TITLE SHEET                    |
| 02            | NOTES                          |
| 03            | ELEVATION                      |
| 04            | ANTENNA & EQUIPMENT DETAILS    |
| 05            | ELECTRICAL & GROUNDING DETAILS |
| 06            | FOUNDATION DETAILS & NOTES     |

GENERAL NOTES:

- 1. THE CONTRACTOR SHALL GIVE ALL NOTICE 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...

ELECTRICAL NOTES:

- 1. CONTRACTOR SHALL PERFORM ALL VERIFICATIONS, OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION...

- D. CONDUIT RUNS SHALL BE SURFACE MOUNTED ON CEILING OR WALLS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, CEILING, OR BEAMS...

GROUNDING NOTES:

- 1. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE. 2. ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE...

GROUNDING GUIDELINES:

ALL EQUIPMENT THAT IS INSTALLED AND MAY CAUSE ANY KIND OF ELECTRICAL CHARGE OR BUILD UP MUST HAVE PROPER AND ADEQUATE GROUNDING IN PLACE TO PREVENT FROM EQUIPMENT DAMAGE AND SHOCK HAZARDS. RRH'S MUST BE GROUND TO A MAIN BUSS BAR OR HOME RUN GROUND FROM THE GROUND PIN OR STUD THAT IS ON THE CHASSIS...

WEATHER SEAL GUIDELINES:

- 1. PRE WRAP ALL CONNECTIONS WITH BLACK ELECTRICAL TAPE TO COVER ALL METAL SHOWING TO PREVENT DAMAGE TO CONNECTOR WHEN WEATHER SEAL IS TO BE REMOVED...

HEAT SHRINK

- 1. PRE WRAP ALL CONNECTIONS WITH BLACK ELECTRICAL TAPE TO COVER ALL METAL SHOWING TO PREVENT DAMAGE TO CONNECTOR WHEN WEATHER SEAL IS TO BE REMOVED...

ANDREWS CLAM SHALL

- 1. PROPERLY TORQUE CONNECTOR TO SPECIFICATION. 2. APPLY ONE LAYER OF 3/4 INCH BLACK TAPE AROUND ENTIRE CONNECTOR ENDING AT LEAST 1-1/2 INCHES PAST TOP AND BOTTOM...

PPC BOOT

- 1. PLACE BOOT OVER CABLE BEFORE CONNECTOR IS ATTACHED TO CABLE. THIS IS ONLY RATED FOR PPC TYPE CONNECTORS. (NOTE: IF THIS STEP IS SKIPPED OR NOT COMPLETED BEFORE MAKING A CONNECTOR THE SUBCONTRACTOR WILL NOT BE ABLE TO USE THE BOOT STYLE DEVICE TO SEAL THE CONNECTOR...



Know what's below. Call before you dig.

ENGINEERING FIRM: NB+C TOTALLY COMMITTED. NB+C ENGINEERING SERVICES, LLC. 100 APOLLO DRIVE, SUITE 303 CHELSEA, MA 01824 (978) 856-8308

APPLICANT: extenet SYSTEMS YOUR NETWORK EVERYWHERE. 3030 WARRENVILLE ROAD, SUITE 340 LISLE, IL 60532 (630) 505-3800

SITE INFORMATION: NE-MA-BSTN3N01-03318 TMO ID: NE3212BA\_21LAB 435 SOMERVILLE AVENUE SOMERVILLE, MA 02143 MIDDLESEX COUNTY

