



- A. Call to Order
- B. Pledge of Allegiance
- C. Approve Order of Agenda
- D. Approval of Minutes – November 15, 2021 (Pages 3-5)
- E. Building Permits (Pages 6-7)

**Consent Agenda - Approve the Following:**

- a. Bills (Pages 8-16)
- b. Right-Of-Way Season Shutdown (Page 17)
  - Authorize staff to initiate a Season Shutdown, AND Direct staff to prepare a notice to be sent to contractor's 1 week prior to shutdown taking effect
- c. Resolution to approve addition of antennas for commercial wireless telecommunication on existing tower at 316 11th Street West (Pages 18-77)
- d. Cass County Election Joint Powers Agreement (Pages 78-122)
- e. Reappointment of Commission President, Bernie Dardis to the 2022 Greater Fargo Moorhead EDC Board of Directors
- f. Access Agreement with Southeast Cass (Pages 123-131)

**Regular Agenda**

- 1. Swearing in of Police Department Officers - Denis Otterness, Police Chief
- 2. First Reading and Public Hearing for rezoning from an R-1: Once & Two Family Dwelling District to a C: Light Commercial District at 120 1st Street - Lisa Sankey, City Planner (Pages 132-140)
- 3. First Reading and Public Hearing - Zoning Ordinance Amendments to Sections 4-200 Definitions, 4- 440, Supplementary District Regulations, and 4-442.6 Accessory Building and Use Provisions Regarding Swimming Pools - Malachi Petersen, City Planner (Pages 141-160)
- 4. Appeal of Planning & Zoning Recommendation Regarding a Plat and Conditional Use Permit for a Non-Farm, Single-Family Dwelling in an Agriculturally Zoned District - Malachi Petersen, City Planner (Pages 161-174)
- 5. Final Approval – Conditional Use Permit for a 160' Telecommunications Tower Located in an Agriculturally Zoned District - Malachi Petersen, City Planner (Pages 175-208)
- 6. Application for Abatement or Refund of Taxes for Charleswood Commercial Estates LLC for 2019 & 2020 - Nick Lee, City Assessor (Pages 209-242)
- 7. Grant Acceptance - Dustin Scott, City Engineer (Pages 243-261)
  - Accept Grant Applications and Authorize letter of support

8. Letter of Formal Request for the City of Fargo - Dustin Scott, City Engineer (Page 262)  
    Authorize Engineering to prepare and send a Letter of Formal Request to the City of Fargo for adding a traffic signal at the intersection of Veterans Blvd and 37<sup>th</sup> Ave E
9. Commission Approval of COLA Transfer of Funds for the West Fargo Library (Page 263-264)
10. City Administrator's Report
11. Correspondence
12. Non-Agenda Items
13. Adjourn



The West Fargo City Commission met on Monday, November 15, 2021, at 5:30 pm. Those present were Commissioners Bernie Dardis, Eric Gjerdevig, Mark Simmons, Brad Olson and Mandy George. President of the Board Bernie Dardis called the meeting to order at 5:30 PM.

Commissioner Gjerdevig moved and Commissioner Olson seconded to approve the order of the agenda as distributed with the amendment that Agenda Item c from the Consent Agenda be removed to the Regular Agenda as item 5a. No opposition. Motion carried.

Commissioner Olson moved and Commissioner George seconded to approve the minutes of November 1, 2021 as presented. No opposition. Motion carried.

Commissioner George moved and Commissioner Gjerdevig seconded to approve the Building Permit Reports as distributed. No opposition. Motion carried.

Commissioner Olson moved and Commissioner George seconded to approve the following items from the Consent Agenda with the exception that item c be moved to the regular agenda as item 5a:

- a. Bills (Pages 10-18)
- b. Financial Dashboard as of September 30, 2021 (Pages 19-21)
- c. Resolution Approving Wireless Colocation at 3124 6th Street West (Pages 22-73)
- d. Games of Chance for Packer Backers (West Fargo Packer Boys Hockey). Games to be conducted: Raffle on 12-17-2021 at West Fargo Sports Arena at 520 32nd Ave W (Page 74)
- e. Gaming Site Authorization for Companions for Children. Games to be conducted: Electronic Pull Tab Device from 11-15-2021 to 6-30-2022 at Buffalo Wings and Rings at 695 32nd Ave E (Pages 75-76)
- f. Sponsorship from the City of West Fargo for a Special Road Fund Grant for the West Fargo Park District (Pages 77-79)

No opposition. Motion carried.

Commission President Bernie Dardis opened up the agenda item of Reappointment of Brad Olson to Cass County Planning Commission. Following discussion, Commissioner Simmons moved and Commissioner Gjerdevig seconded to approve the reappointment of Brad Olson to Cass County Planning Commission. No opposition. Motion carried.

Lisa Sankey, City Planner appeared before the Commission for the Second Reading Zoning Ordinance Amendment Parking. Following discussion, Commissioner Gjerdevig moved and Commissioner Olson seconded to approve the second Reading Zoning Ordinance Amendment Parking. No opposition. Motion carried.

Lisa Sankey, City Planner appeared before the Commission for the Second Reading Zoning Ordinance Amendment to DMU District. Following discussion, Commissioner Olson moved and Commissioner George seconded to approve the Second Reading Zoning Ordinance Amendment to DMU District. No opposition. Motion carried.

Tim Solberg, Assistant City Administrator, appeared before Commission for approval of the A21-41 – A Conditional Use Permit for an Oversized Accessory Building, Woodland Estates. Following discussion, Commissioner George moved and Commissioner Simmons seconded to approve the A21-41 – A Conditional Use Permit for an Oversized Accessory Building, Woodland Estates. Commissioner Olson opposed. Motion carried.

John Shockley, City Attorney appeared before the Commission for approval of the Second Reading of Ordinance No. 1197 relating to Theft of Property, Shoplifting, and Window Tint. Following discussion, Commissioner Gjerdevig moved and Commissioner Olson seconded to approve the Second Reading of Ordinance No. 1197 relating to Theft of Property, Shoplifting, and Window Tint. No opposition. Motion carried.

Tim Solberg, Assistant City Administrator, appeared before the Commission for consent agenda item c that was moved to the regular agenda as item 5a: Resolution Approving Wireless Colocation at 3124 6th Street West. Following discussion, Commissioner Olson moved and Commissioner Gjerdevig seconded to approve the Resolution Approving Wireless Colocation at 3124 6th Street West. No opposition. Motion carried.

John Shockley, City Engineer and Scott Middaugh of KLJ Engineering appeared before the Commission to give a presentation on the claim from Improvement District No. 2250 - Sheyenne St. Reconstruction (Beaton Dr. to 32nd Ave); Review contractor's NOI submittal regarding the sanitary sewer forcemain installation through the diversion channel. Following discussion, the Commission voted to go into Executive Session in regards to this item.

At 6:02 PM the regular agenda of the West Fargo City Commission went into recess and met in Executive Session pursuant to N.D.C.C. § 44-04-19.1 through 44-04-19.2 for the purpose of attorney client consultation regarding potential claims arising out of or relating to the contractor's NOI submittal regarding the sanitary sewer forcemain installation through the Sheyenne diversion channel. At 6:42 PM the West Fargo City Commission meeting was reconvened. Following the Executive Session, Commissioner Simmons moved and Commissioner George seconded to approve the change order and to accept the settlement offer of KLJ and Moore Engineering. No opposition. Motion carried.

Tina Fisk, City Administrator appeared before the Commission for the City Administrator's Report:

- a. Commissioners will be receiving information in regards to the Greater Fargo Moorhead EDC soon
- b. Tree Lightning set up for December 2<sup>nd</sup> followed by a Ribbon Cutting for the Sheyenne Street Project
- c. Small Business Saturday will be the Saturday after Thanksgiving which is the 27<sup>th</sup> of November
- d. Matt Andvik, Public Works Director gave a brief update on the lagoon treatments
- e. Denis Otterness, Chief of Police gave a brief update on Officer Brown

There were no additional correspondence outside of the packet that was presented to the Commissioners.

There were no non-agenda items.

Commissioner Simmons moved and Commissioner Olson seconded to adjourn the meeting. No opposition. Meeting adjourned at 6:55 PM.

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Bernie Dardis, Commission President

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Tina Fisk, City Administrator

**WEST FARGO CITY COMMISSION MEETING  
BUILDING DEPARTMENT ACTIVITY REPORT  
12/06/2021**

|                                | AS OF 11/17/2021 |         |                 | YEAR TO DATE |         |                   |
|--------------------------------|------------------|---------|-----------------|--------------|---------|-------------------|
|                                | # PERMITS        | # UNITS | VALUATION       | # PERMITS    | # UNITS | VALUATION         |
| <b><u>BUILDING NEW</u></b>     |                  |         |                 |              |         |                   |
| COMMERCIAL                     |                  |         |                 | 46           |         | \$ 62,976,119.00  |
| RESIDENTIAL DWELLING           | 8                | 8       | \$ 2,495,240.00 | 275          | 275     | \$ 91,196,019.00  |
| RESIDENTIAL TWINHOME           |                  |         |                 | 4            | 4       | \$ 837,500.00     |
| RESIDENTIAL TOWNHOME           |                  |         |                 | 5            | 38      | \$ 7,883,537.00   |
| RESIDENTIAL MULTIPLE           |                  |         |                 | 1            | 54      | \$ 6,500,000.00   |
| PUBLIC                         |                  |         |                 | 1            |         | \$ 3,150,550.00   |
| CHURCH                         |                  |         |                 |              |         |                   |
| ACCESSORY                      | 1                |         | \$ 1,500.00     | 167          |         | \$ 1,612,540.00   |
| FOUNDATION ONLY                |                  |         |                 | 25           |         | \$ 6,705,500.00   |
|                                |                  |         |                 |              |         |                   |
| <b><u>BUILDING REMODEL</u></b> |                  |         |                 |              |         |                   |
| COMMERCIAL                     | 2                |         | \$ 3,790,000.00 | 64           |         | \$ 13,420,303.00  |
| RESIDENTIAL                    | 1                |         | \$ 20,000.00    | 168          |         | \$ 5,138,241.00   |
| PUBLIC                         |                  |         |                 | 4            |         | \$ 4,950,400.00   |
| CHURCH                         |                  |         |                 | 1            |         | \$ 458,900.00     |
| ACCESSORY                      |                  |         |                 | 2            |         | \$ 22,000.00      |
|                                |                  |         |                 |              |         |                   |
| <b><u>BUILDING OTHER</u></b>   |                  |         |                 |              |         |                   |
| DEMOLITION                     |                  |         |                 | 4            |         | \$ 40,800.00      |
| MOVE                           |                  |         |                 | 1            |         | \$ 20,000.00      |
| PERMIT CANCELLATION            |                  |         |                 | 2            |         | \$ 286,640.00     |
|                                |                  |         |                 |              |         |                   |
| <b>TOTALS</b>                  | 12               | 8       | \$ 6,306,740.00 | 766          | 371     | \$ 204,625,769.00 |

## Building Department Report - Summary

| NO.    | CONTRACTOR                | ADDRESS                | OWNER                  | VALUATION       | PERMIT FOR                                 |
|--------|---------------------------|------------------------|------------------------|-----------------|--------------------------------------------|
| 211479 | Heritage Homes            | 730 Rania Way West     | Active55, LLC          | \$ 360,000.00   | Residential Dwelling                       |
| 211484 | Donald Johnson            | 2640 7th Street West   | Donald & Shonda Nelson | \$ 20,000.00    | Remodel - Residential - Lower Level Finish |
| 211486 | Great States Construction | 647 13th Avenue East   | NDAC Real Estate LLC   | \$ 90,000.00    | Remodel - Commercial - kitchen             |
| 211487 | Verity Homes of Fargo     | 1036 50th Avenue West  | Verity Homes of Fargo  | \$ 220,000.00   | Residential Dwelling                       |
| 211488 | Dabbert Custom Homes      | 1223 22nd Avenue West  | Dabbert Custom Homes   | \$ 295,900.00   | Residential Dwelling                       |
| 211379 | Olaf Anderson             | 100 9th Street NE      | 9th & Main, LLC        | \$ 3,700,000.00 | Remodel - Commercial - fitup for warehouse |
| 211493 | Heritage Homes            | 698 Rania Way West     | Active55, LLC          | \$ 295,000.00   | Residential Dwelling                       |
| 211494 | Eid-Co Buildings          | 528 Westview Lane East | Eid-C Buildings        | \$ 317,670.00   | Residential Dwelling                       |
| 211478 | Brookstone Property       | 2042 12th Street West  | HS Investments         | \$ 1,500.00     | Accessory - Deck                           |
| 211498 | Eid-Co Buildings          | 523 Westview Lane East | Eid-C Buildings        | \$ 317,670.00   | Residential Dwelling                       |
| 211508 | Heritage Homes            | 716 Rania Way West     | Active55, LLC          | \$ 300,000.00   | Residential Dwelling                       |
| 211509 | Heritage Homes            | 717 Rania Way West     | Active55, LLC          | \$ 389,000.00   | Residential Dwelling                       |

