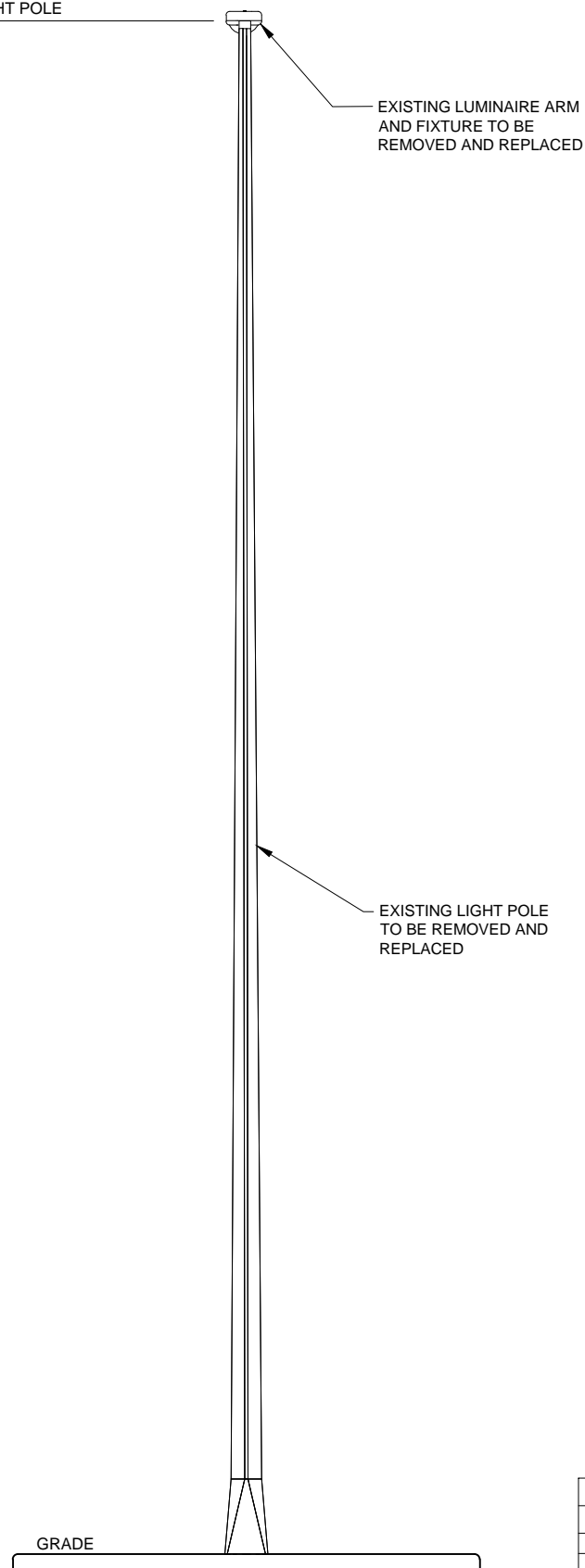


T/ OF EXISTING LIGHT POLE  
±45.93'



**1** EXISTING NORTHEAST ELEVATION  
SCALE: 3/8" = 1'-0" ±

0 3/16" 3/8" 3/4"  
SCALE: 3/8" = 1'-0"

22" x 34" PRINT IS THE FULL SCALE  
FORMAT. ANY SIZE OTHER THAN  
THAT IS AT REDUCED SCALE.

NOTE:  
PROJECT SCOPE OF WORK DOES NOT INCLUDE A  
STRUCTURAL EVALUATION OF THIS POLE OR  
STRUCTURE. NEW EQUIPMENT SHOWN ON THIS PLAN  
HAVE NOT BEEN EVALUATED TO VERIFY THE POLE OR  
STRUCTURE HAS THE CAPACITY TO ADEQUATELY  
SUPPORT THE EQUIPMENT. PRIOR TO ANY INSTALLATION,  
A STRUCTURAL EVALUATION OF THE POLE OR  
STRUCTURE SHOULD BE PERFORMED.

T/ OF PROPOSED ANTENNA  
±38'-5"

ε OF PROPOSED ANTENNA  
±36'-9"

T/ OF PROPOSED LIGHT POLE  
±35'-0"

ε OF PROPOSED RF FILTER  
±32'-10"