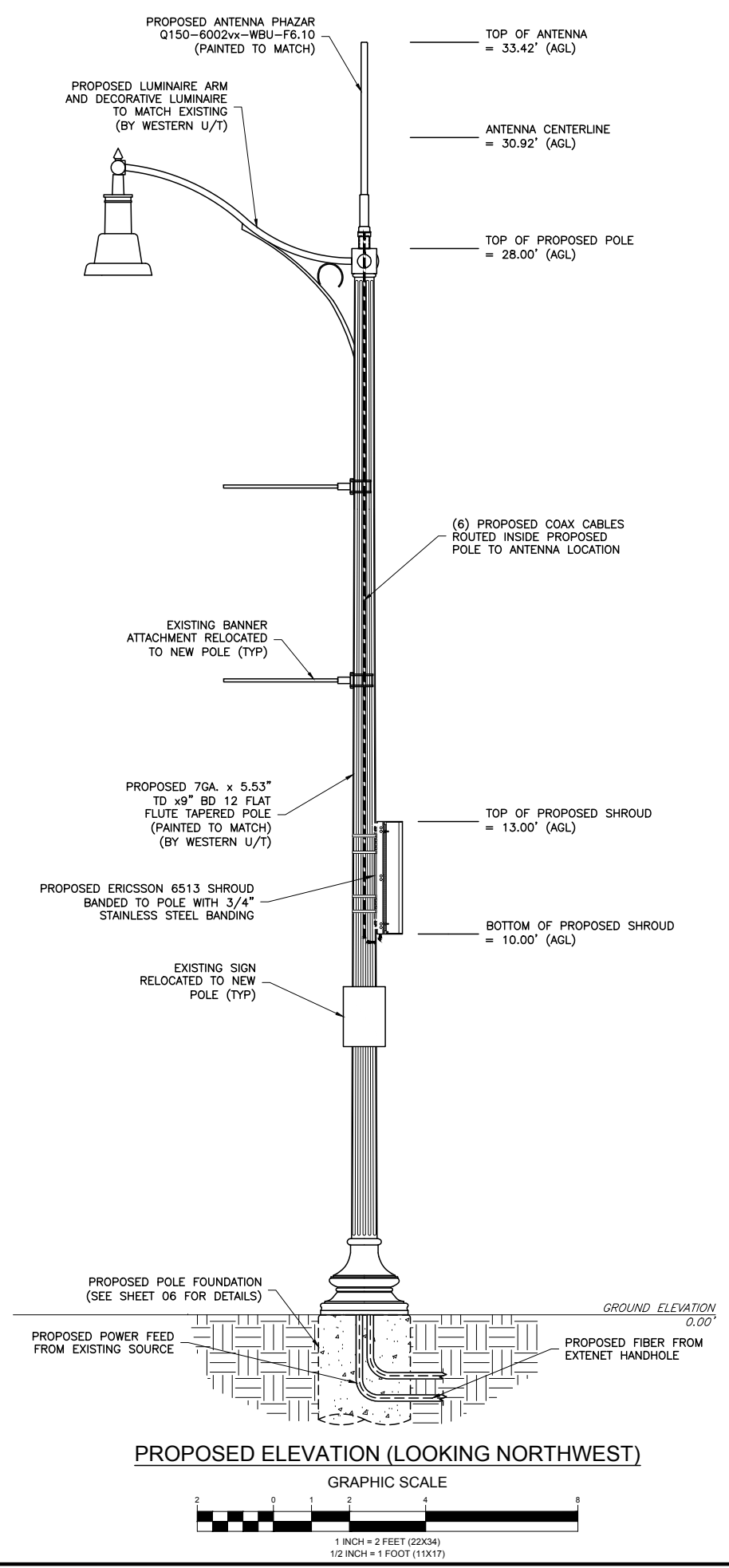
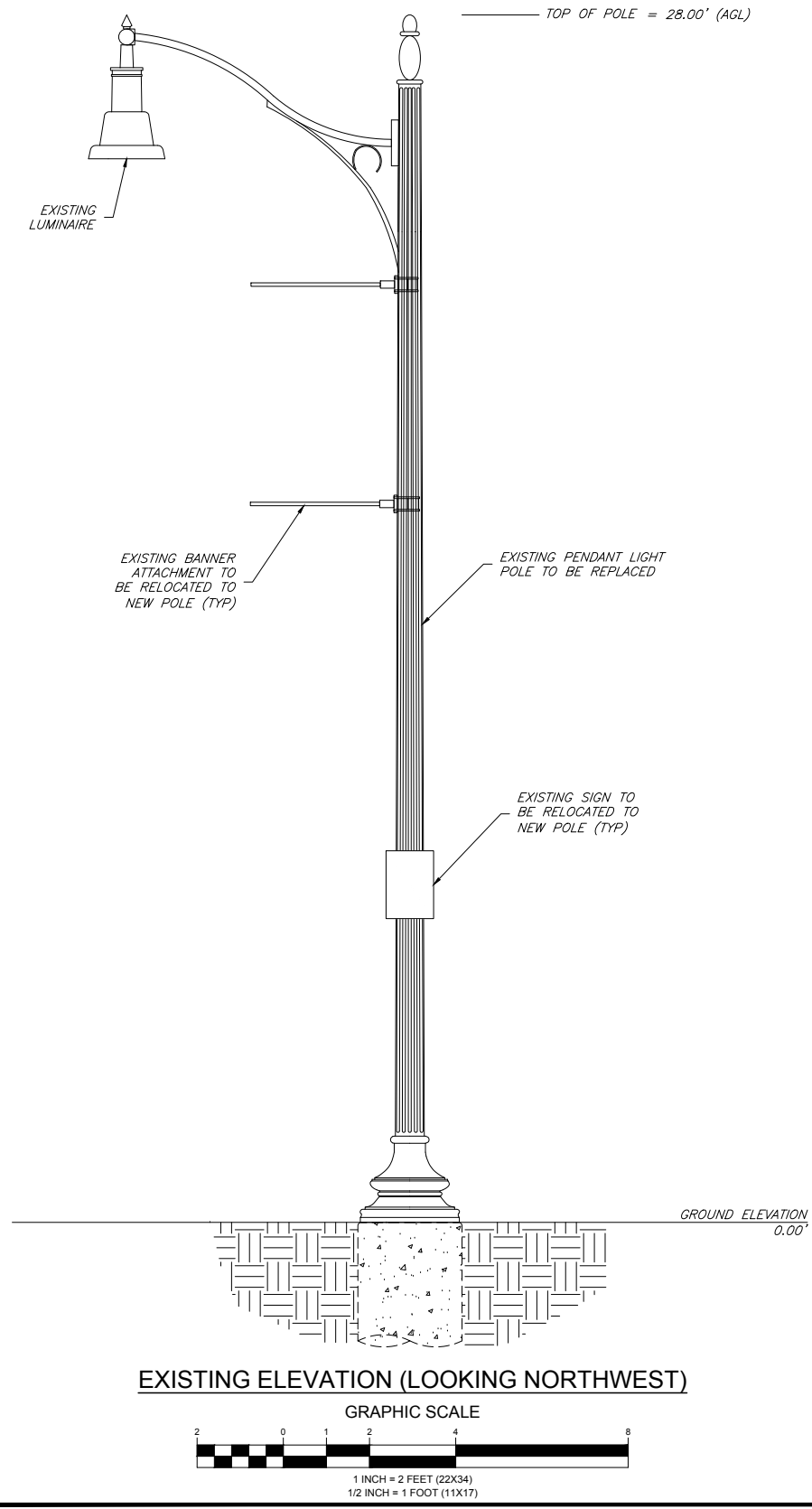
REVISIONS table with columns: REV, DATE, DESCRIPTION, BY. Includes entries for POLE HEIGHT REVISED, REVISED, STAMP ADDED, PRELIMINARY.