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CITY OF WEST FARGO, ND  
Check Register  
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Claim Checks

| Check # | Type | Vendor #/Name                                 | Check Amount | Date Issued | Period Redeemed | Claim #   | Claim Amount |
|---------|------|-----------------------------------------------|--------------|-------------|-----------------|-----------|--------------|
| 100406  | S    | 3299 1ST IMPRESSIONS                          | 26.00        | 11/17/21    |                 | CL 100192 | 26.00        |
| 100407  | S    | 3639 3X GEAR LLC                              | 400.00       | 11/17/21    |                 | CL 100316 | 400.00       |
| 100408  | S    | 4 ABM                                         | 315.37       | 11/17/21    |                 | CL 100317 | 315.37       |
| 100409  | S    | 3179 ADVANCED ENGINEERING & ENVIRONMENTAL SER | 1789.50      | 11/17/21    |                 | CL 100318 | 1789.50      |
| 100410  | S    | 2947 ALLSTATE PETERBILT OF FARGO              | 1062.73      | 11/17/21    |                 | CL 100325 | 1062.73      |
| 100411  | S    | 3490 AMAZON CAPITAL SERVICES                  | 2464.17      | 11/17/21    |                 | CL 100154 | 218.40       |
|         |      |                                               |              |             |                 | CL 100184 | 928.83       |
|         |      |                                               |              |             |                 | CL 100206 | 38.58        |
|         |      |                                               |              |             |                 | CL 100207 | 81.79        |
|         |      |                                               |              |             |                 | CL 100220 | 338.04       |
|         |      |                                               |              |             |                 | CL 100297 | 782.64       |
|         |      |                                               |              |             |                 | CL 100303 | 47.90        |
|         |      |                                               |              |             |                 | CL 100334 | 27.99        |
| 100412  | S    | 317 AMERICAN WELDING & GAS, INC.              | 278.56       | 11/17/21    |                 | CL 100198 | 49.57        |
|         |      |                                               |              |             |                 | CL 100229 | 228.99       |
| 100413  | S    | 3996 ANDIE WAGAMANN                           | 56.00        | 11/17/21    |                 | CL 100346 | 56.00        |
| 100414  | S    | 1695 BAKER & TAYLOR                           | 6444.49      | 11/17/21    |                 | CL 100239 | 4417.36      |
|         |      |                                               |              |             |                 | CL 100294 | 2027.13      |
| 100415  | S    | 1069 BAKER GARDEN & GIFT                      | 59.99        | 11/17/21    |                 | CL 100288 | 59.99        |
| 100416  | S    | 999999 BECKY SCHREIER                         | 300.00       | 11/17/21    |                 | CL 100304 | 300.00       |
| 100417  | S    | 2353 BEN NECHIPORENKO                         | 15.00        | 11/17/21    |                 | CL 100183 | 15.00        |
| 100418  | S    | 3489 BOLTON & MENK, INC                       | 555.00       | 11/17/21    |                 | CL 100345 | 555.00       |
| 100419  | S    | 26 BORDER STATES INDUSTRIES INC               | 10292.23     | 11/17/21    |                 | CL 100188 | 253.00       |
|         |      |                                               |              |             |                 | CL 100278 | 39.23        |
|         |      |                                               |              |             |                 | CL 100338 | 10000.00     |
| 100420  | S    | 73 BRAUN INTERTEC                             | 36583.75     | 11/17/21    |                 | CL 100399 | 36583.75     |
| 100421  | S    | 3374 BREANNA GRONAAS                          | 338.00       | 11/17/21    |                 | CL 100287 | 338.00       |
| 100422  | S    | 652 BRENCO CORPORATION                        | 2900.00      | 11/17/21    |                 | CL 100241 | 2900.00      |
| 100423  | S    | 351 BUSINESS ESSENTIALS                       | 2088.40      | 11/17/21    |                 | CL 100181 | 572.38       |
|         |      |                                               |              |             |                 | CL 100235 | 62.91        |
|         |      |                                               |              |             |                 | CL 100307 | 1363.44      |
|         |      |                                               |              |             |                 | CL 100308 | 89.67        |

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|---------|------|-----------------------------------|--------------|-------------|-----------------|-----------|--------------|
| 100424  | S    | 39 BUTLER MACHINERY               | 1636.56      | 11/17/21    |                 | CL 100193 | 1304.97      |
|         |      |                                   |              |             |                 | CL 100251 | 187.72       |
|         |      |                                   |              |             |                 | CL 100330 | 143.87       |
| 100425  | S    | 1403 CAPITAL ONE TRADE CREDIT     | 434.92       | 11/17/21    |                 | CL 100242 | 263.36       |
|         |      |                                   |              |             |                 | CL 100254 | 171.56       |
| 100426  | S    | 51 CASS COUNTY ELECTRIC COOP      | 45755.72     | 11/17/21    |                 | CL 100319 | 1264.10      |
|         |      |                                   |              |             |                 | CL 100344 | 292.33       |
|         |      |                                   |              |             |                 | CL 100383 | 19300.00     |
|         |      |                                   |              |             |                 | CL 100384 | 1412.88      |
|         |      |                                   |              |             |                 | CL 100385 | 930.24       |
|         |      |                                   |              |             |                 | CL 100386 | 370.17       |
|         |      |                                   |              |             |                 | CL 100387 | 22186.00     |
| 100427  | S    | 2909 CC STEEL LLC                 | 351492.05    | 11/17/21    |                 | CL 100226 | 351492.05    |
| 100428  | S    | 1777 CENTURY LINK                 | 68.77        | 11/17/21    |                 | CL 100398 | 68.77        |
| 100429  | S    | 4128 CHANDLERTHINKS, LLC          | 9095.00      | 11/17/21    |                 | CL 100290 | 9095.00      |
| 100430  | S    | 3417 CHELSEA SIMDORN              | 18.45        | 11/17/21    |                 | CL 100237 | 18.45        |
| 100431  | S    | 3216 CINTAS                       | 140.01       | 11/17/21    |                 | CL 100212 | 140.01       |
| 100432  | S    | 111 CITY OF FARGO                 | 61095.96     | 11/17/21    |                 | CL 100203 | 560.00       |
|         |      |                                   |              |             |                 | CL 100343 | 24493.37     |
|         |      |                                   |              |             |                 | CL 100382 | 36042.59     |
| 100433  | S    | 2880 CITY OF FARGO                | 483994.05    | 11/17/21    |                 | CL 100391 | 290657.25    |
|         |      |                                   |              |             |                 | CL 100392 | 16.80        |
|         |      |                                   |              |             |                 | CL 100393 | 193320.00    |
| 100434  | S    | 3167 City of West Fargo           | 191.25       | 11/17/21    |                 | CL 100320 | 191.25       |
| 100435  | S    | 999999 CITY OF WEST FARGO         | 73.00        | 11/17/21    |                 | CL 100166 | 73.00        |
| 100436  | S    | 3021 CIVICPLUS                    | 13860.00     | 11/17/21    |                 | CL 100270 | 13860.00     |
| 100437  | S    | 1904 CODE 4 SERVICES, INC         | 264.64       | 11/17/21    |                 | CL 100321 | 264.64       |
| 100438  | S    | 133 COLE PAPER                    | 140.12       | 11/17/21    |                 | CL 100191 | 140.12       |
| 100439  | S    | 4175 COLUMBIA SOUTHERN UNIVERSITY | 325.00       | 11/17/21    |                 | CL 100370 | 325.00       |
| 100440  | S    | 229 CONSOLIDATED COMMUNICATIONS   | 2885.67      | 11/17/21    |                 | CL 100306 | 2734.87      |
|         |      |                                   |              |             |                 | CL 100347 | 150.80       |

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|---------|------|---------------------------------------------|--------------|-------------|-----------------|-------------------------------------|-------------------------------------|
| 100441  | S    | 3245 CORE & MAIN                            | 106280.73    | 11/17/21    |                 | CL 100160<br>CL 100272<br>CL 100337 | 1042.06<br>26971.32<br>78267.35     |
| 100442  | S    | 3640 COREY MARKEL                           | 56.00        | 11/17/21    |                 | CL 100348                           | 56.00                               |
| 100443  | S    | 47 CORWIN CHRYSLER                          | 225.60       | 11/17/21    |                 | CL 100249                           | 225.60                              |
| 100444  | S    | 60 CROSSCOUNTRY FREIGHT SOLUTIONS           | 115.28       | 11/17/21    |                 | CL 100289                           | 115.28                              |
| 100445  | S    | 3500 CUMMINS SALES AND SERVICE              | 100.05       | 11/17/21    |                 | CL 100201                           | 100.05                              |
| 100446  | S    | 624 DAKOTA SUPPLY GROUP                     | 65.12        | 11/17/21    |                 | CL 100333                           | 65.12                               |
| 100447  | S    | 90 DAKOTA UNDERGROUND                       | 1050668.58   | 11/17/21    |                 | CL 100224<br>CL 100225<br>CL 100231 | 133133.55<br>588255.30<br>329279.73 |
| 100448  | S    | 856 DAVE'S WEST FARGO TIRE                  | 254.63       | 11/17/21    |                 | CL 100169<br>CL 100284              | 223.61<br>31.02                     |
| 100449  | S    | 2948 DELTA 54 AVIATION LLC                  | 3350.26      | 11/17/21    |                 | CL 100263                           | 3350.26                             |
| 100450  | S    | 77 DEMCO                                    | 249.74       | 11/17/21    |                 | CL 100240                           | 249.74                              |
| 100451  | S    | 2225 DTN, LLC                               | 397.00       | 11/17/21    |                 | CL 100273                           | 397.00                              |
| 100452  | S    | 2100 EAGLE RUN CROSSING LLC                 | 433.16       | 11/17/21    |                 | CL 100341                           | 433.16                              |
| 100453  | S    | 1502 EIDE BAILLY                            | 936.00       | 11/17/21    |                 | CL 100232                           | 936.00                              |
| 100454  | S    | 1841 EMERGENCY AUTOMOTIVE TECHNOLOGIES, INC | 418.71       | 11/17/21    |                 | CL 100248                           | 418.71                              |
| 100455  | S    | 877 ENVIRONMENTAL TOXICITY CONTROL INC.     | 910.00       | 11/17/21    |                 | CL 100276                           | 910.00                              |
| 100456  | S    | 3722 ENVIROTECH                             | 9545.28      | 11/17/21    |                 | CL 100280                           | 9545.28                             |
| 100457  | S    | 140 F-M AMBULANCE SERVICE                   | 310.00       | 11/17/21    |                 | CL 100362<br>CL 100364              | 142.50<br>167.50                    |
| 100458  | S    | 650 FARGO CASS PUBLIC HEALTH                | 226.00       | 11/17/21    |                 | CL 100349                           | 226.00                              |
| 100459  | S    | 660 FARGO FREIGHTLINER                      | 7298.90      | 11/17/21    |                 | CL 100158<br>CL 100256<br>CL 100279 | 783.34<br>348.66<br>6166.90         |
| 100460  | S    | 728 FARNAM'S GENUINE PARTS, INC             | 482.97       | 11/17/21    |                 | CL 100322                           | 482.97                              |