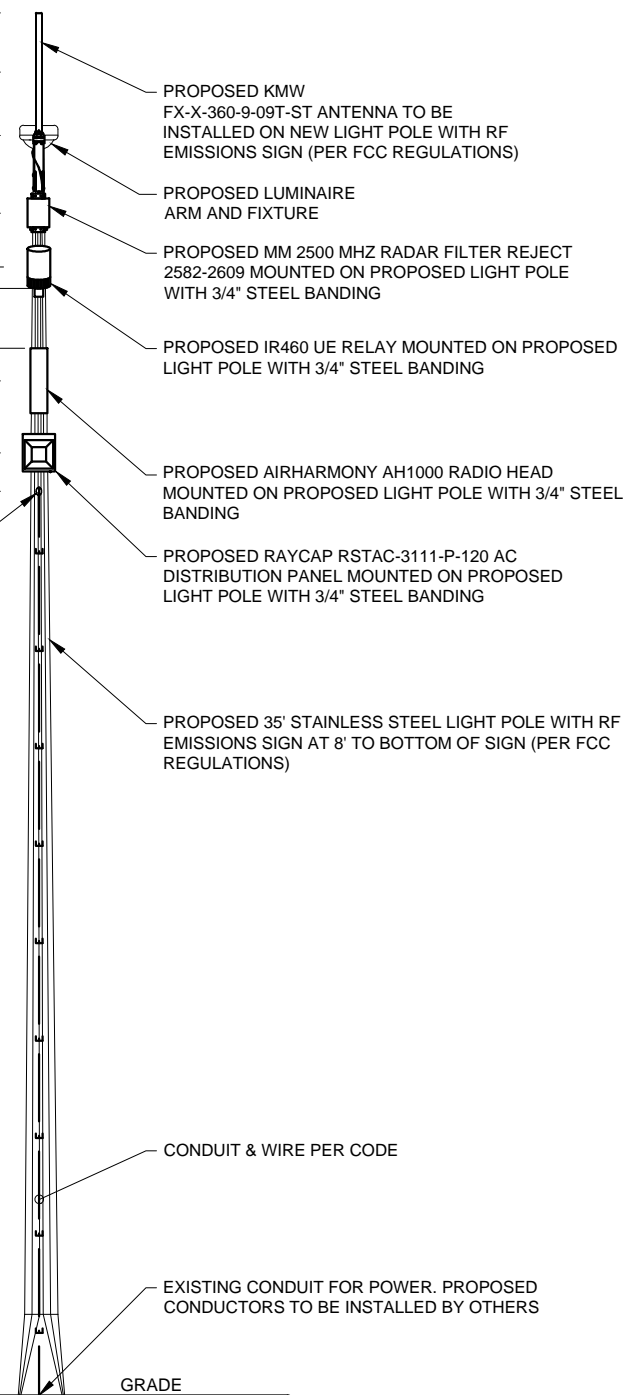
ε OF PROPOSED UE RELAY  
±31'-4"

ε OF PROPOSED RADIO HEAD  
±28'-2"

ε OF PROPOSED AC DISTRIBUTION PANEL  
±26'-2"

ε OF PROPOSED 2" CONDUIT SLEEVE  
±25'-0"

PROPOSED PREFABRICATED 2"  
CONDUIT SLEEVE



**2** PROPOSED NORTHEAST ELEVATION  
SCALE: 3/8" = 1'-0" ±

0 3/16" 3/8" 3/4"  
SCALE: 3/8" = 1'-0"

22" x 34" PRINT IS THE FULL SCALE  
FORMAT. ANY SIZE OTHER THAN  
THAT IS AT REDUCED SCALE.

| EQUIPMENT CHART |   |              |                         |          |
|-----------------|---|--------------|-------------------------|----------|
| QUANTITY        | DESCRIPTION                                   | CABLE LENGTH | DIMENSIONS (HxWxD)      | WEIGHT   |
| 1               | KMW FX-X-360-9-09T-ST                         | TBD          | 43" X 2" DIAMETER       | 3.5 LBS  |
| 1               | MM 2500 MHZ RADAR REJECT 2582-2609            | TBD          | 13.58" X 8.07" X 2.4"   | 7.28 LBS |
| 1               | IR460 UE RELAY                                | TBD          | 12.99" X 7.87" DIAMETER | 8.8 LBS  |
| 1               | AIRHARMONY AH1000                             | TBD          | 21.6" X 5.6" X 8"       | 27.4 LBS |
| 1               | TALLYSMAN TW3012                              | TBD          | 1.96" X 2.6" DIAMETER   | 0.33 LBS |
| 1               | RAYCAP RSTAC-3111-P-120 AC DISTRIBUTION PANEL | TBD          | 13.13" X 11.38" X 4.38" | TBD      |

**mobilitie**  
intelligent infrastructure

BUELL CONSULTING INC.  
1360 ENERGY PARK DRIVE, SUITE 210  
ST. PAUL, MN 55108  
(651) 225-0793  
www.buellconsulting.com

TERRA CONSULTING GROUP, LTD.  
600 BUSSE HIGHWAY  
PARK RIDGE, IL 60068  
(847) 698-6400

| NO. | DESCRIPTION | DATE | BY |
|-----|-------------|------|----|
|     |             |      |    |
|     |             |      |    |
|     |             |      |    |
|     |             |      |    |
|     |             |      |    |
|     |             |      |    |

MOBITIE ID/  
CASCADE ID

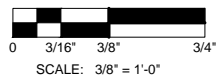
TYPICAL  
INSTALLATION #1

ADDRESS  
SAINT PAUL, MN

DRAWN BY:  
CHECKED BY:  
DATE:  
PROJECT #:

SHEET TITLE  
EXISTING & PROPOSED  
ELEVATIONS

SHEET NUMBER  
**ANT-1**



22" x 34" PRINT IS THE FULL SCALE FORMAT. ANY SIZE OTHER THAN THAT IS AT REDUCED SCALE.