PROFESSIONAL STAMP: KRUPAKARAN KOLANDAIVELU, P.E. MA PROFESSIONAL ENGINEER LIC. #50019

ENGINEER: KRUPAKARAN KOLANDAIVELU, P.E. MA PROFESSIONAL ENGINEER LIC. #50019

SHEET TITLE: NOTES

SHEET NUMBER: SHEET 02 OF 06

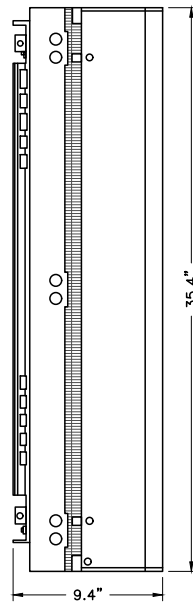


EXISTING CONDITIONS

NOTES:

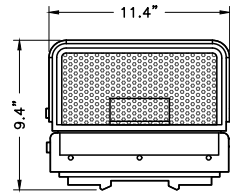
- ALL MATERIALS WILL MATCH CURRENTLY EXISTING MATERIALS AND WHERE NEEDED ANY RF FRIENDLY MATERIAL WILL BE PAINTED TO MATCH.
- IT IS ASSUMED THAT ALL PROPOSED UTILITIES WILL BE ROUTED BELOW GRADE TO THE PROPOSED INSTALLATION.
- EXTENET WILL PLACE SMALL PLACARD ON POLE IDENTIFYING OWNERSHIP/CONTACT INFORMATION.
- CONTRACTOR SHALL FIELD VERIFY SITE OR LAYOUT RESTRICTIONS, SITE CONDITIONS, DIMENSIONS, AND ELEVATIONS BEFORE START OF CONSTRUCTION. ANY DISCREPANCIES SHALL BE BROUGHT TO THE ATTENTION OF ENGINEER OF RECORD PRIOR TO BEGINNING PROJECT. ALL WORK SHALL BE PERFORMED USING ACCEPTED CONSTRUCTION PRACTICES.
- NO FIELD MODIFICATIONS MAY BE MADE TO THE STRUCTURE WITHOUT THE EXPRESS WRITTEN CONSENT FROM THE ENGINEER OF RECORD. WESTERN UT, INC. AND ENGINEER OF RECORD ASSUME NO RESPONSIBILITY FOR THE STRUCTURE IF ALTERATIONS AND/OR ADDITIONS ARE MADE.
- THE CONTRACTOR AND ALL SUBCONTRACTORS SHALL COMPLY WITH ALL LOCAL CODES, REGULATIONS, AND ORDINANCES AS WELL AS STATE DEPARTMENT OF INDUSTRIAL REGULATIONS AND DIVISION OF INDUSTRIAL SAFETY (OSHA) REQUIREMENTS.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT ALL WORK TO THE BEST OF HIS/HER ABILITY AND SKILL. CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, PROCEDURES, AND SEQUENCES, AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL VERIFY, COORDINATE, AND PROVIDE ALL NECESSARY BLOCKING, BACKING, FRAMING, HANGERS, OR OTHER SUPPORTS FOR ALL ITEMS REQUIRING SAME, WHETHER SHOWN OR NOT. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL TEMPORARY BRACING, SHORING, FORMWORK, ETC., AND SHALL CONFORM TO ALL NATIONAL, STATE, AND LOCAL ORDINANCES AND CODES IN ORDER TO SAFELY EXECUTE ALL STAGES OF WORK TO COMPLETE THIS PROJECT.
- CONTRACTOR ASSUMES RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THE PROJECT, INCLUDING THE SAFETY OF ALL PERSONS AND PROPERTY IN ACCORDANCE WITH GENERALLY ACCEPTED CONSTRUCTION PRACTICES. THIS REQUIREMENT APPLIES CONTINUOUSLY, AND IS NOT LIMITED TO NORMAL WORKING HOURS.
- CONTRACTOR TO HOLD ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT.
- IT IS THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES, SHOWN OR NOT SHOWN. THE CONTRACTOR IS FINANCIALLY RESPONSIBLE FOR REPAIR OR REPLACEMENT OF UTILITIES OR OTHER PROPERTY DAMAGED IN CONJUNCTION WITH THE EXECUTION OF WORK ON THIS PROJECT.

| ENGINEERING FIRM   | <p><b>NB+C</b><br/>TOTALLY COMMITTED.</p> <p>NB+C ENGINEERING SERVICES, LLC.<br/>100 APOLLO DRIVE, SUITE 303<br/>CHELMSFORD, MA 01824<br/>(978) 856-8308</p>  |                     |             |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
|--------------------|---|---------------------|-------------|-----|------|-------------|----|---|----------|---------------------|-----|---|----------|---------|-----|---|----------|-------------|-----|---|----------|-------------|-----|
| APPLICANT          | <p><b>extenet</b> YOUR NETWORK EVERYWHERE.<br/>SYSTEMS<br/>3030 WARRENVILLE ROAD, SUITE 340<br/>LISLE, IL 60532<br/>(630) 505-3800</p>  |                     |             |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| SITE INFORMATION   | <p>NE-MA-BSTN3N01-03318<br/>TMO ID: NE3212BA_21LAB<br/>435 SOMERVILLE AVENUE<br/>SOMERVILLE, MA 02143<br/>MIDDLESEX COUNTY</p>  |                     |             |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| DESIGN RECORD      | <p>REVISIONS</p> <table border="1"> <thead> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>01/28/20</td> <td>POLE HEIGHT REVISED</td> <td>DRG</td> </tr> <tr> <td>2</td> <td>09/23/19</td> <td>REVISED</td> <td>NSB</td> </tr> <tr> <td>1</td> <td>08/06/19</td> <td>STAMP ADDED</td> <td>CWE</td> </tr> <tr> <td>0</td> <td>04/26/19</td> <td>PRELIMINARY</td> <td>ALM</td> </tr> </tbody> </table> |                     |             | REV | DATE | DESCRIPTION | BY | 3 | 01/28/20 | POLE HEIGHT REVISED | DRG | 2 | 09/23/19 | REVISED | NSB | 1 | 08/06/19 | STAMP ADDED | CWE | 0 | 04/26/19 | PRELIMINARY | ALM |
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| PROFESSIONAL STAMP |   |                     |             |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| ENGINEER           | <p>KRUPAKARAN KOLANDAIVELU, P.E.<br/>MA PROFESSIONAL ENGINEER LIC. #50019</p>   |                     |             |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| SHEET TITLE        | <p>ELEVATION</p>  |                     |             |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| SHEET NUMBER       | <p>SHEET<br/><b>03 OF 06</b></p>  |                     |             |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |

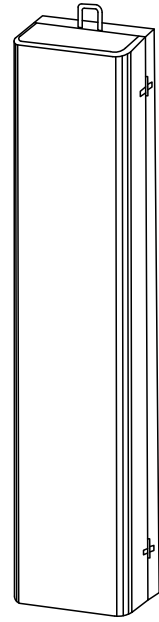


SIDE ELEVATION

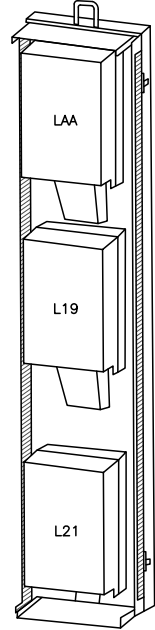
**MECHANICAL SPECIFICATIONS**  
 ERICSSON PART# - ENCLOSURE 6513  
 HEIGHT: 35.4 IN  
 WIDTH: 11.4 IN  
 DEPTH: 9.4 IN  
 WEIGHT: 29.8 LBS (ENCLOSURE ONLY)  
 WEIGHT: 71.4 LBS (FULLY EQUIPPED)



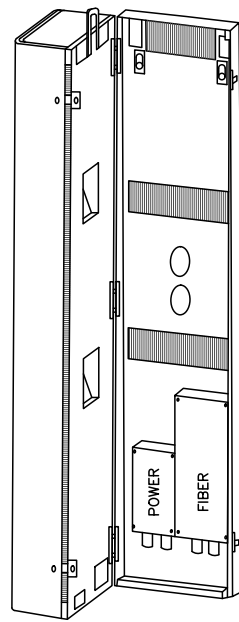
BOTTOM PLAN



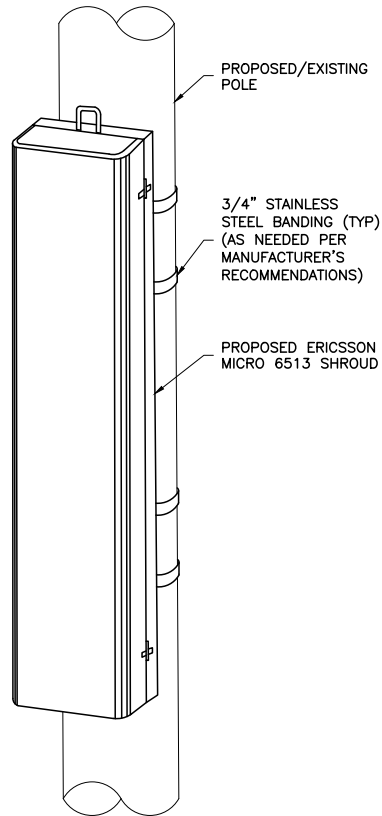
FRONT CLOSED ELEVATION



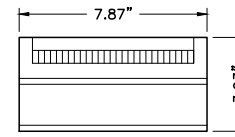
FRONT INTERIOR ELEVATION



BACK INTERIOR ELEVATION

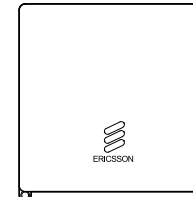


2 EQUIPMENT MOUNTING DETAIL  
 04 NTS

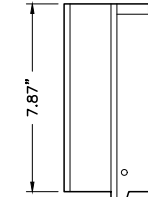


TOP VIEW

WEIGHT = 9.92LBS



FRONT ELEVATION

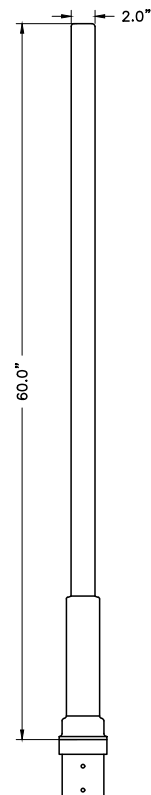


SIDE ELEVATION

| ERICSSON RADIO |              |  |                          |                        |
|----------------|--------------|--|--------------------------|------------------------|
| 2203 B66 & B25 | AC: 100-250V | NORMAL VOLTAGE RANGE AT RADIO INPUT CONNECTOR DC: -36 TO -58.5 | NOMINAL VOLTAGE: -48V DC | 95W TYPICAL / 130W MAX |
| 2205 B46       | AC: 100-250V | NORMAL VOLTAGE RANGE AT RADIO INPUT CONNECTOR DC: -36 TO -58.5 | NOMINAL VOLTAGE: -48V DC | 75W TYPICAL / 130W MAX |