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|---------|------|--------------------------------------------|--------------|-------------|-----------------|-----------|--------------|
| 100461  | S    | 1648 FARSTAD OIL, INC                      | 301.00       | 11/17/21    |                 |           |              |
| 100462  | S    | 104 FORUM COMMUNICATIONS                   | 359.64       | 11/17/21    |                 | CL 100208 | 301.00       |
|         |      |                                            |              |             |                 | CL 100163 | 102.06       |
|         |      |                                            |              |             |                 | CL 100299 | 257.58       |
| 100463  | S    | 1593 FRONTIER PRECISION, INC               | 477.63       | 11/17/21    |                 |           |              |
| 100464  | S    | 155 GALLS, LLC                             | 2719.17      | 11/17/21    |                 | CL 100269 | 477.63       |
|         |      |                                            |              |             |                 | CL 100172 | 1594.92      |
|         |      |                                            |              |             |                 | CL 100271 | 1041.55      |
|         |      |                                            |              |             |                 | CL 100350 | 82.70        |
| 100465  | S    | 2864 GOODIN COMPANY                        | 287.32       | 11/17/21    |                 |           |              |
| 100466  | S    | 556 GRAINGER, INC.                         | 18.30        | 11/17/21    |                 | CL 100199 | 287.32       |
| 100467  | S    | 939 GRAYBAR                                | 206.71       | 11/17/21    |                 | CL 100246 | 18.30        |
| 100468  | S    | 3593 HOLIDAY COMPANIES                     | 220.00       | 11/17/21    |                 | CL 100331 | 206.71       |
| 100469  | S    | 4170 HOOTSUITE INC                         | 5391.00      | 11/17/21    |                 | CL 100177 | 220.00       |
| 100470  | S    | 1226 HP INC.                               | 4481.18      | 11/17/21    |                 | CL 100291 | 5391.00      |
| 100471  | S    | 687 INFORMATION TECHNOLOGY DEPT            | 676.20       | 11/17/21    |                 | CL 100302 | 4481.18      |
| 100472  | S    | 4168 INTEGRITY STEEL SUPPLY LLC            | 3427.75      | 11/17/21    |                 | CL 100283 | 676.20       |
| 100473  | S    | 211 INTERSTATE BATTERIES                   | 66.37        | 11/17/21    |                 | CL 100164 | 3427.75      |
| 100474  | S    | 999999 JIM JENSEN REAL ESTATE              | 19.75        | 11/17/21    |                 | CL 100329 | 66.37        |
| 100475  | S    | 3074 JOHN'S REFRIGERATION & ELECTRIC, INC. | 25106.49     | 11/17/21    |                 | CL 100374 | 19.75        |
| 100476  | S    | 2798 JOHNSON CONTROLS                      | 1456.88      | 11/17/21    |                 | CL 100227 | 25106.49     |
| 100477  | S    | 4114 KRISTIN KRAMER                        | 12.88        | 11/17/21    |                 | CL 100243 | 1456.88      |
| 100478  | S    | 2325 KUSTOM KONCEPTS                       | 79.64        | 11/17/21    |                 | CL 100238 | 12.88        |
| 100479  | S    | 2508 KYLE HINRICHS                         | 211.85       | 11/17/21    |                 | CL 100351 | 79.64        |
| 100480  | S    | 705 LAWSON PRODUCTS                        | 757.73       | 11/17/21    |                 | CL 100282 | 211.85       |
|         |      |                                            |              |             |                 | CL 100255 | 100.66       |
|         |      |                                            |              |             |                 | CL 100332 | 657.07       |
| 100481  | S    | 3418 LOFFLER                               | 941.96       | 11/17/21    |                 |           |              |
|         |      |                                            |              |             |                 | CL 100216 | 63.33        |
|         |      |                                            |              |             |                 | CL 100292 | 651.63       |
|         |      |                                            |              |             |                 | CL 100301 | 200.00       |
|         |      |                                            |              |             |                 | CL 100373 | 27.00        |

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Claim Checks

| Check # | Type | Vendor #/Name                    | Check Amount | Date Issued | Period Redeemed | Claim #   | Claim Amount |
|---------|------|----------------------------------|--------------|-------------|-----------------|-----------|--------------|
| 100482  | S    | 3502 M&T FIRE AND SAFETY         | 446.08       | 11/17/21    |                 |           |              |
| 100483  | S    | 3304 MAC'S - FARGO               | 42.97        | 11/17/21    |                 | CL 100353 | 446.08       |
| 100484  | S    | 656 MASTER CONSTRUCTION          | 274875.30    | 11/17/21    |                 | CL 100259 | 42.97        |
| 100485  | S    | 3119 MATT RETKA                  | 50.00        | 11/17/21    |                 | CL 100223 | 274875.30    |
| 100486  | S    | 299 MENARDS                      | 589.38       | 11/17/21    |                 | CL 100266 | 50.00        |
|         |      |                                  |              |             |                 | CL 100218 | 296.08       |
|         |      |                                  |              |             |                 | CL 100261 | 76.80        |
|         |      |                                  |              |             |                 | CL 100286 | 78.87        |
|         |      |                                  |              |             |                 | CL 100354 | 137.63       |
| 100487  | S    | 323 METRO COG                    | 1250.93      | 11/17/21    |                 | CL 100267 | 1250.93      |
| 100488  | S    | 2766 MIDCONTINENT COMMUNICATIONS | 320.00       | 11/17/21    |                 | CL 100182 | 320.00       |
| 100489  | S    | 102 MIDSTATES WIRELESS           | 174.95       | 11/17/21    |                 | CL 100174 | 174.95       |
| 100490  | S    | 1854 MIDWEST TAPE                | 1323.28      | 11/17/21    |                 | CL 100186 | 46.83        |
|         |      |                                  |              |             |                 | CL 100187 | 1276.45      |
| 100491  | S    | 305 MOORE ENGINEERING            | 180015.43    | 11/17/21    |                 | CL 100209 | 2505.00      |
|         |      |                                  |              |             |                 | CL 100219 | 20567.30     |
|         |      |                                  |              |             |                 | CL 100221 | 156943.13    |
| 100492  | S    | 298 MVTL LABORATORIES            | 300.75       | 11/17/21    |                 | CL 100274 | 300.75       |
| 100493  | S    | 3917 MY-LOR, INC                 | 147.19       | 11/17/21    |                 | CL 100355 | 147.19       |
| 100494  | S    | 335 ND DEPT OF TRANSPORTATION    | 5482.39      | 11/17/21    |                 | CL 100314 | 5482.39      |
| 100495  | S    | 1771 ND SECRETARY OF STATE       | 36.00        | 11/17/21    |                 | CL 100285 | 36.00        |
| 100496  | S    | 3860 NDSCS FOUNDATION            | 120000.00    | 11/17/21    |                 | CL 100313 | 120000.00    |
| 100497  | S    | 364 NELSON INTERNATIONAL         | 91.49        | 11/17/21    |                 | CL 100250 | 91.49        |
| 100498  | S    | 271 NETCENTER TECHNOLOGIES       | 3808.03      | 11/17/21    |                 | CL 100165 | 3808.03      |
| 100499  | S    | 141 NORTH STAR SAFETY, INC       | 29.50        | 11/17/21    |                 | CL 100356 | 29.50        |
| 100500  | S    | 328 NORTHERN ENGINE & SUPPL      | 513.64       | 11/17/21    |                 | CL 100253 | 513.64       |
| 100501  | S    | 331 NORTHERN STATES SUPPLY       | 19.88        | 11/17/21    |                 | CL 100327 | 19.88        |
| 100502  | S    | 1715 NORTHWEST TIRE INC          | 1616.28      | 11/17/21    |                 | CL 100202 | 42.46        |
|         |      |                                  |              |             |                 | CL 100252 | 187.38       |
|         |      |                                  |              |             |                 | CL 100328 | 1386.44      |

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|---------|------|--------------------------------------|--------------|-------------|-----------------|-----------|--------------|
| 100503  | S    | 753 O'DAY EQUIPMENT                  | 3465.06      | 11/17/21    |                 |           |              |
| 100504  | S    | 1774 O'REILLY AUTOMOTIVE STORES, INC | 223.97       | 11/17/21    |                 | CL 100264 | 3465.06      |
|         |      |                                      |              |             |                 | CL 100257 | 95.47        |
|         |      |                                      |              |             |                 | CL 100324 | 120.28       |
|         |      |                                      |              |             |                 | CL 100357 | 8.22         |
| 100505  | S    | 3416 OCLC, INC.                      | 195.34       | 11/17/21    |                 |           |              |
| 100506  | S    | 350 OFFICE OF THE STATE AUDITOR      | 450.00       | 11/17/21    |                 | CL 100234 | 195.34       |
| 100507  | S    | 4172 OMEGA LABORATORIES INC          | 35.00        | 11/17/21    |                 |           |              |
| 100508  | S    | 631 ONE CALL CONCEPT                 | 907.65       | 11/17/21    |                 | CL 100275 | 450.00       |
| 100509  | S    | 276 OSTROMS ACE HARDWARE             | 35.15        | 11/17/21    |                 | CL 100300 | 35.00        |
| 100510  | S    | 2126 OVERDRIVE, INC                  | 1250.00      | 11/17/21    |                 | CL 100197 | 907.65       |
| 100511  | S    | 673 PARSONS ELECTRIC                 | 4250.00      | 11/17/21    |                 | CL 100210 | 35.15        |
| 100512  | S    | 563 PETRO SERVE USA                  | 42577.52     | 11/17/21    |                 | CL 100233 | 1250.00      |
|         |      |                                      |              |             |                 | CL 100233 | 4250.00      |
|         |      |                                      |              |             |                 | CL 100194 | 2633.06      |
|         |      |                                      |              |             |                 | CL 100195 | 964.09       |
|         |      |                                      |              |             |                 | CL 100358 | 38980.37     |
| 100513  | S    | 4034 PETRO SERVE USA #63             | 708.89       | 11/17/21    |                 | CL 100372 | 55.93        |
|         |      |                                      |              |             |                 | CL 100211 | 652.96       |
| 100514  | S    | 1987 PETSMART                        | 53.99        | 11/17/21    |                 | CL 100342 | 53.99        |
| 100515  | S    | 1310 PETTYS CONSULTING, LLC          | 162.00       | 11/17/21    |                 | CL 100359 | 162.00       |
| 100516  | S    | 360 PIONEER RIM/WHEEL                | 319.09       | 11/17/21    |                 | CL 100352 | 319.09       |
| 100517  | S    | 4171 PLYMOUTH ROCKET INC             | 1300.00      | 11/17/21    |                 | CL 100247 | 1300.00      |
| 100518  | S    | 3276 PREMIUM WATERS INC              | 87.78        | 11/17/21    |                 | CL 100296 | 87.78        |
| 100519  | S    | 4174 PRO HYDRO-TESTING LLC           | 1645.00      | 11/17/21    |                 | CL 100293 | 1645.00      |
| 100520  | S    | 1295 PRO-WEST & ASSOCIATES, INC      | 221.94       | 11/17/21    |                 | CL 100369 | 221.94       |
| 100521  | S    | 1166 PRODUCTIVITY PLUS ACCOUNT       | 8.44         | 11/17/21    |                 | CL 100268 | 8.44         |
| 100522  | S    | 3204 RECORD KEEPERS                  | 49.00        | 11/17/21    |                 | CL 100200 | 49.00        |
| 100523  | S    | 3655 RIGELS                          | 700.92       | 11/17/21    |                 | CL 100204 | 700.92       |
|         |      |                                      |              |             |                 | CL 100361 |              |

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|---------|------|----------------------------------|--------------|-------------|-----------------|-----------|--------------|
| 100524  | S    | 3522 RJ'S TESORO                 | 1339.29      | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100368 | 1339.29      |
| 100525  | S    | 999999 ROERS PROPERTY MGMT       | 36.75        | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100262 | 36.75        |
| 100526  | S    | 4064 ROYAL TIRE INC              | 1879.44      | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100196 | 1879.44      |
| 100527  | S    | 3353 SAM'S CLUB MC/SYNCB         | 361.16       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100281 | 241.60       |
|         |      |                                  |              |             |                 | CL 100371 | 119.56       |
| 100528  | S    | 437 SANDY'S DONUTS & COFFEE SHOP | 212.30       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100180 | 41.90        |
|         |      |                                  |              |             |                 | CL 100363 | 170.40       |
| 100529  | S    | 3628 SCOTT JOHNSON               | 122.56       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100365 | 122.56       |
| 100530  | S    | 999999 SCOTT WINJUM              | 190.00       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100305 | 190.00       |
| 100531  | S    | 459 SHERWIN WILLIAMS             | 430.46       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100215 | 430.46       |
| 100532  | S    | 1702 SHEYENNE RIVER KENNELS      | 499.90       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100179 | 499.90       |
| 100533  | S    | 91 SIGN SOLUTIONS USA            | 1054.54      | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100159 | 915.01       |
|         |      |                                  |              |             |                 | CL 100214 | 139.53       |
| 100534  | S    | 2535 SKOOTER'S PLUMBING          | 987.50       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100230 | 987.50       |
| 100535  | S    | 3150 SKYHAWK TELEMATICS          | 745.50       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100245 | 745.50       |
| 100536  | S    | 440 SRF CONSULTING GROUP         | 1528.05      | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100400 | 1528.05      |
| 100537  | S    | 31 STURDEVANT'S AUTO PARTS       | 987.95       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100217 | 88.29        |
|         |      |                                  |              |             |                 | CL 100260 | 137.24       |
|         |      |                                  |              |             |                 | CL 100323 | 420.80       |
|         |      |                                  |              |             |                 | CL 100366 | 341.62       |
| 100538  | S    | 176 SUMMIT FIRE PROTECTION       | 670.00       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100244 | 670.00       |
| 100539  | S    | 3360 SUNSET LAW ENFORCEMENT      | 4220.00      | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100175 | 4220.00      |
| 100540  | S    | 634 SWEENEY CONTROLS COMPANY     | 878.70       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100190 | 878.70       |
| 100541  | S    | 700 TCI INSURANCE                | 404.00       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100265 | 404.00       |
| 100542  | S    | 3043 THE FORUM                   | 288.00       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100295 | 288.00       |
| 100543  | S    | 3658 TLC CLEANING LLC            | 2900.00      | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100189 | 2900.00      |
| 100544  | S    | 665 TWIN CITY GARAGE DOOR        | 480.00       | 11/17/21    |                 |           |              |
|         |      |                                  |              |             |                 | CL 100228 | 480.00       |