T/ OF EXISTING LIGHT POLE  
±45.93'

EXISTING LUMINAIRE  
ARM AND FIXTURE BE  
REMOVED AND REPLACED

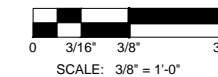
EXISTING LIGHT POLE  
TO BE REMOVED AND  
REPLACED

GRADE

STREET LEVEL

**1** EXISTING SOUTHWEST ELEVATION  
SCALE: 3/8" = 1'-0" ±

NOTE:  
PROJECT SCOPE OF WORK DOES NOT INCLUDE A  
STRUCTURAL EVALUATION OF THIS POLE OR  
STRUCTURE. NEW EQUIPMENT SHOWN ON THIS PLAN  
HAVE NOT BEEN EVALUATED TO VERIFY THE POLE OR  
STRUCTURE HAS THE CAPACITY TO ADEQUATELY  
SUPPORT THE EQUIPMENT. PRIOR TO ANY INSTALLATION,  
A STRUCTURAL EVALUATION OF THE POLE OR  
STRUCTURE SHOULD BE PERFORMED.



22" x 34" PRINT IS THE FULL SCALE FORMAT. ANY SIZE OTHER THAN THAT IS AT REDUCED SCALE.

T/ OF PROPOSED ANTENNA  
±38'-5"

ℓ OF PROPOSED ANTENNA  
±36'-9"

T/ OF PROPOSED LIGHT POLE  
±35'-0"

ℓ OF PROPOSED RF FILTER  
±32'-10"

ℓ OF PROPOSED UE RELAY  
±31'-4"

ℓ OF PROPOSED RADIO HEAD  
±28'-2"

ℓ OF PROPOSED AC DISTRIBUTION PANEL  
±26'-2"

ℓ OF PROPOSED 2" CONDUIT SLEEVE  
±25'-0"

PROPOSED PREFABRICATED 2"  
CONDUIT SLEEVE

20"  
MIN.

PROPOSED KMW  
FX-X-360-9-09T-ST ANTENNA TO BE  
INSTALLED ON NEW LIGHT POLE WITH RF  
EMISSIONS SIGN (PER FCC REGULATIONS)

PROPOSED LUMINAIRE  
ARM AND FIXTURE

PROPOSED MM 2500 MHZ RADAR FILTER  
REJECT 2582-2609 MOUNTED ON PROPOSED  
LIGHT POLE WITH 3/4" STEEL BANDING

PROPOSED IR460 UE RELAY MOUNTED ON  
PROPOSED LIGHT POLE WITH 3/4" STEEL BANDING

PROPOSED AIRHARMONY AH1000 RADIO  
HEAD MOUNTED ON PROPOSED LIGHT  
POLE WITH 3/4" STEEL BANDING

PROPOSED RAYCAP RSTAC-3111-P-120 AC  
DISTRIBUTION PANEL MOUNTED ON  
PROPOSED LIGHT POLE WITH 3/4" STEEL  
BANDING

PROPOSED 35' STAINLESS STEEL LIGHT POLE WITH RF  
EMISSIONS SIGN AT 8' TO BOTTOM OF SIGN (PER FCC  
REGULATIONS)

CONDUIT & WIRE PER CODE

EXISTING CONDUIT FOR POWER. PROPOSED  
CONDUCTORS TO BE INSTALLED BY OTHERS

GRADE

STREET LEVEL

**2** PROPOSED SOUTHWEST ELEVATION  
SCALE: 3/8" = 1'-0" ±

| EQUIPMENT CHART |   |              |                         |          |
|-----------------|---|--------------|-------------------------|----------|
| QUANTITY        | DESCRIPTION                                   | CABLE LENGTH | DIMENSIONS (HxWxD)      | WEIGHT   |
| 1               | KMW FX-X-360-9-09T-ST                         | TBD          | 43" X 2" DIAMETER       | 3.5 LBS  |
| 1               | MM 2500 MHZ RADAR REJECT 2582-2609            | TBD          | 13.58" X 8.07" X 2.4"   | 7.28 LBS |
| 1               | IR460 UE RELAY                                | TBD          | 12.99" X 7.87" DIAMETER | 8.8 LBS  |
| 1               | AIRHARMONY AH1000                             | TBD          | 21.6" X 5.6" X 8"       | 27.4 LBS |
| 1               | TALLYSMAN TW3012                              | TBD          | 1.96" X 2.6" DIAMETER   | 0.33 LBS |
| 1               | RAYCAP RSTAC-3111-P-120 AC DISTRIBUTION PANEL | TBD          | 13.13" X 11.38" X 4.38" | TBD      |