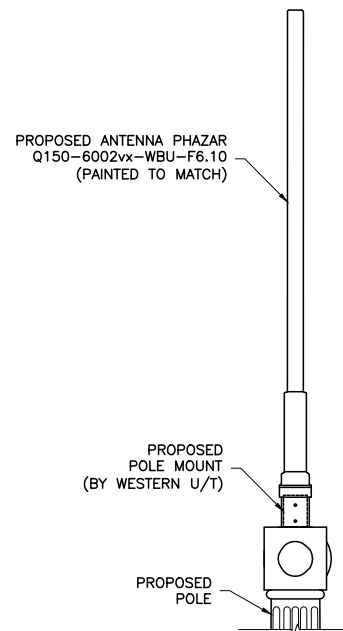
3 ERICSSON REMOTE RADIO UNIT (RRU)  
 04 NTS

1 ERICSSON MICRO 6513 SHROUD DETAIL  
 04 NTS

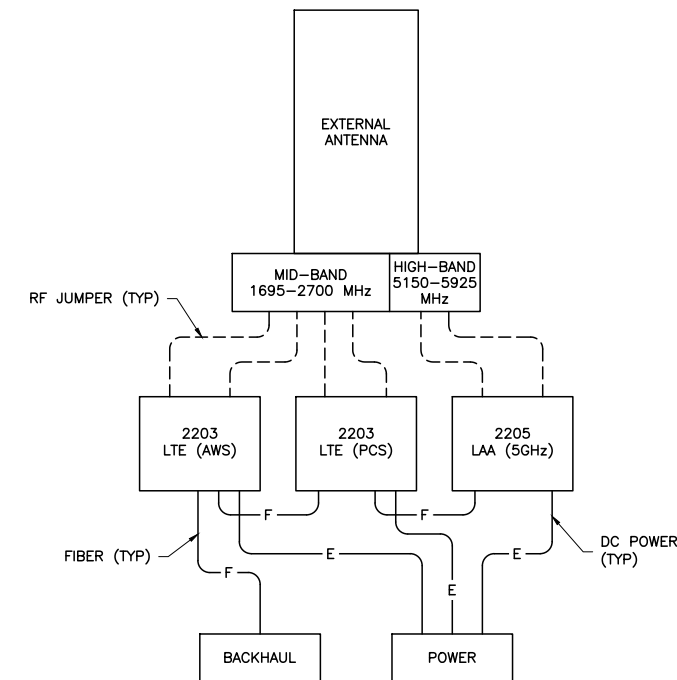


4 ANTENNA DETAIL  
 04 NTS

**MECHANICAL SPECIFICATIONS**  
 PHAZAR PART# - Q150-6002vx-WBU-F6.10  
 HEIGHT: 60 IN  
 DIAMETER: 2 IN  
 WEIGHT: <10 LBS



5 ANTENNA MOUNT DETAIL  
 04 NTS



6 WIRING DIAGRAM  
 04 NTS

ENGINEERING FIRM

**NB+C**  
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 NB+C ENGINEERING SERVICES, LLC.  
 100 APOLLO DRIVE, SUITE 303  
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APPLICANT

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ENGINEER

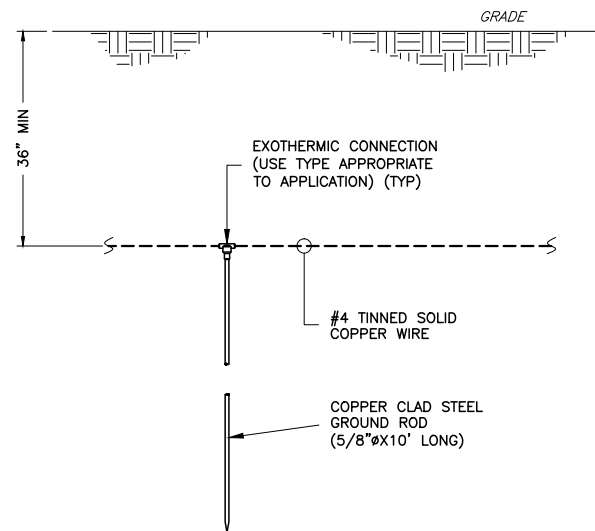
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SHEET TITLE