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|---------|------|--------------------------------------|--------------|-------------|-----------------|-----------|--------------|
| 100545  | S    | 2951 TYLER TECHNOLOGIES, INC         | 285.33       | 11/17/21    |                 | CL 100222 | 285.33       |
| 100546  | S    | 2136 ULINE                           | 99.27        | 11/17/21    |                 | CL 100277 | 99.27        |
| 100547  | S    | 784 UNITED POWER EQUIPMENT           | 150.79       | 11/17/21    |                 | CL 100367 | 150.79       |
| 100548  | S    | 3833 VALLEY GREEN                    | 2380.00      | 11/17/21    |                 | CL 100161 | 2380.00      |
| 100549  | S    | 2865 VALLEY LANDSCAPING              | 3825.00      | 11/17/21    |                 | CL 100339 | 3825.00      |
| 100550  | S    | 3668 VERIZON WIRELESS                | 11988.44     | 11/17/21    |                 | CL 100375 | 11988.44     |
| 100551  | S    | 1658 VERN BAARDSON                   | 2371.23      | 11/17/21    |                 | CL 100171 | 2371.23      |
| 100552  | S    | 3212 VISA ADMINISTRATION             | 1799.43      | 11/17/21    |                 | CL 100397 | 1799.43      |
| 100553  | S    | 2437 VISA ASSESSING                  | 204.69       | 11/17/21    |                 | CL 100395 | 204.69       |
| 100554  | S    | 4000 VISA ECONOMIC DEVELOPMENT       | 509.76       | 11/17/21    |                 | CL 100396 | 509.76       |
| 100555  | S    | 3693 VISA ENGINEERING                | 21.00        | 11/17/21    |                 | CL 100394 | 21.00        |
| 100556  | S    | 2435 VISA POLICE #1                  | 1115.67      | 11/17/21    |                 | CL 100377 | 1115.67      |
| 100557  | S    | 3233 VISA POLICE #2                  | 424.66       | 11/17/21    |                 | CL 100378 | 424.66       |
| 100558  | S    | 3234 VISA POLICE #3                  | 945.63       | 11/17/21    |                 | CL 100379 | 945.63       |
| 100559  | S    | 3244 VISA POLICE #4                  | 563.67       | 11/17/21    |                 | CL 100380 | 563.67       |
| 100560  | S    | 4173 VOCATIONAL TRAINING CENTERS     | 59.30        | 11/17/21    |                 | CL 100315 | 59.30        |
| 100561  | S    | 4169 WALKER CONSULTANTS              | 16500.00     | 11/17/21    |                 | CL 100213 | 16500.00     |
| 100562  | S    | 544 WALLWORK TRUCK CENTER            | 126.70       | 11/17/21    |                 | CL 100258 | 126.22       |
|         |      |                                      |              |             |                 | CL 100326 | 0.48         |
| 100563  | S    | 2740 WASTE MANAGEMENT OF WI-MN       | 84384.96     | 11/17/21    |                 | CL 100340 | 84384.96     |
| 100564  | S    | 3306 WEST FARGO EVENTS, INC          | 6516.67      | 11/17/21    |                 | CL 100205 | 6516.67      |
| 100565  | S    | 2625 WEST FARGO POLICE EXPLORER POST | 20.00        | 11/17/21    |                 | CL 100178 | 20.00        |
| 100566  | S    | 2184 WEST SIDE STEEL                 | 422.64       | 11/17/21    |                 | CL 100162 | 422.64       |
| 100567  | S    | 569 WF ANIMAL HOSPITAL               | 1571.00      | 11/17/21    |                 | CL 100168 | 1571.00      |

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|------------------------|------|--------------------------------------|--------------|-------------|-----------------|-----------|--------------|
| 100568                 | S    | 549 WF PUB SCHOOLS DIST #6           | 9740.00      | 11/17/21    |                 | CL 100236 | 9740.00      |
| 100569                 | S    | 338 XCEL ENERGY                      | 31156.49     | 11/17/21    |                 | CL 100309 | 11459.88     |
|                        |      |                                      |              |             |                 | CL 100310 | 48.46        |
|                        |      |                                      |              |             |                 | CL 100311 | 149.74       |
|                        |      |                                      |              |             |                 | CL 100312 | 11178.44     |
|                        |      |                                      |              |             |                 | CL 100388 | 77.09        |
|                        |      |                                      |              |             |                 | CL 100389 | 7604.26      |
|                        |      |                                      |              |             |                 | CL 100390 | 638.62       |
| 100570                 | S    | 1813 YANKEE HILL MACHINE CO, INC     | 926.60       | 11/17/21    |                 | CL 100176 | 926.60       |
| 100571                 | S    | 582 ZEP MANUFACTURING                | 1287.69      | 11/17/21    |                 | CL 100336 | 1287.69      |
| 100572                 | S    | 2423 VISA PW                         | 7907.94      | 11/17/21    |                 | CL 100381 | 7907.94      |
| 100575                 | S    | 2439 VISA IT                         | 1963.98      | 11/22/21    |                 | CL 100462 | 1963.98      |
| 100576                 | S    | 3549 WEX                             | 3117.47      | 11/22/21    |                 | CL 100463 | 3117.47      |
| 100577                 | S    | 3706 VISA COMMUNICATIONS             | 8242.99      | 11/23/21    |                 | CL 100466 | 8242.99      |
| 100592                 | S    | 566 WEST FARGO PARK DISTRICT         | 68695.28     | 11/29/21    |                 | CL 100520 | 68695.28     |
| 100593                 | S    | 3552 BLUE CROSS BLUE SHIELD          | 442064.60    | 11/29/21    |                 | CL 100521 | 442064.60    |
| 100594                 | S    | 46 CASS RURAL WATER USERS            | 30.83        | 11/29/21    |                 | CL 100522 | 30.83        |
| 100595                 | S    | 1609 M.J. DALSIN CO OF ND INC        | 352.47       | 09/21/21    |                 | CL 99033  | 352.47       |
| 100596                 | S    | 4164 BASKETS BY EILEEN               | 200.00       | 11/30/21    |                 | CL 100564 | 200.00       |
| 100597                 | S    | 2499 FM CONVENTION & VISITORS BUREAU | 20692.99     | 11/30/21    |                 | CL 100578 | 20692.99     |
| 100598                 | S    | 2499 FM CONVENTION & VISITORS BUREAU | 10346.50     | 11/30/21    |                 | CL 100579 | 10346.50     |
| Total for Claim Checks |      |                                      | 3679991.80   |             |                 |           |              |
| Count for Claim Checks |      |                                      | 177          |             |                 |           |              |

\* denotes missing check number(s)

# of Checks: 177                      Total: 3679991.80



## City Commission Agenda Item Request

Please Note: The following information must be completed and submitted before noon on the Wednesday preceding the City Commission Meeting. Failure to comply may delay action being taken on your request.

Office Use:

**Regular Agenda Item #:**

**Consent Agenda Item #:**

**Agenda Item Information:**

**Contact Name: \***

Kayla Volness

**Phone Number: \***

701-515-5100

**Email Address:**

Kayla.Volness@westfargo.gov

**Date \***

12/6/2021

**Topic for Consent or Regular Agenda?**

Please select one option:

- ☒ Consent Agenda  
☐ Regular Agenda

**Please Briefly Describe Your Request \***

Each year once the ground has froze the City implements a "Season Shutdown" for all non-emergent right-of-way activities for established residential areas within City owned right-of-way. The City does continue to allow the installation of service drops to buildings within their property as well as utilities in non-established new development's. Initiating a "Season Shutdown" provides safety and integrity to City Infrastructure.

**Site Address or Legal Description (if applicable)**

City owned right-of-way within the city limits of West Fargo

**Action Being Requested from City Commission \***

Authorize staff to initiate a Season Shutdown for all non-emergent right-of-way permitting and utility work, and Direct staff to prepare a notice to be sent to contractor's one (1) week prior to a Season Shutdown taking effect.

**Upload Additional Documentation (Optional):**

\*\*\* Consent Agenda \*\*\*

AGENDA ITEM DESCRIPTION  
CITY COMMISSION  
WEST FARGO, NORTH DAKOTA

1. CONTACT PERSON: Lisa Sankey
2. PHONE NUMBER: 515-5376      DATE: November 16, 2021
3. AGENDA TITLE:  
Resolution to approve addition of antennas for commercial wireless telecommunication on existing tower at 316 11th Street West.
4. PLEASE **BRIEFLY** DESCRIBE YOUR REQUEST:  
Allow additional antennas and equipment to existing telecommunications tower pursuant to requirements of Section 4-449.13 of City Ordinances.
5. SITE ADDRESS OR LEGAL DESCRIPTION (if applicable):  
Located at 316 11th Street West (Lot 1, Block 1 of Westgo Commercial 3<sup>rd</sup> Addition), City of West Fargo, North Dakota
6. ACTION BEING REQUESTED FROM CITY COMMISSION:  
Resolution to Approve Additional Antennas and associated equipment on existing tower and ground equipment at 316 11th Street West pursuant to Section 4-449.13 of City Ordinances.





**Permit #:** 211495

**Permit Date:** 11/10/21

**Permit Type:**

**Residential / Commercial:** Commercial

**Permit Type:** Building

**Permit Sub Type:** Accessory Remodel

**Occupancy Classification:** U - Utility and Miscellaneous

**Construction Type:** V-B

**Applicant Name:** Michael Clust

**Applicant Address:** 5348 Carrollton Ave

**Applicant City, State, Zip:** INDIANAPOLIS

**Applicant Phone Number:** 317-760-5852

**Applicant Email:** veracityluds@gmail.com

**Applicant Relationship:** Owner's Agent

**Description:** Wireless Collocation at 83' on existing 150' tower. 35 SF equipment platform for equipment.

**Project Cost:** 60000

**Square Feet:** 35

**Height in Feet:** 2

**HBA Report:** Miscellaneous - Other

**Activity Report:** Accessory

**Issued Date:**

**Closed Date:**

**Expire Date:** 05/09/2022

**Code Edition:** 2018 International Building Code

**Status:** Pending

**Assigned To:** Mark Housh

## Property

| Parcel #          | Address     | Legal Description                    | Owner Name                   | Owner Phone | Zoning |
|-------------------|-------------|--------------------------------------|------------------------------|-------------|--------|
| 02-3352-00010-000 | 316 11 ST W | LOT 1 BLK 1 WESTGO<br>COMMERCIAL 3RD | FIELDSTONE<br>PROPERTIES LLC |             | HC     |

## Uploaded Files

| Date       | File Name                                                                                           |
|------------|-----------------------------------------------------------------------------------------------------|
| 11/10/2021 | <a href="#">d5d721404ac0d1ae510749affd61c5de_mnfar00007_a_structuralanalysis_20210625223042.pdf</a> |
| 11/10/2021 | <a href="#">91e54faf42e73f11d01c59e8e09055_mnfar00007_a_finalstampeds_20210908174945.pdf</a>        |



DISH Wireless L.L.C. SITE ID:

**MNFAR00007A**

DISH Wireless L.L.C. SITE ADDRESS:

**316 11TH ST WEST  
WEST FARGO, ND 58078**

#### NORTH DAKOTA CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS 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 THESE CODES:

| CODE TYPE  | CODE                                                                         |
|------------|------------------------------------------------------------------------------|
| BUILDING   | 2020 NORTH DAKOTA STATE BUILDING CODE/2018 IBC W/ STATE AND LOCAL AMENDMENTS |
| MECHANICAL | 2020 NORTH DAKOTA STATE BUILDING CODE/2018 IMC W/ STATE AND LOCAL AMENDMENTS |
| ELECTRICAL | WIRING STANDARDS OF NORTH DAKOTA/2020 NEC W/ LOCAL AMENDMENTS                |

#### SHEET INDEX

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| A-2       | ELEVATION, ANTENNA LAYOUT AND SCHEDULE            |
| A-3       | EQUIPMENT PLATFORM AND H-FRAME DETAILS            |
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| E-1       | ELECTRICAL/FIBER ROUTE PLAN AND NOTES             |
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#### SCOPE OF WORK

THIS IS NOT AN ALL INCLUSIVE LIST. CONTRACTOR SHALL UTILIZE SPECIFIED EQUIPMENT PART OR ENGINEER APPROVED EQUIVALENT. CONTRACTOR SHALL VERIFY ALL NEEDED EQUIPMENT TO PROVIDE A FUNCTIONAL SITE. THE PROJECT GENERALLY CONSISTS OF THE FOLLOWING:

##### TOWER SCOPE OF WORK:

- INSTALL (3) PROPOSED PANEL ANTENNAS (1 PER SECTOR)
- INSTALL (3) PROPOSED COMMSCOPE MTC3975083 ANTENNA MOUNTS (1 PER SECTOR)
- INSTALL PROPOSED JUMPERS
- INSTALL (6) PROPOSED RRHs (2 PER SECTOR)
- INSTALL (1) PROPOSED OVER VOLTAGE PROTECTION DEVICE (OVP)
- INSTALL (1) PROPOSED HYBRID CABLE

##### GROUND SCOPE OF WORK:

- INSTALL (1) PROPOSED METAL PLATFORM
- INSTALL (1) PROPOSED ICE BRIDGE
- INSTALL (1) PROPOSED PPC CABINET
- INSTALL (1) PROPOSED EQUIPMENT CABINET
- INSTALL (1) PROPOSED POWER CONDUIT
- INSTALL (1) PROPOSED TELCO CONDUIT
- INSTALL (1) PROPOSED TELCO-FIBER BOX
- INSTALL (1) PROPOSED GPS UNIT
- INSTALL (1) PROPOSED SAFETY SWITCH (IF REQUIRED)
- INSTALL (1) PROPOSED FIBER NID (IF REQUIRED)
- INSTALL (1) PROPOSED METER SOCKET

#### SITE PHOTO



NORTH DAKOTA ONE CALL  
UTILITY NOTIFICATION CENTER OF NORTH DAKOTA  
(800) 795-0555  
WWW.NDONECALL.COM

CALL 2 WORKING DAYS UTILITY NOTIFICATION PRIOR TO CONSTRUCTION



#### 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 WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

11"x17" PLOT WILL BE HALF SCALE UNLESS OTHERWISE NOTED

CONTRACTOR SHALL VERIFY ALL PLANS, EXISTING DIMENSIONS, AND CONDITIONS ON THE JOB SITE, AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK.