BUELL CONSULTING INC.  
1360 ENERGY PARK DRIVE, SUITE 210  
ST. PAUL, MN 55108  
(651) 225-0793  
www.buellconsulting.com

TERRA CONSULTING GROUP, LTD.  
600 BUSSE HIGHWAY  
PARK RIDGE, IL 60068  
(847) 698-6400

| NO. | DESCRIPTION | DATE | BY |
|-----|-------------|------|----|
|     |             |      |    |
|     |             |      |    |
|     |             |      |    |
|     |             |      |    |
|     |             |      |    |
|     |             |      |    |
|     |             |      |    |
|     |             |      |    |
|     |             |      |    |

MOBILITIE ID/  
CASCADE ID

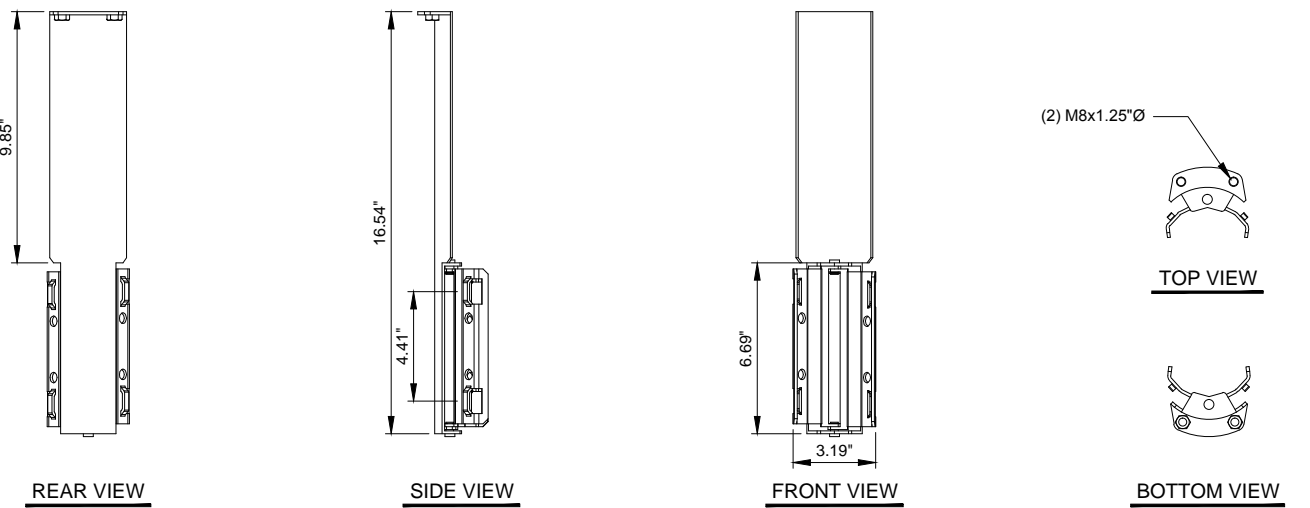
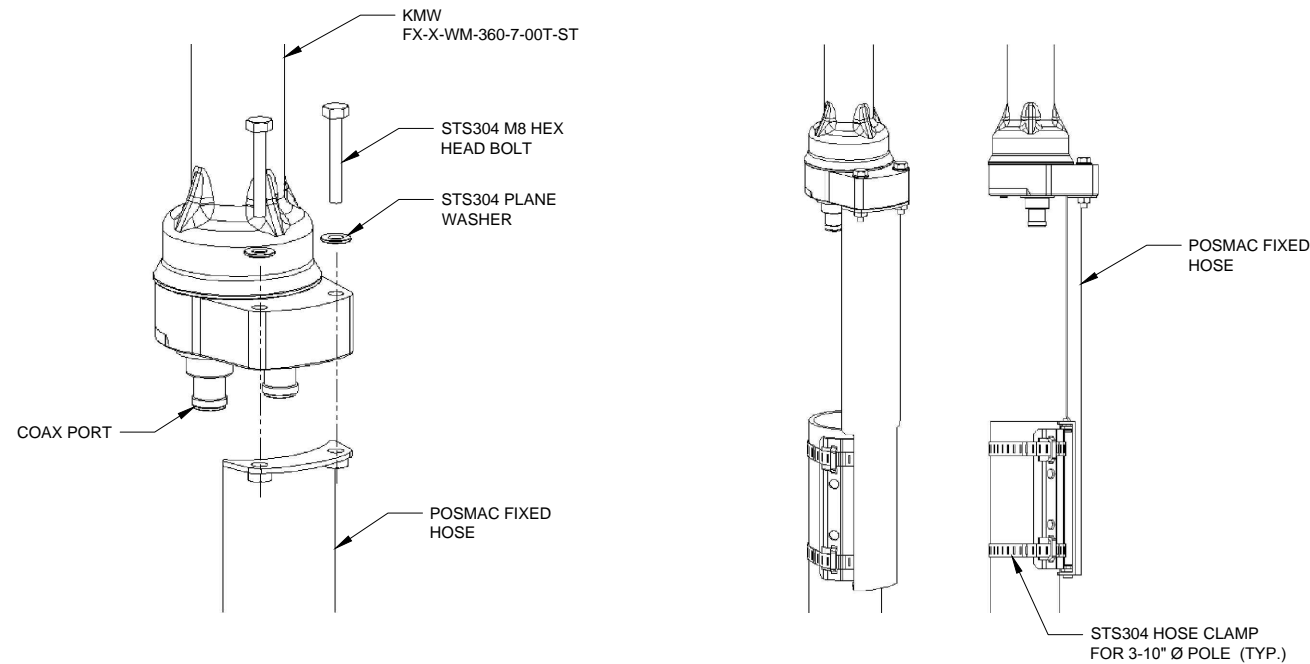
TYPICAL  
INSTALLATION #1