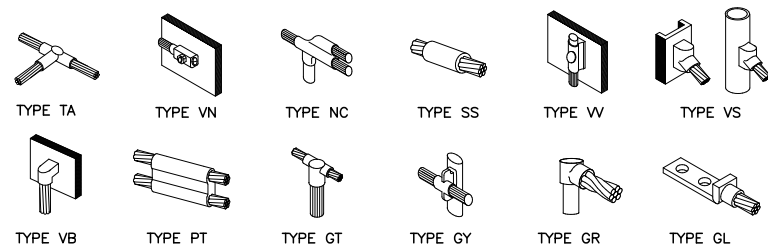
**ANTENNA & EQUIPMENT DETAILS**

SHEET NUMBER

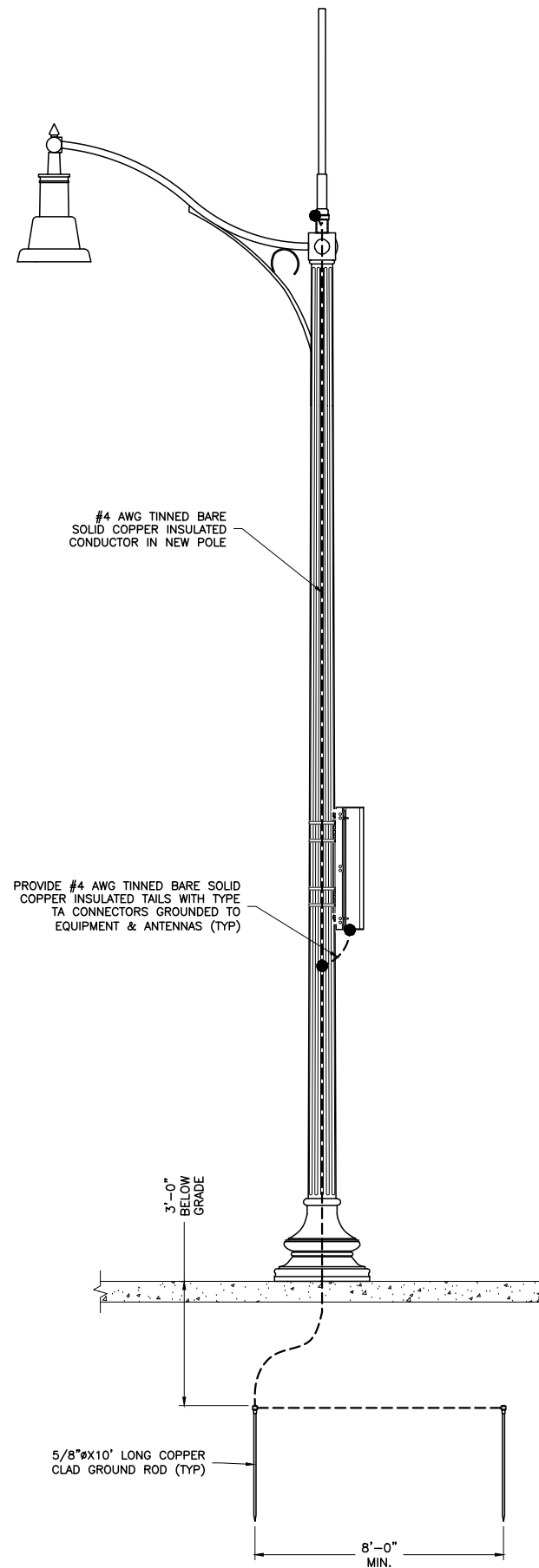
SHEET  
**04 OF 06**



1 TYPICAL GROUND ROD DETAIL  
05 NTS



2 GROUNDING CONNECTION DETAILS  
05 NTS



3 ELECTRICAL & GROUNDING RISER DIAGRAM  
05 NTS

NOTE:  
EXISTING/PROPOSED UTILITY WIRES,  
SIGNS, AND EXISTING EQUIPMENT  
NOT SHOWN FOR CLARITY.

ENGINEERING FIRM

**NB+C**  
TOTALLY COMMITTED.

NB+C ENGINEERING SERVICES, LLC.  
100 APOLLO DRIVE, SUITE 303  
CHELMSFORD, MA 01824  
(978) 856-8308

APPLICANT

**extenet**  
SYSTEMS  
YOUR NETWORK  
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3030 WARRENVILLE ROAD, SUITE 340  
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| 3         | 01/28/20 | POLE HEIGHT REVISED | DRG |
| 2         | 09/23/19 | REVISED             | NSB |
| 1         | 08/06/19 | STAMP ADDED         | CWE |
| 0         | 04/26/19 | PRELIMINARY         | ALM |

PROFESSIONAL STAMP



ENGINEER

KRUPAKARAN KOLANDAIVELU, P.E.  
MA PROFESSIONAL ENGINEER LIC. #50019

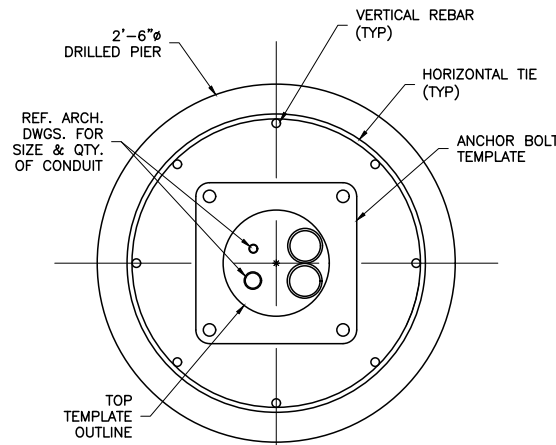
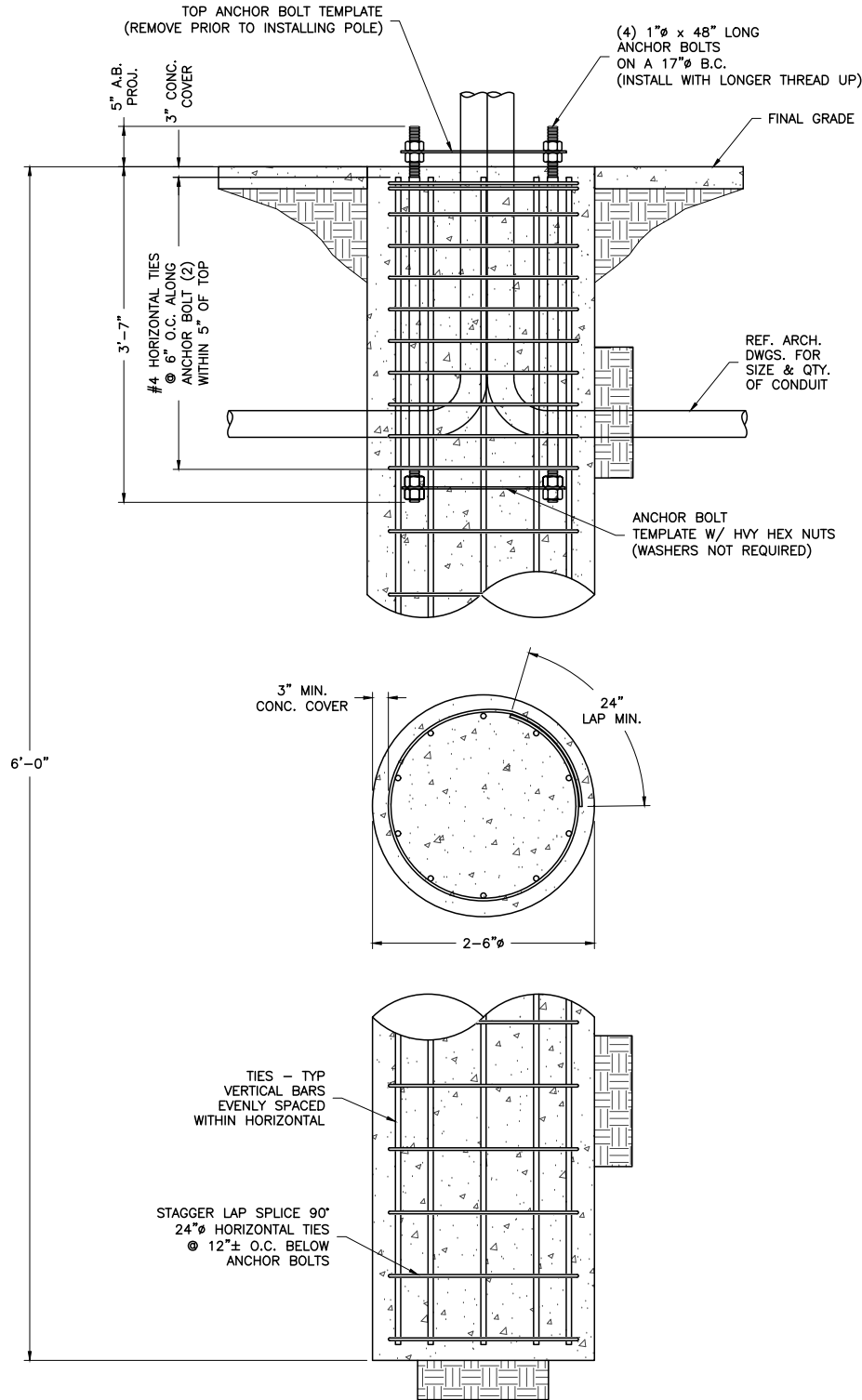
SHEET TITLE