#### SITE INFORMATION

PROPERTY OWNER: FIELDSTONE PROPERTIES LLC  
ADDRESS: 713 9TH AVE W, WEST FARGO ND-58078

TOWER TYPE: SELF SUPPORT

TOWER CO SITE ID: 858319

TOWER APP NUMBER: 562411

COUNTY: CASS

LATITUDE (NAD 83): 46° 52' 23.79" N  
46.873275 N

LONGITUDE (NAD 83): 96° 55' 8.92" W  
96.919144 W

ZONING JURISDICTION: CITY OF WEST FARGO

ZONING DISTRICT: HC

PARCEL NUMBER: 02335200010000

OCCUPANCY GROUP: U

CONSTRUCTION TYPE: II-B

POWER COMPANY: CASS COUNTY EC

TELEPHONE COMPANY: TBD

#### PROJECT DIRECTORY

APPLICANT: DISH Wireless L.L.C.  
5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

TOWER OWNER: CROWN CASTLE  
2000 CORPORATE DRIVE  
CANONSBURG, PA 15317  
(303) 274-6568

SITE DESIGNER: GPD GROUP  
PROFESSIONAL CORPORATION  
520 S MAIN ST, SUITE 2534  
AKRON, OH 44311  
(330) 572-2100

SITE ACQUISITION: SARAH PARSONS

CONSTRUCTION MANAGER: MOHAMMED MOHAMMED

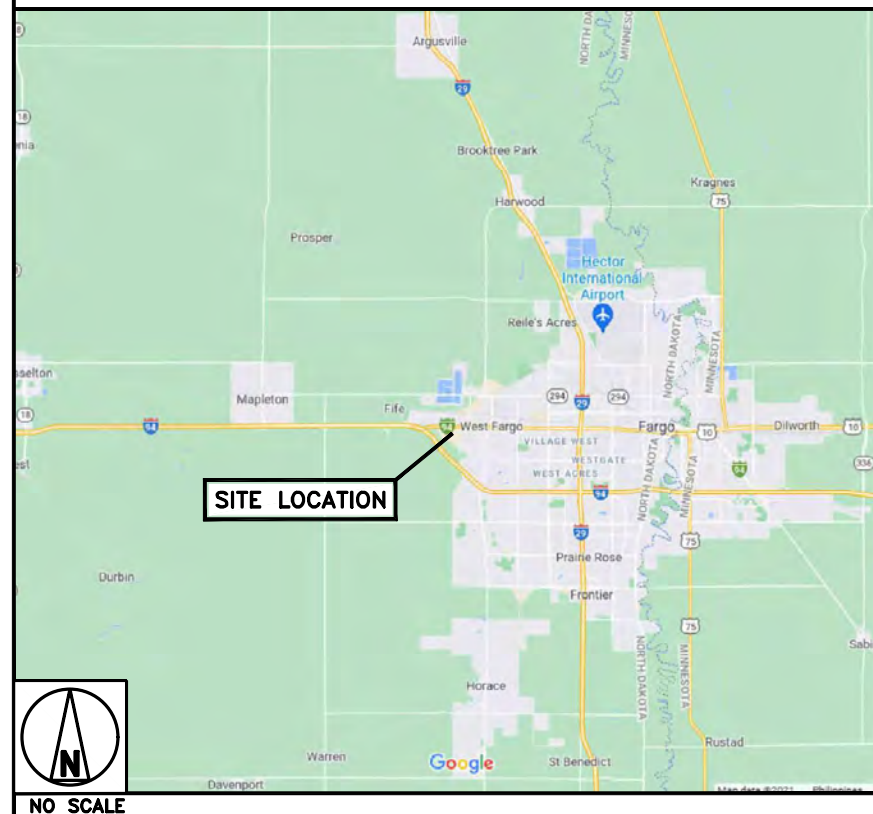
RF ENGINEER: CLIFTON TULLOCH

#### DIRECTIONS

##### DIRECTIONS FROM HECTOR INTERNATIONAL AIRPORT:

HEAD WEST ON DAKOTA DR STREET VIEW, TURN RIGHT ONTO 19TH AVE NUSE THE RIGHT LANE TO MERGE ONTO I-29 S/US-81 S VIA THE RAMP TO SIOUX FALLS, MERGE ONTO I-29 S/US-81 S, TAKE EXIT 65 TO MERGE ONTO US-10 W/MAIN AVE TOWARD WEST FARGO, TURN LEFT ONTO 8TH ST W, TURN RIGHT AT THE 2ND CROSS STREET ONTO 2ND AVE W, TURN LEFT ONTO 11TH S, TURN RIGHT.

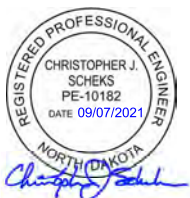
#### VICINITY MAP



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



520 South Main Street, Suite 2534  
Akron, OH 44311  
330.572.2100 Fax 330.572.2101



IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

JAM CJM MRL

RFDS REV #: TBD

#### CONSTRUCTION DOCUMENTS

| SUBMITTALS |            |                   |
|------------|------------|-------------------|
| REV        | DATE       | DESCRIPTION       |
| A          | 07/28/2021 | ISSUED FOR REVIEW |
| 0          | 08/07/2021 | CONSTRUCTION SET  |

A&E PROJECT NUMBER  
2021724.75.858319.02

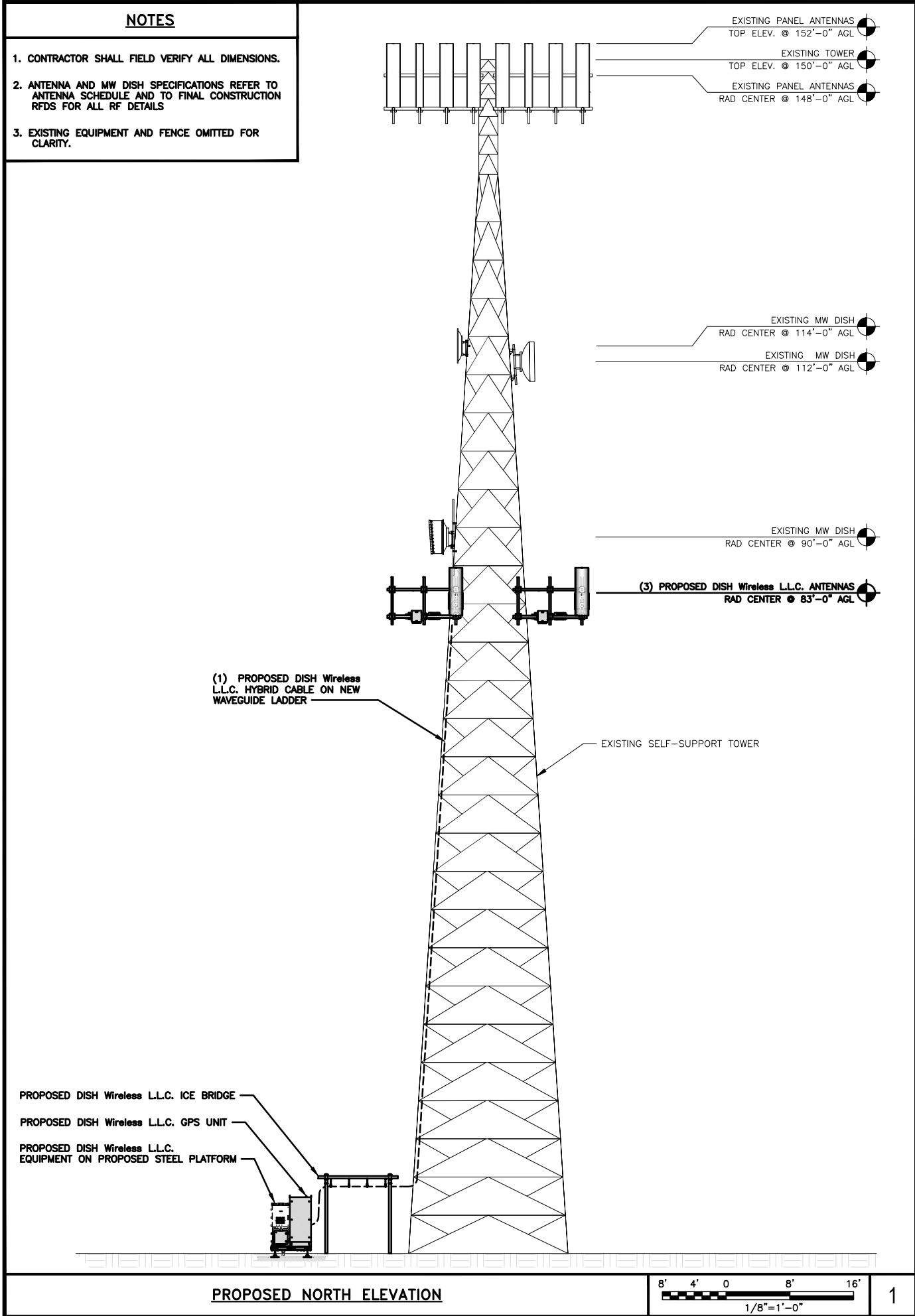
DISH Wireless L.L.C.  
PROJECT INFORMATION  
ND-CCI-T-858319  
MNFAR00007A  
316 11TH ST WEST  
WEST FARGO, ND 58078