ADDRESS  
SAINT PAUL, MN

DRAWN BY:  
CHECKED BY:  
DATE:  
PROJECT #:

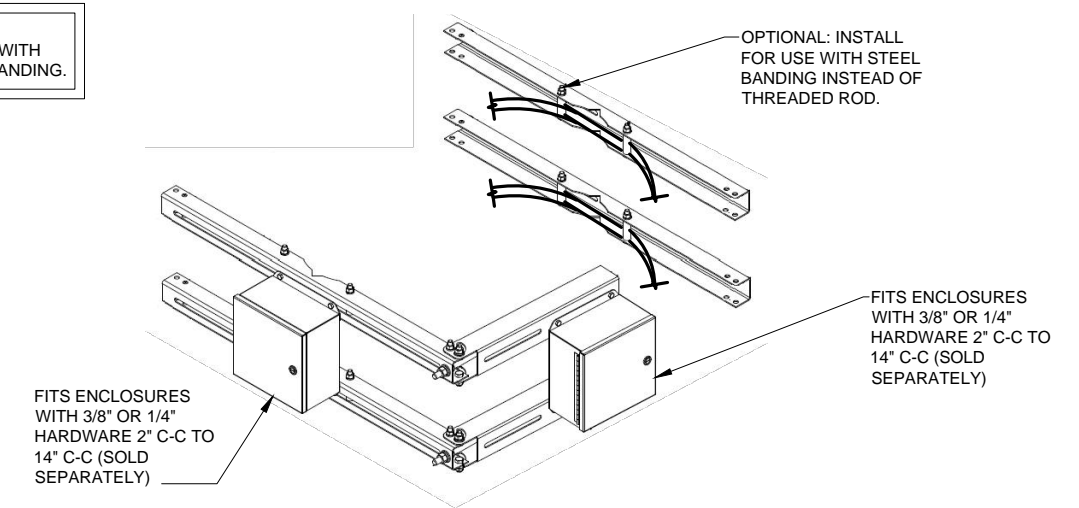
SHEET TITLE  
EXISTING & PROPOSED  
ELEVATIONS