**ELECTRICAL  
& GROUNDING  
DETAILS**

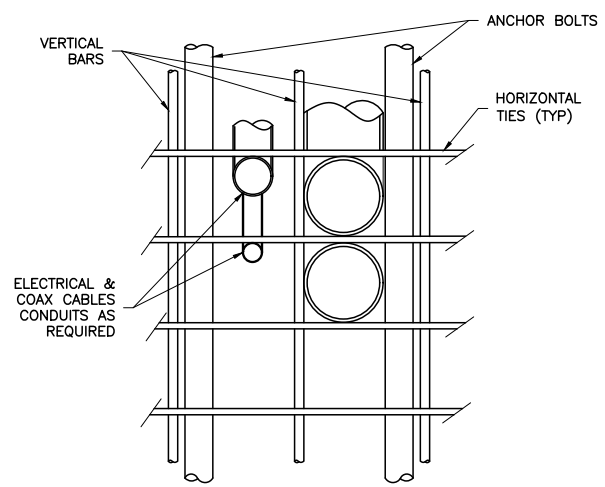
SHEET NUMBER

SHEET  
**05 OF 06**

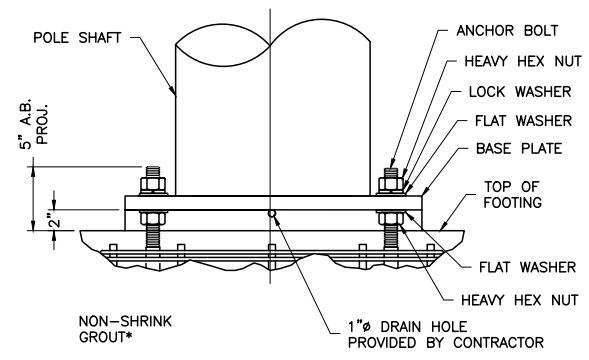




1 CONDUIT DETAIL @ PIER SEC.  
06 NTS



2 CONDUIT DETAIL  
06 NTS



3 BASE GROUNDING DETAIL  
06 NTS

**GENERAL NOTES**

- CONTRACTOR IS RESPONSIBLE FOR CHECKING AREA FOR UNDERGROUND FACILITIES PRIOR TO EXCAVATING ANY MATERIALS.
- CONTRACTOR SHALL INSPECT AND REMOVE ALL DEBRIS FROM BOTTOM OF EXCAVATION.
- CONTRACTOR SHALL VERIFY ANCHOR BOLT LAYOUT PRIOR TO, AND IMMEDIATELY AFTER PLACING CONCRETE. ANCHOR BOLT LAYOUT IS CRITICAL FOR MONOPOLE INSTALLATION.
- CONTRACTOR SHALL USE AND PROVIDE DEFORMED REINFORCING BARS CONFORMING TO ASTM A615 GR. 60 (60,000 PSI MIN. YIELD). CONTRACTOR SHALL USE STEEL WIRE TO HOLD REINFORCING BARS TOGETHER. IF WELDING REBAR IS PREFERRED, SUBSTITUTE USING A706 GR. 60 DEFORMED BARS.
- CONTRACTOR SHALL USE AND PROVIDE CONCRETE WITH A MINIMUM COMPRESSIVE STRENGTH OF 4,000 PSI. CONCRETE SHALL USE 1" MAXIMUM STONE AGGREGATE MIX DESIGN: 6 1/2 SACKS OF CEMENT MINIMUM PER CUBIC YARD. 5" MINIMUM AND 7" MAXIMUM CONCRETE SLUMP.
- CONCRETE SHALL BE CONSOLIDATED USING VIBRATORY METHODS THROUGHOUT DEPTH OF FOUNDATION. VIBRATING LOWER DEPTHS MAY BE ACCOMPLISHED BY TOUCHING REBAR CAGE WITH VIBRATOR.
- CONTRACTOR SHOULD ANTICIPATE THE USE OF A FULL-LENGTH TEMPORARY CASING TO STABILIZE THE EXCAVATION. THE CASING SHALL BE WITHDRAWN DURING THE PLACEMENT OF CONCRETE IN THE EXCAVATED HOLE. CONCRETE SHALL BE PLACED USING CONVENTIONAL METHODS TO MINIMIZE SEGREGATION OF CONCRETE AND AGGREGATE. CONCRETE SHALL NOT FREE FALL MORE THAN 5 FT. CONCRETE MAY BE PLACED BELOW WATER USING TREMIE METHODS.
- CONCRETE SHALL BE PLACED TO THE DEPTH INDICATED, AND THE ABOVE GRADE PORTION SHALL BE FORMED. THE REBAR CAGE, ANCHOR BOLTS, AND CONCRETE SHALL BE PLACED WITHIN 24 HOURS OF COMPLETING THE EXCAVATION. COLD JOINTS ARE NOT ALLOWED.
- THE CONTRACTOR IS RESPONSIBLE FOR VERIFYING ADEQUATE CONCRETE COVERAGE OVER REINFORCING BARS TO MINIMIZE CORROSION POTENTIAL. UNLESS OTHERWISE NOTED, CONTRACTOR SHALL USE 3" CONCRETE COVER OVER REBAR. TOP OF FOOTING SHALL BE TROWELLED LEVEL AND SMOOTH.
- DRILLED PIER FOUNDATION DESIGN PER 2009/2012 IBC, TABLE 1806.2, CLASS 4 MATERIAL.
- TOTAL VOLUME OF CONCRETE REQUIRED FOR THIS FOUNDATION IS APPROXIMATELY 1.1 CU. YDS.