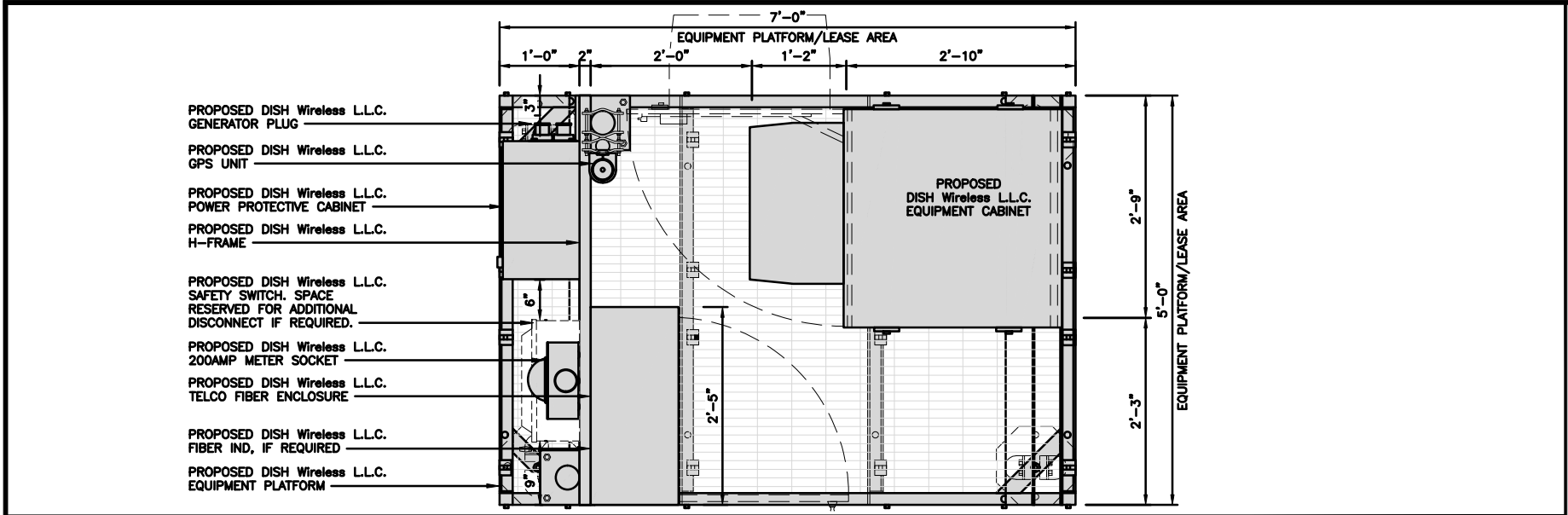
SHEET TITLE  
TITLE SHEET

SHEET NUMBER  
**T-1**



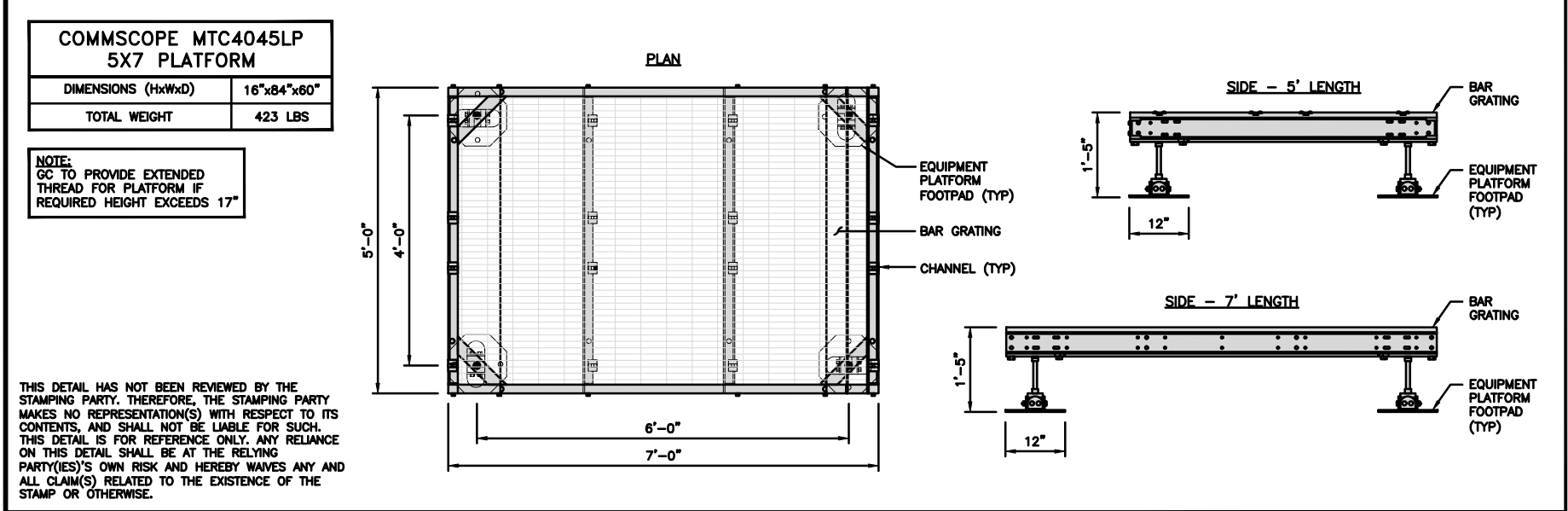






PLATFORM EQUIPMENT PLAN

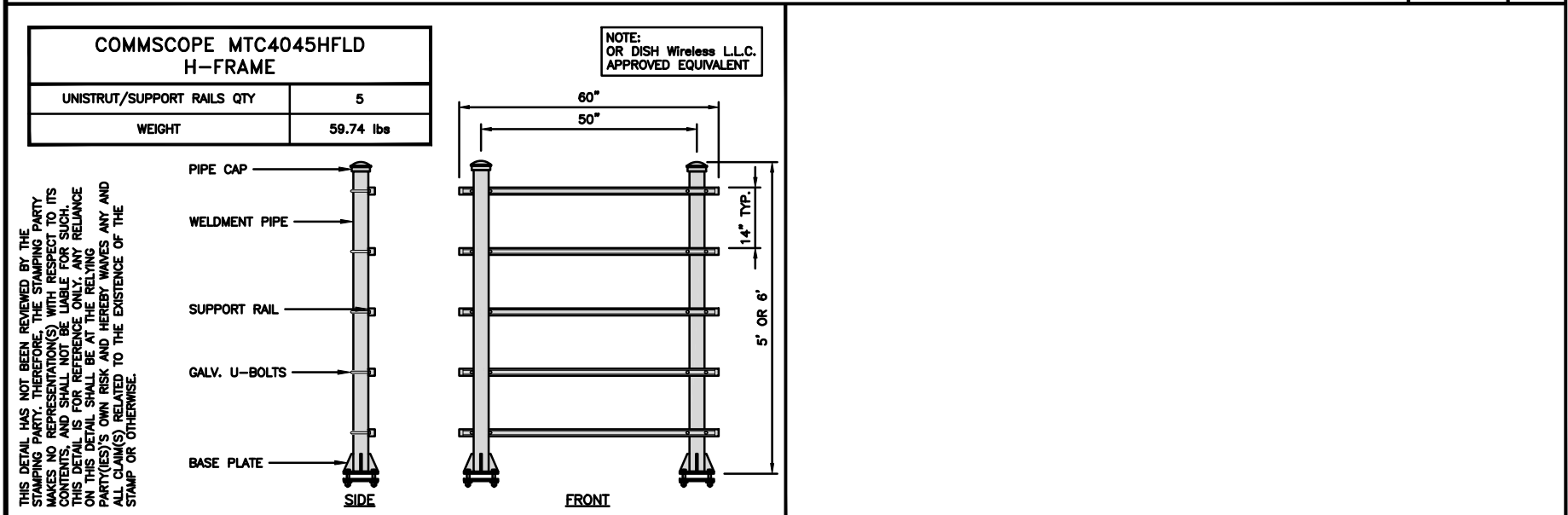
1



PLATFORM DETAIL

NO SCALE

2



H-FRAME DETAIL

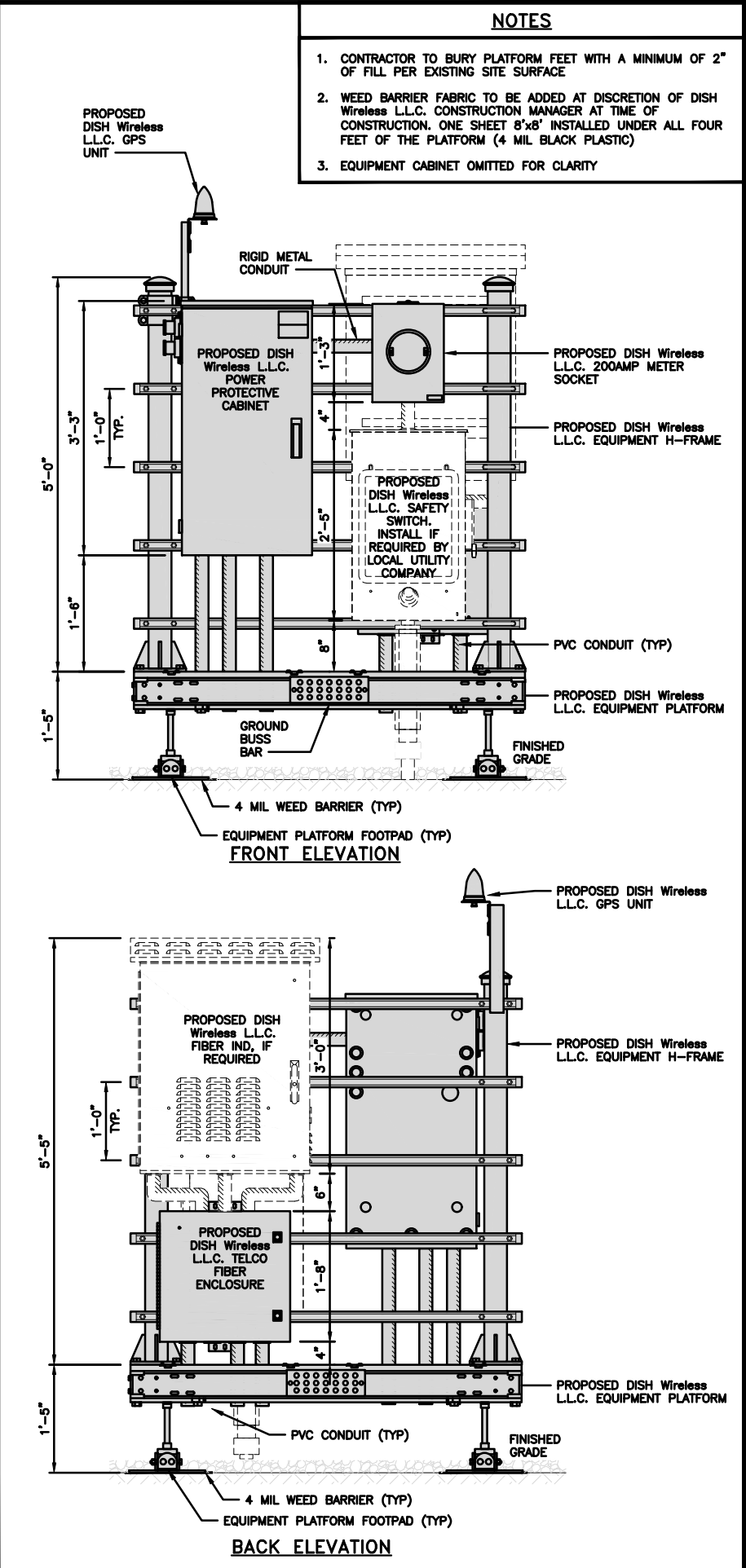
NO SCALE

3

NOT USED

NO SCALE

4



H-FRAME EQUIPMENT ELEVATION

12" 9" 6" 3" 0 1' 2' 1"=1'-0"

5

NOTES

1. CONTRACTOR TO BURY PLATFORM FEET WITH A MINIMUM OF 2" OF FILL PER EXISTING SITE SURFACE
2. WEED BARRIER FABRIC TO BE ADDED AT DISCRETION OF DISH Wireless L.L.C. CONSTRUCTION MANAGER AT TIME OF CONSTRUCTION. ONE SHEET 8'x8' INSTALLED UNDER ALL FOUR FEET OF THE PLATFORM (4 MIL BLACK PLASTIC)
3. EQUIPMENT CABINET OMITTED FOR CLARITY



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



Professional Corporation

520 South Main Street, Suite 2531  
Akron, OH 44311  
330.572.2100 Fax 330.572.2101



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DRAWN BY: CHECKED BY: APPROVED BY:  
JAM CJM MRL

RFDS REV #: TBD

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DISH Wireless L.L.C.  
PROJECT INFORMATION  
ND-CCI-T-858319  
MNFAR00007A  
316 11TH ST WEST  
WEST FARGO, ND 58078

SHEET TITLE  
EQUIPMENT PLATFORM AND  
H-FRAME DETAILS

SHEET NUMBER  
**A-3**



CHARLES INDUSTRY HEX  
CUBE-PM639155N4

|                      |                 |
|----------------------|-----------------|
| DIMENSIONS (HxWxD):  | 74"x32"x32"     |
| POWER PLANT:         | -48VDC ABB/600W |
| TOTAL WEIGHT (EMPTY) | 408 LBS         |

PLAN

SIDE

BACK

SIDE

FRONT

CABINET DETAIL

NO SCALE

1

RAYCAP PPC  
RDIAC-2465-P-240-MTS

|                               |                      |
|-------------------------------|----------------------|
| ENCLOSURE DIMENSIONS (HxWxD): | 39"x22.855"x12.593   |
| WEIGHT:                       | 80 lbs               |
| OPERATING AC VOLTAGE          | 240/120 1 PHASE 3W+G |

TOP

BACK

SIDE

FRONT

SIDE

POWER PROTECTION CABINET (PPC) DETAIL

NO SCALE

2

SQUARE D SAFETY SWITCHES  
D224NRB

|                       |                     |
|-----------------------|---------------------|
| ENCLOSURE DIM (HxWxD) | 29.25"x19.00"x8.50" |
| ENCLOSURE TYPE        | NEMA 3R RAINPROOF   |
| UL LISTED             | FILE E-2875         |

SIDE

FRONT

SAFETY SWITCH DETAIL

NO SCALE

3

EATON METER SOCKET  
UNRRS213BEUSE

|                       |            |
|-----------------------|------------|
| METER SOCKET TYPE     | RING       |
| ENCLOSURE DIM (HxWxD) | 16"x12"x6" |
| MAIN AMPERE RATING    | 200A       |
| WEIGHT                | 18 LBS     |

PLAN

SIDE

BACK

FRONT

METER SOCKET DETAIL

NO SCALE

4

CHARLES CFIT-PF2020DSH1  
FIBER TELCO ENCLOSURE

|                        |            |
|------------------------|------------|
| ENCLOSURE DIMS (HxWxD) | 20"x20"x9" |
| ENCLOSURE WEIGHT       | 20 lbs     |
| MOUNTING               | WALL       |
| COMPLIANCE             | TYPE 4     |

FRONT

SIDE

BACK

FRONT

FIBER TELCO ENCLOSURE DETAIL

NO SCALE

6

COMMSCOPE WB-K110-B  
WAVEGUIDE BRIDGE KIT

|                  |           |
|------------------|-----------|
| DIMENSIONS (HxL) | 160"x10"  |
| WEIGHT/ VOLUME   | 325.0 LBS |
| CABLE RUN (QTY)  | 12        |

PLAN

FRONT

SIDE

ICE BRIDGE DETAIL

NO SCALE

7

INCLUDED PRODUCTS:  
WB-T12-3 TRAPEZE KIT,  
3 RUNGS  
WB-LB12-3 SUPPORT BRACKET  
MF-130 DIRECT BURIAL PIPE  
COLUMN, 13'-4"

CONCRETE PIER

TYPICAL ICE BRIDGE CONCRETE PIER DETAIL

NO SCALE

8

EXISTING SELF SUPPORT TOWER

EXISTING SELF SUPPORT TOWER

HYBRID CABLE RUN

NO SCALE

9

FOR  
REFERENCE  
ONLY

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TO ALTER THIS DOCUMENT.