SHEET NUMBER  
**ANT-2**

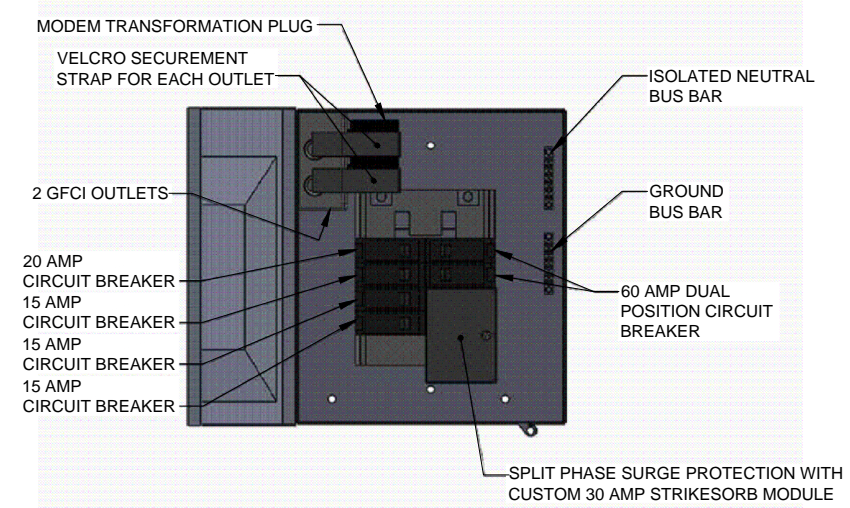


**1 ANTENNA MOUNTING DETAILS**  
SCALE: N.T.S.

**NOTE:**  
INSTALL BRACKETS WITH  
STAINLESS STEEL BANDING.



**3 EQUIPMENT BANDING DETAIL**  
SCALE: N.T.S.

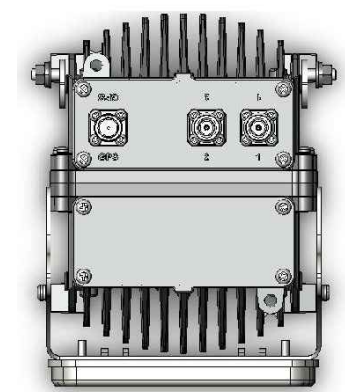


**4 AC DISTRIBUTION PANEL DETAIL**  
SCALE: N.T.S.

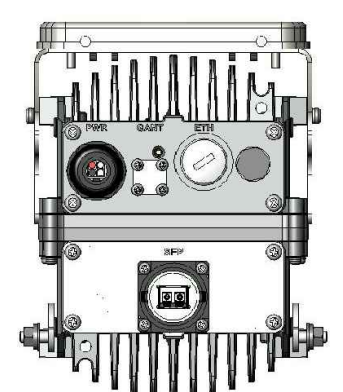


**RADIO HEAD**

| SPECIFICATIONS |                     |
|----------------|---------------------|
| HEIGHT         | 21.6 INCHES (549mm) |
| WIDTH          | 5.6 INCHES (142mm)  |
| DEPTH          | 8.0 INCHES (203mm)  |
| WEIGHT         | 24 LBS (11kg)       |



**TOP PANEL CONNECTORS**



**BOTTOM PANEL CONNECTORS**

**2 AIRHARMONY AH1000 RADIO HEAD**  
SCALE: N.T.S.

**5 NOT USED**  
SCALE: N.T.S.



BUELL CONSULTING INC.  
1360 ENERGY PARK DRIVE, SUITE 210  
ST. PAUL, MN 55108  
(651) 225-0793  
www.buellconsulting.com

TERRA CONSULTING GROUP, LTD.  
600 BUSSE HIGHWAY  
PARK RIDGE, IL 60068  
(847) 698-6400

| NO. | REVISIONS | DESCRIPTION | DATE | BY |
|-----|-----------|-------------|------|----|
|     |           |             |      |    |
|     |           |             |      |    |
|     |           |             |      |    |
|     |           |             |      |    |
|     |           |             |      |    |
|     |           |             |      |    |
|     |           |             |      |    |
|     |           |             |      |    |
|     |           |             |      |    |

**MOBILITIE ID/  
CASCADE ID**

**TYPICAL  
INSTALLATION #1**

ADDRESS  
SAINT PAUL, MN

DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 PROJECT #: \_\_\_\_\_

SHEET TITLE  
**ANTENNA & EQUIPMENT  
DETAILS**

SHEET NUMBER

**ANT-3**

**UTILITY NOTES:**

**WORK INCLUDES:**

THESE NOTES AND ACCOMPANYING DRAWINGS COMPLEMENT THE PROVISIONS AND INSTALLATIONS BY THE ELECTRICAL CONTRACTOR. OF ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO INSTALL THE ELECTRICAL WORK COMPLETE IN CONNECTION WITH THIS CELLULAR SITE AND SHALL INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

1. THE PROVISIONS, INSTALLATION AND CONNECTION OF A GROUNDING ELECTRODE SYSTEM COMPLETE WITH SECONDARY GROUNDING, AND CONNECTIONS TO THE INCOMING ELECTRICAL DISTRIBUTION EQUIPMENT.
2. THE PROVISION AND INSTALLATION OF AN OVERHEAD ELECTRICAL SERVICE OR UNDERGROUND ELECTRICAL SERVICE AND ALL ASSOCIATED WIRE AND CONDUIT AS REQUIRED AND/OR INDICATED ON PLANS.
3. THE PROVISION AND INSTALLATION OF CONDUIT AND CONNECTIONS FOR LOCAL FIBER SERVICE.
4. THE FURNISHING AND INSTALLATION OF THE ELECTRICAL SERVICE ENTRANCE CONDUCTORS, CONDUITS, METER SOCKET, AND CONNECTIONS TO THE SERVICE EQUIPMENT.
5. ALL CONDUITS SHOULD BE LEFT WITH NYLON PULL CORD FOR FUTURE USE.
6. EXCAVATION, TRENCHING, AND BACKFILLING FOR CONDUIT(S), CABLE(S) AND EXTERNAL GROUNDING SYSTEM.

**CODES, PERMITS AND FEES:**

1. ALL REQUIRED PERMITS, LICENSES, INSPECTIONS AND APPROVALS SHALL BE SECURED AND ALL FEES FOR SAME PAID BY CONTRACTOR.
2. THE INSTALLATION SHALL COMPLY WITH ALL APPLICABLE CODES: STATE, LOCAL AND NATIONAL AND THE DESIGN, PERFORMANCE CHARACTERISTICS AND METHODS OF CONSTRUCTION OF ALL ITEMS AND EQUIPMENT SHALL BE IN ACCORDANCE WITH THE LATEST ISSUE OF THE VARIOUS APPLICABLE STANDARD SPECIFICATIONS OF THE FOLLOWING AUTHORITIES:
  - N.E.C. NATIONAL ELECTRICAL CODE
  - A.N.S.I. AMERICAN NATIONAL STANDARDS INSTITUTE
  - I.E.E.E. INSTITUTE OF ELECTRICAL AND ELECTRONICS ENGINEERS
  - A.S.T.M. AMERICAN SOCIETY FOR TESTING MATERIALS
  - N.E.M.A. NATIONAL ELECTRICAL MANUFACTURERS ASSOCIATION
  - U.L. UNDERWRITERS LABORATORIES, INC.
  - N.F.P.A. NATIONAL FIRE PROTECTION ASSOCIATION