**FACTORED BASE REACTIONS**

|          |   |              |
|----------|---|--------------|
| MOMENT   | = | 38.0 ft-kips |
| SHEAR    | = | 2.29 kips    |
| VERTICAL | = | 1.80 kips    |

**SPECIAL INSPECTIONS**

SPECIAL INSPECTION: THE FOLLOWING ELEMENTS OF CONSTRUCTION SHALL REQUIRE SPECIAL INSPECTION PER 2009/2012 IBC, SECTION 1704

| ITEM DESCRIPTION  | INSPECTION BY     | MATERIAL                     |
|---|-------------------|------------------------------|
| 1. PIER EXCAVATION LATERAL BEARING CAPACITY                       | SOILS ENGINEER    | 300 PSF/FT LATERAL           |
| 2. PIER CONSTRUCTION REINFORCING STEEL BAR SIZES AND INSTALLATION | SPECIAL INSPECTOR | ASTM A615 GR. 60             |
| 3. ANCHOR BOLTS BOLT SIZE AND LENGTHS INSTALLATION                | SPECIAL INSPECTOR | ASTM F1554 GR. 55            |
| 4. CONCRETE TEST SPECIMENS PLACEMENT OF CONCRETE                  | SPECIAL INSPECTOR | f'c=4,000 PSI TYPE II CEMENT |

FOUNDATION DESIGN PREPARED BY WESTERN UTILITY/TELECOM, INC.

| ENGINEERING FIRM   |  |                     |     |           |  |  |  |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
|--------------------|--|---------------------|-----|-----------|--|--|--|-----|------|-------------|----|---|----------|---------------------|-----|---|----------|---------|-----|---|----------|-------------|-----|---|----------|-------------|-----|
|                    |  |                     |     |           |  |  |  |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| APPLICANT          |  |                     |     |           |  |  |  |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| SITE INFORMATION   | NE-MA-BSTN3N01-03318<br>TMO ID: NE3212BA_21LAB<br>435 SOMERVILLE AVENUE<br>SOMERVILLE, MA 02143<br>MIDDLESEX COUNTY  |                     |     |           |  |  |  |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| DESIGN RECORD      | <table border="1"> <thead> <tr> <th colspan="4">REVISIONS</th> </tr> <tr> <th>REV</th> <th>DATE</th> <th>DESCRIPTION</th> <th>BY</th> </tr> </thead> <tbody> <tr> <td>3</td> <td>01/28/20</td> <td>POLE HEIGHT REVISED</td> <td>DRG</td> </tr> <tr> <td>2</td> <td>09/23/19</td> <td>REVISED</td> <td>NSB</td> </tr> <tr> <td>1</td> <td>08/06/19</td> <td>STAMP ADDED</td> <td>CWE</td> </tr> <tr> <td>0</td> <td>04/26/19</td> <td>PRELIMINARY</td> <td>ALM</td> </tr> </tbody> </table> |                     |     | REVISIONS |  |  |  | REV | DATE | DESCRIPTION | BY | 3 | 01/28/20 | POLE HEIGHT REVISED | DRG | 2 | 09/23/19 | REVISED | NSB | 1 | 08/06/19 | STAMP ADDED | CWE | 0 | 04/26/19 | PRELIMINARY | ALM |
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| 2                  | 09/23/19   | REVISED             | NSB |           |  |  |  |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
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| 0                  | 04/26/19   | PRELIMINARY         | ALM |           |  |  |  |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| PROFESSIONAL STAMP |  |                     |     |           |  |  |  |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| ENGINEER           | KRUPAKARAN KOLANDAIVELU, P.E.<br>MA PROFESSIONAL ENGINEER LIC. #50019  |                     |     |           |  |  |  |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| SHEET TITLE        | <b>FOUNDATION DETAILS &amp; NOTES</b>  |                     |     |           |  |  |  |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |
| SHEET NUMBER       | SHEET<br><b>06 OF 06</b>   |                     |     |           |  |  |  |     |      |             |    |   |          |                     |     |   |          |         |     |   |          |             |     |   |          |             |     |