DRAWN BY:

CHECKED BY:

APPROVED BY:

JAM

CJM

MRL

RFDS REV #:

TBD

CONSTRUCTION  
DOCUMENTS

SUBMITTALS

| REV | DATE       | DESCRIPTION       |
|-----|------------|-------------------|
| A   | 07/26/2021 | ISSUED FOR REVIEW |
| 0   | 08/07/2021 | CONSTRUCTION SET  |

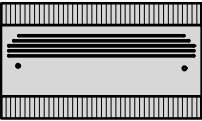
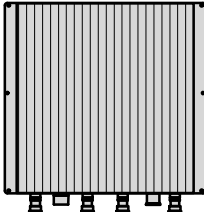
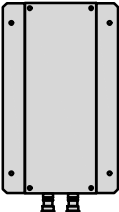
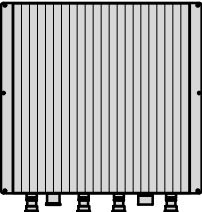
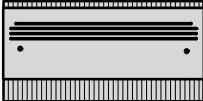
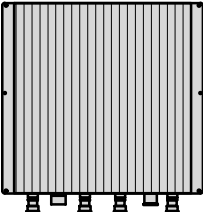
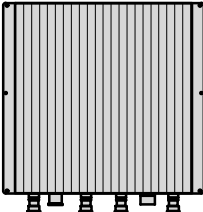
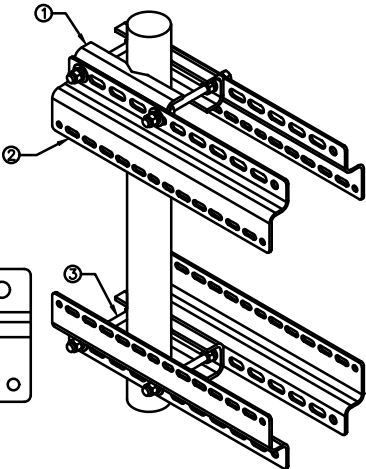
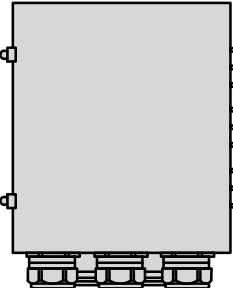
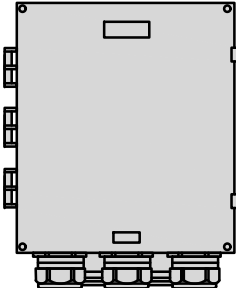
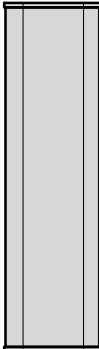
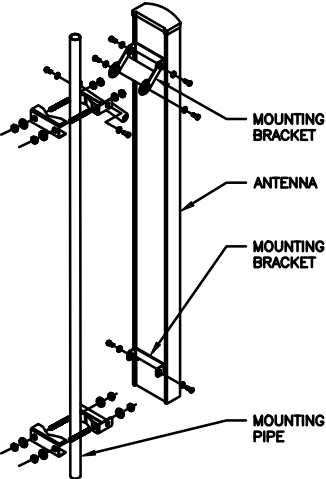
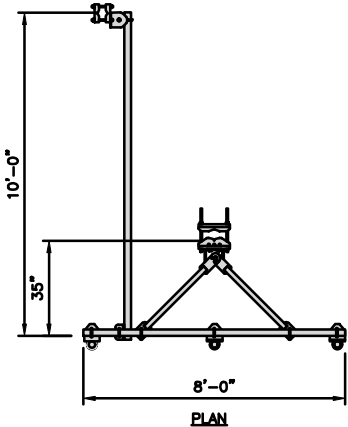
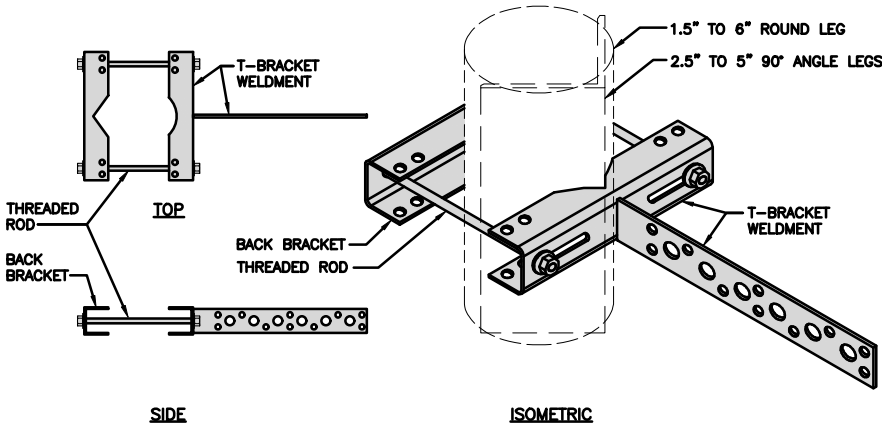
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DISH Wireless L.L.C.  
PROJECT INFORMATION  
ND-CCI-T-858319  
MNFAR00007A  
316 11TH ST WEST  
WEST FARGO, ND 58078