**RACEWAYS AND WIRING:**

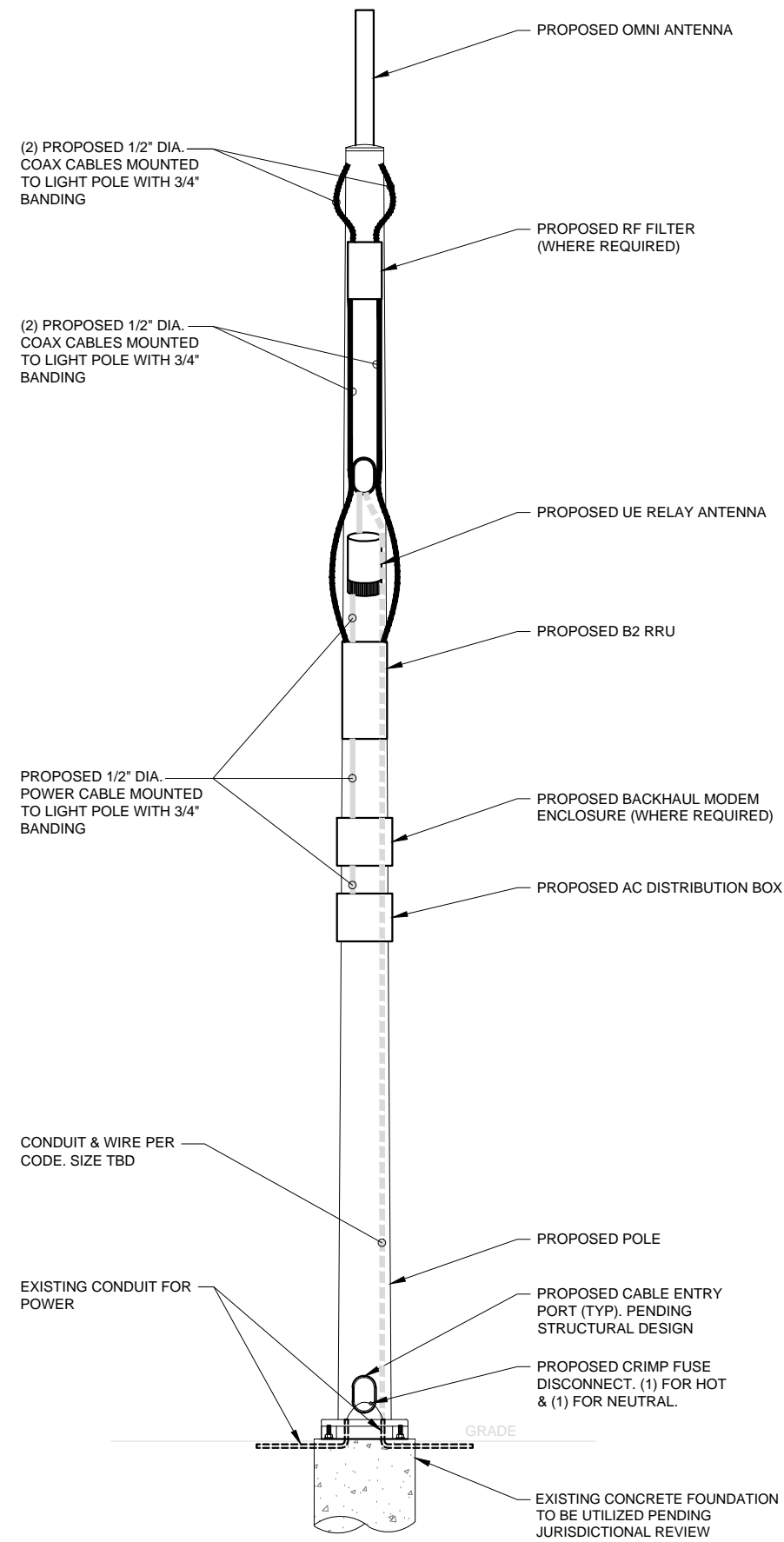
1. WIRING OF EVERY KIND MUST BY INSTALLED IN CONDUIT, UNLESS NOTED OTHERWISE, OR AS APPROVED BY THE ARCHITECT/ENGINEER.
2. UNLESS OTHERWISE SPECIFIED, ALL WIRING SHALL BE COPPER (CU) TYPE THWN, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.
3. RACEWAYS SHALL BE GALVANIZED STEEL, SIZED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND LOCAL CODES UNLESS OTHERWISE NOTED. ALL RACEWAYS SHALL BE APPROVED FOR THE INSTALLATION.
4. PULL OR JUNCTION BOXES SHALL BE PROVIDED AS REQUIRED TO FACILITATE INSTALLATION OF RACEWAYS AND WIRING. PROVIDE JUNCTION AND PULLBOXES FOR CONDUIT RUNS WITH MORE THAN (360) DEGREES OF BENDS.
5. PROVIDE A COMPLETE RACEWAY AND WIRING INSTALLATION, PERMANENTLY AND EFFECTIVELY GROUNDED IN ACCORDANCE WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE AND LOCAL CODES.
6. ALL STEEL CONDUIT SHALL BE BONDED AT BOTH ENDS WITH GROUNDING BUSHING.

**GENERAL NOTES:**

SEE DETAILS, SCHEDULES AND SPECIFICATIONS FOR ADDITIONAL REQUIREMENTS AND INFORMATION. CHECK ARCHITECTURAL, STRUCTURAL, AND OTHER MECHANICAL AND ELECTRICAL DRAWINGS FOR SCALE, SPACE LIMITATIONS, COORDINATION, AND ADDITIONAL INFORMATION, ETC. REPORT ANY DISCREPANCIES, CONFLICTS, ETC. TO ARCHITECT/ENGINEER BEFORE SUBMITTING BID. ALL EQUIPMENT FURNISHED BY OTHERS (FBO) SHALL BE PROVIDED WITH PROPER MOTOR STARTERS, DISCONNECTS, CONTROLS, ETC. BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE. THE ELECTRICAL CONTRACTOR SHALL INSTALL AND COMPLETELY WIRE ALL ASSOCIATED EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WIRE DIAGRAMS AND AS REQUIRED FOR A COMPLETE OPERATING INSTALLATION. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF (FBO) EQUIPMENT PRIOR TO ROUGH-IN OF CONDUIT AND WIRING TO AVOID CONFLICTS.

**COORDINATION WITH UTILITY COMPANY:**

THE ELECTRICAL CONTRACTOR SHALL COORDINATE COMPLETE ELECTRICAL SERVICE WITH LOCAL UTILITY COMPANY FOR A COMPLETE OPERATIONS SYSTEM, INCLUDING TRANSFORMER CONNECTIONS, CONCRETE TRANSFORMER PADS, IF REQUIRED, METER SOCKETS, PRIMARY CABLE RACEWAY REQUIREMENTS, SECONDARY SERVICE, ETC. PRIOR TO SUBMITTING BID TO INCLUDE ALL LABOR AND MATERIALS. THE ELECTRICAL CONTRACTOR SHALL INCLUDE IN THE BID ANY OPTIONAL OR EXCESS FACILITY CHARGES ASSOCIATED WITH PROVIDING ELECTRICAL SERVICE FROM LOCAL UTILITY COMPANY. VERIFY BEFORE BIDDING TO INCLUDE ALL COSTS. THE ELECTRICAL CONTRACTOR SHALL VERIFY THE AVAILABLE FAULT CURRENT WITH THE LOCAL UTILITY COMPANY PRIOR TO SUBMITTING BID. ADJUST A.I.C. RATINGS OF ALL OVER CURRENT PROTECTION DEVICES IN DISTRIBUTION EQUIPMENT AS REQUIRED TO COORDINATE WITH AVAILABLE FAULT CURRENT FROM LOCAL UTILITY COMPANY.



**NOTE:**  
CABLING DIAGRAM IS FOR CLARITY OF CABLE ROUTE AND TERMINATION ONLY. CONTRACTOR SHALL INSTALL CABLES WITH MINIMAL VISUAL IMPACT ON EXISTING STEEL POLE. SEE ELEVATION DRAWING FOR EQUIPMENT AND ANTENNA LOCATIONS.

**1 CABLING DIAGRAM**  
N.T.S.



BUELL CONSULTING INC.  
1360 ENERGY PARK DRIVE, SUITE 210  
ST. PAUL, MN 55108  
(651) 225-0793  
www.buellconsulting.com

TERRA CONSULTING GROUP, LTD.  
600 BUSSE HIGHWAY  
PARK RIDGE, IL 60068  
(847) 698-6400

| NO. | DESCRIPTION | REVISIONS |    |
|-----|-------------|-----------|----|
|     |             | DATE      | BY |
|     |             |           |    |
|     |             |           |    |
|     |             |           |    |
|     |             |           |    |
|     |             |           |    |
|     |             |           |    |
|     |             |           |    |
|     |             |           |    |
|     |             |           |    |

**MOBILITIE ID/  
CASCADE ID**

**TYPICAL  
INSTALLATION #1**

ADDRESS  
SAINT PAUL, MN

DRAWN BY: \_\_\_\_\_  
 CHECKED BY: \_\_\_\_\_  
 DATE: \_\_\_\_\_  
 PROJECT #: \_\_\_\_\_

SHEET TITLE  
**ELECTRICAL DETAILS**

SHEET NUMBER  
**E-1**