SHEET TITLE  
EQUIPMENT DETAILS

SHEET NUMBER  
A-4

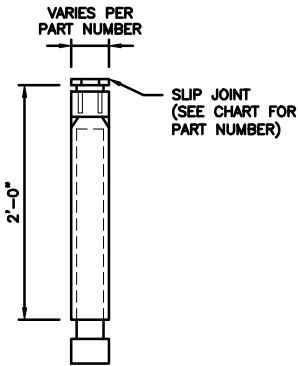


|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------|----------|------------------------------------------------------|--|--------------------|---------------------|----------------------------------------------------------------------------------------------|-----------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------|--------------|---------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------|------------------|-----------------------------------|-------------------------------|--------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------|----------|---------------------------------|---------------------|--------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------|--|--------------------------------------|-----------------|------------------------|--------------------|------------------|----------|---|-------------|---|------------------------|---|----------------------|---|--------------------------------|------------------------------------------------------------------------------------|--|--|------------|--|----------|---|------------------------------------------------------------------------------------|--|--|------------|--|----------|---|------------------------------------------------------------------------------------------|--|--|------------------|--|----------|---|
| <table><tr><td colspan="2">FUJITSU TRIPLE BAND<br/>TA08025-B605</td></tr><tr><td>DIMENSIONS (HxWxD)</td><td>14.9"x15.7"x9"</td></tr><tr><td>WEIGHT</td><td>74.95 lbs</td></tr><tr><td>CONNECTOR TYPE</td><td>4.3-10 RF CONNECTOR</td></tr><tr><td>POWER SUPPLY</td><td>DC -58~-36V</td></tr></table> <div><p>PLAN</p><p>BACK</p><p>SIDE</p><p>FRONT</p></div> |                                |          | FUJITSU TRIPLE BAND<br>TA08025-B605                  |  | DIMENSIONS (HxWxD) | 14.9"x15.7"x9"      | WEIGHT                                                                                       | 74.95 lbs | CONNECTOR TYPE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 4.3-10 RF CONNECTOR  | POWER SUPPLY | DC -58~-36V                           | <table><tr><td colspan="2">FUJITSU DUAL BAND<br/>TA08025-B604</td></tr><tr><td>DIMENSIONS (HxWxD)</td><td>14.9"x15.7"x7.8"</td></tr><tr><td>WEIGHT</td><td>63.9 lbs</td></tr><tr><td>CONNECTOR TYPE</td><td>4.3-10 RF CONNECTOR</td></tr><tr><td>POWER SUPPLY</td><td>DC -58~-36V</td></tr></table> <div><p>PLAN</p><p>BACK</p><p>SIDE</p><p>FRONT</p></div> |                                                                                                       |                  | FUJITSU DUAL BAND<br>TA08025-B604 |                               | DIMENSIONS (HxWxD)       | 14.9"x15.7"x7.8"                                                                                                                                                                                                                                                                                                                   | WEIGHT | 63.9 lbs | CONNECTOR TYPE                  | 4.3-10 RF CONNECTOR | POWER SUPPLY | DC -58~-36V | <table><tr><td colspan="2">SABRE DOUBLE Z-BRACKET<br/>C10123155</td></tr><tr><td>DIMENSIONS (HxWxD) (1 BRACKET)</td><td>5"x20"x1-13/16"</td></tr><tr><td>WEIGHT (FULL ASSEMBLY)</td><td>35.79 lbs</td></tr><tr><td>PACKAGE QUANTITY</td><td>4</td></tr></table> <table><tr><td>#</td><td>DESCRIPTION</td></tr><tr><td>1</td><td>PLATE, CHANNEL BRACKET</td></tr><tr><td>2</td><td>RRH Z BRACKET, 3/16"</td></tr><tr><td>3</td><td>THREADED ROD ASSEMBLY 1/2"x12"</td></tr></table> <div><p>NOTE:<br/>OR DISH Wireless L.L.C.<br/>APPROVED EQUIVALENT</p></div> |             |                                                                                                                                                                                                                                                                                                                                                                     | SABRE DOUBLE Z-BRACKET<br>C10123155 |  | DIMENSIONS (HxWxD) (1 BRACKET)       | 5"x20"x1-13/16" | WEIGHT (FULL ASSEMBLY) | 35.79 lbs          | PACKAGE QUANTITY | 4        | # | DESCRIPTION | 1 | PLATE, CHANNEL BRACKET | 2 | RRH Z BRACKET, 3/16" | 3 | THREADED ROD ASSEMBLY 1/2"x12" | <table><tr><td colspan="2">RRH DETAIL</td><td>NO SCALE</td><td>1</td></tr></table> |  |  | RRH DETAIL |  | NO SCALE | 1 | <table><tr><td colspan="2">RRH DETAIL</td><td>NO SCALE</td><td>2</td></tr></table> |  |  | RRH DETAIL |  | NO SCALE | 2 | <table><tr><td colspan="2">RRH MOUNT DETAIL</td><td>NO SCALE</td><td>3</td></tr></table> |  |  | RRH MOUNT DETAIL |  | NO SCALE | 3 |
| FUJITSU TRIPLE BAND<br>TA08025-B605                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| DIMENSIONS (HxWxD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 14.9"x15.7"x9"                 |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| WEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 74.95 lbs                      |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| CONNECTOR TYPE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 4.3-10 RF CONNECTOR            |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| POWER SUPPLY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DC -58~-36V                    |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| FUJITSU DUAL BAND<br>TA08025-B604                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |                                |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| DIMENSIONS (HxWxD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 14.9"x15.7"x7.8"               |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| WEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 63.9 lbs                       |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| CONNECTOR TYPE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 4.3-10 RF CONNECTOR            |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| POWER SUPPLY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | DC -58~-36V                    |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| SABRE DOUBLE Z-BRACKET<br>C10123155                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| DIMENSIONS (HxWxD) (1 BRACKET)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5"x20"x1-13/16"                |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| WEIGHT (FULL ASSEMBLY)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 35.79 lbs                      |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| PACKAGE QUANTITY                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | 4                              |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| #                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | DESCRIPTION                    |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| 1                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | PLATE, CHANNEL BRACKET         |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| 2                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | RRH Z BRACKET, 3/16"           |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| 3                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 | THREADED ROD ASSEMBLY 1/2"x12" |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| RRH DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                | NO SCALE | 1                                                    |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| RRH DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |                                | NO SCALE | 2                                                    |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| RRH MOUNT DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  |                                | NO SCALE | 3                                                    |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| <table><tr><td colspan="2">RAYCAP RDIDC-9181-PF-48<br/>DC SURGE PROTECTION (OVP)</td></tr><tr><td>DIMENSIONS (HxWxD)</td><td>18.98"x14.39"x8.15"</td></tr><tr><td>WEIGHT</td><td>21.82 LBS</td></tr></table> <div><p>PLAN</p><p>SIDE</p><p>BACK</p><p>FRONT</p></div>                                                                                      |                                |          | RAYCAP RDIDC-9181-PF-48<br>DC SURGE PROTECTION (OVP) |  | DIMENSIONS (HxWxD) | 18.98"x14.39"x8.15" | WEIGHT                                                                                       | 21.82 LBS | <table><tr><td colspan="2">JMA WIRELESS<br/>MX08FRO665-21 ANTENNA</td></tr><tr><td>DIMENSIONS (HxWxD)</td><td>72.0"x20.0"x8.0"</td></tr><tr><td>TOTAL WEIGHT</td><td>64.5 LB</td></tr><tr><td>RF PORTS, CONNECTOR TYPE</td><td>8 x 4.3-10 FEMALE</td></tr></table> <div><p>PLAN</p><p>BACK</p><p>SIDE</p><p>FRONT</p></div> |                      |              | JMA WIRELESS<br>MX08FRO665-21 ANTENNA |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | DIMENSIONS (HxWxD)                                                                                    | 72.0"x20.0"x8.0" | TOTAL WEIGHT                      | 64.5 LB                       | RF PORTS, CONNECTOR TYPE | 8 x 4.3-10 FEMALE                                                                                                                                                                                                                                                                                                                  |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| RAYCAP RDIDC-9181-PF-48<br>DC SURGE PROTECTION (OVP)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| DIMENSIONS (HxWxD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 18.98"x14.39"x8.15"            |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| WEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 21.82 LBS                      |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| JMA WIRELESS<br>MX08FRO665-21 ANTENNA                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |                                |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| DIMENSIONS (HxWxD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 72.0"x20.0"x8.0"               |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| TOTAL WEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 64.5 LB                        |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| RF PORTS, CONNECTOR TYPE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 8 x 4.3-10 FEMALE              |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| <table><tr><td colspan="2">SURGE SUPPRESSION DETAIL (OVP)</td><td>NO SCALE</td><td>4</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                |          | SURGE SUPPRESSION DETAIL (OVP)                       |  | NO SCALE           | 4                   | <table><tr><td colspan="2">ANTENNA DETAIL</td><td>NO SCALE</td><td>5</td></tr></table>       |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ANTENNA DETAIL       |              | NO SCALE                              | 5                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <table><tr><td colspan="2">NOT USED</td><td>NO SCALE</td><td>6</td></tr></table>                      |                  |                                   | NOT USED                      |                          | NO SCALE                                                                                                                                                                                                                                                                                                                           | 6      |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| SURGE SUPPRESSION DETAIL (OVP)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                | NO SCALE | 4                                                    |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| ANTENNA DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    |                                | NO SCALE | 5                                                    |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| NOT USED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                | NO SCALE | 6                                                    |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| <table><tr><td colspan="2">M04 MOUNTING BRACKET<br/>HPA-33R-BUU-H4-K</td></tr><tr><td>WIDTH</td><td>5"</td></tr><tr><td>DEPTH</td><td>2"</td></tr><tr><td>HEIGHT</td><td>8"</td></tr><tr><td>TOTAL WEIGHT</td><td>1.5 lbs</td></tr><tr><td>HOUSING MATERIAL</td><td>ASA/ABS/ALUMINUM</td></tr><tr><td>RADOME COLOR</td><td>LIGHT GRAY</td></tr><tr><td>CONNECTOR</td><td>1x8-PIN DAISY CHAIN</td></tr></table> <div><p>NOTE:<br/>OR DISH Wireless L.L.C.<br/>APPROVED EQUIVALENT</p></div>                                                                                                                     |                                |          | M04 MOUNTING BRACKET<br>HPA-33R-BUU-H4-K             |  | WIDTH              | 5"                  | DEPTH                                                                                        | 2"        | HEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     | 8"                   | TOTAL WEIGHT | 1.5 lbs                               | HOUSING MATERIAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | ASA/ABS/ALUMINUM                                                                                      | RADOME COLOR     | LIGHT GRAY                        | CONNECTOR                     | 1x8-PIN DAISY CHAIN      | <table><tr><td colspan="2">COMMSCOPE V-FRAME<br/>MTC3975083</td></tr><tr><td>FACE SIZE</td><td>8'-0"</td></tr><tr><td>WEIGHT</td><td>352.136 lbs</td></tr></table> <div><p>NOTE:<br/>OR DISH Wireless L.L.C.<br/>APPROVED EQUIVALENT</p></div> |        |          | COMMSCOPE V-FRAME<br>MTC3975083 |                     | FACE SIZE    | 8'-0"       | WEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 352.136 lbs | <table><tr><td colspan="2">SITEPRO1 T600<br/>UNIVERSAL T-BRACKET</td></tr><tr><td>DIMENSIONS (HxWxD)</td><td>2.25"x10.0"x15.25"</td></tr><tr><td>WEIGHT/ VOLUME</td><td>5.60 LBS</td></tr></table> <div><p>NOTE:<br/>OR DISH Wireless L.L.C.<br/>APPROVED EQUIVALENT</p></div> |                                     |  | SITEPRO1 T600<br>UNIVERSAL T-BRACKET |                 | DIMENSIONS (HxWxD)     | 2.25"x10.0"x15.25" | WEIGHT/ VOLUME   | 5.60 LBS |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| M04 MOUNTING BRACKET<br>HPA-33R-BUU-H4-K                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| WIDTH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 5"                             |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| DEPTH                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             | 2"                             |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| HEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 8"                             |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| TOTAL WEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | 1.5 lbs                        |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| HOUSING MATERIAL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | ASA/ABS/ALUMINUM               |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| RADOME COLOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                      | LIGHT GRAY                     |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| CONNECTOR                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 1x8-PIN DAISY CHAIN            |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| COMMSCOPE V-FRAME<br>MTC3975083                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| FACE SIZE                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | 8'-0"                          |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| WEIGHT                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | 352.136 lbs                    |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| SITEPRO1 T600<br>UNIVERSAL T-BRACKET                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| DIMENSIONS (HxWxD)                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                | 2.25"x10.0"x15.25"             |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| WEIGHT/ VOLUME                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    | 5.60 LBS                       |          |                                                      |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| <table><tr><td colspan="2">ANTENNA MOUNTING DETAIL</td><td>NO SCALE</td><td>7</td></tr></table>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |                                |          | ANTENNA MOUNTING DETAIL                              |  | NO SCALE           | 7                   | <table><tr><td colspan="2">ANTENNA FRAME DETAIL</td><td>NO SCALE</td><td>8</td></tr></table> |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            | ANTENNA FRAME DETAIL |              | NO SCALE                              | 8                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        | <table><tr><td colspan="2">VERTICAL CABLE SUPPORT DETAIL</td><td>NO SCALE</td><td>9</td></tr></table> |                  |                                   | VERTICAL CABLE SUPPORT DETAIL |                          | NO SCALE                                                                                                                                                                                                                                                                                                                           | 9      |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| ANTENNA MOUNTING DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           |                                | NO SCALE | 7                                                    |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| ANTENNA FRAME DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |                                | NO SCALE | 8                                                    |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |
| VERTICAL CABLE SUPPORT DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     |                                | NO SCALE | 9                                                    |  |                    |                     |                                                                                              |           |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                      |              |                                       |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                       |                  |                                   |                               |                          |                                                                                                                                                                                                                                                                                                                                    |        |          |                                 |                     |              |             |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   |             |                                                                                                                                                                                                                                                                                                                                                                     |                                     |  |                                      |                 |                        |                    |                  |          |   |             |   |                        |   |                      |   |                                |                                                                                    |  |  |            |  |          |   |                                                                                    |  |  |            |  |          |   |                                                                                          |  |  |                  |  |          |   |





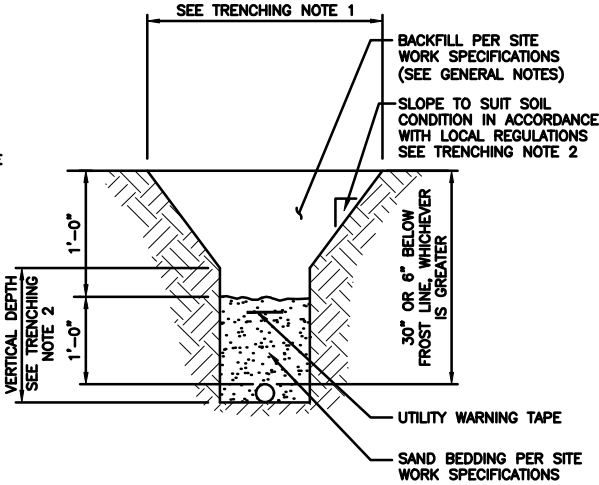
| CARLON EXPANSION FITTINGS |                                 |        |              |               |
|---------------------------|---------------------------------|--------|--------------|---------------|
| COUPLING END PART#        | MALE TERMINAL ADAPTER END PART# | SIZE   | STD CTN QTY. | TRAVEL LENGTH |
| E945D                     | E945DX                          | 1/2"   | 20           | 4"            |
| E945E                     | E945EX                          | 3/4"   | 15           | 4"            |
| E945F                     | E945FX                          | 1"     | 10           | 4"            |
| E945G                     | E945GX                          | 1 1/4" | 5            | 4"            |
| E945H                     | E945HX                          | 1 1/2" | 5            | 4"            |
| E945J                     | E945JX                          | 2"     | 15           | 8"            |
| E945K                     | E945KX                          | 2 1/2" | 10           | 8"            |
| E945L                     | E945LX                          | 3"     | 10           | 8"            |
| E945M                     | E945MX                          | 3 1/2" | 5            | 8"            |
| E945N                     | E945NX                          | 4"     | 5            | 8"            |
| E945P                     | E945PX                          | 5"     | 1            | 8"            |
| E945R                     | E945RX                          | 6"     | 1            | 8"            |



NOTE: CONTRACTOR TO INSTALL EXPANSION FITTING SLIP JOINT AT METER CENTER CONDUIT TERMINATION, AS PER LOCAL UTILITY POLICY, ORDINANCE AND/OR SPECIFIED REQUIREMENT.

TRENCHING NOTES

1. CONTRACTOR SHALL RESTORE THE TRENCH TO ITS ORIGINAL CONDITIONS BY EITHER SEEDING OR SODDING GRASS AREAS, OR REPLACING ASPHALT OR CONCRETE AREAS TO ITS ORIGINAL CROSS SECTION.
2. TRENCHING SAFETY; INCLUDING, BUT NOT LIMITED TO SOIL CLASSIFICATION, SLOPING, AND SHORING, SHALL BE GOVERNED BY THE CURRENT OSHA TRENCHING AND EXCAVATION SAFETY STANDARDS.
3. ALL CONDUITS SHALL BE INSTALLED IN COMPLIANCE WITH THE CURRENT NATIONAL ELECTRIC CODE (NEC) OR AS REQUIRED BY THE LOCAL JURISDICTION, WHICHEVER IS THE MOST STRINGENT.



EXPANSION JOINT DETAIL

NO SCALE

1

TYPICAL UNDERGROUND TRENCH DETAIL

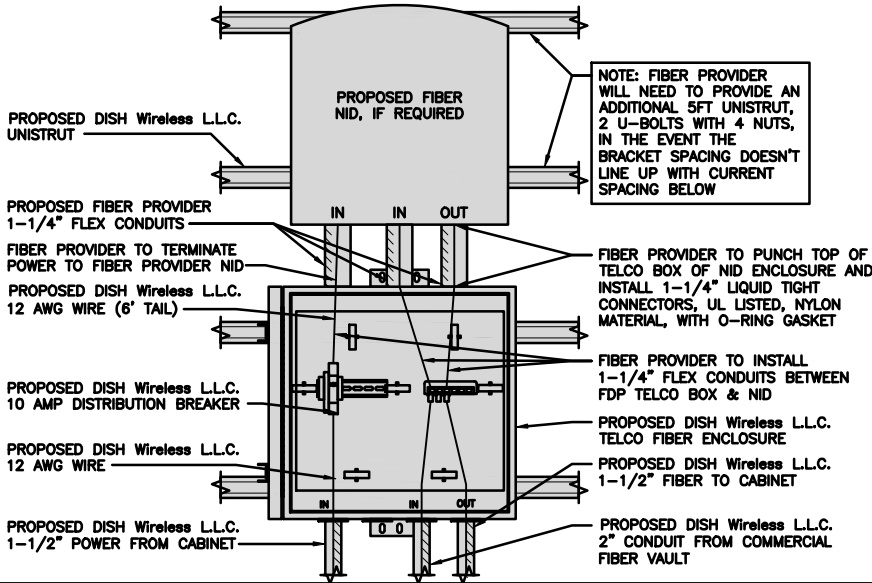
NO SCALE

2

NOT USED

NO SCALE

3



LIT TELCO BOX – INTERIOR WIRING LAYOUT (OPTIONAL)

NO SCALE

4

NOT USED

NO SCALE

5

NOT USED

NO SCALE

6

NOT USED

NO SCALE

7

NOT USED

NO SCALE

8

NOT USED

NO SCALE

9

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LITTLETON, CO 80120

**GPD GROUP**  
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JAM CJM MRL

RFDS REV #: TBD

CONSTRUCTION  
DOCUMENTS

| SUBMITTALS |            |                   |
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| A          | 07/28/2021 | ISSUED FOR REVIEW |
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|            |            |                   |

A&E PROJECT NUMBER  
2021724.75.858319.02

DISH Wireless L.L.C.  
PROJECT INFORMATION  
ND-CCI-T-858319  
MNFAR00007A  
316 11TH ST WEST  
WEST FARGO, ND 58078

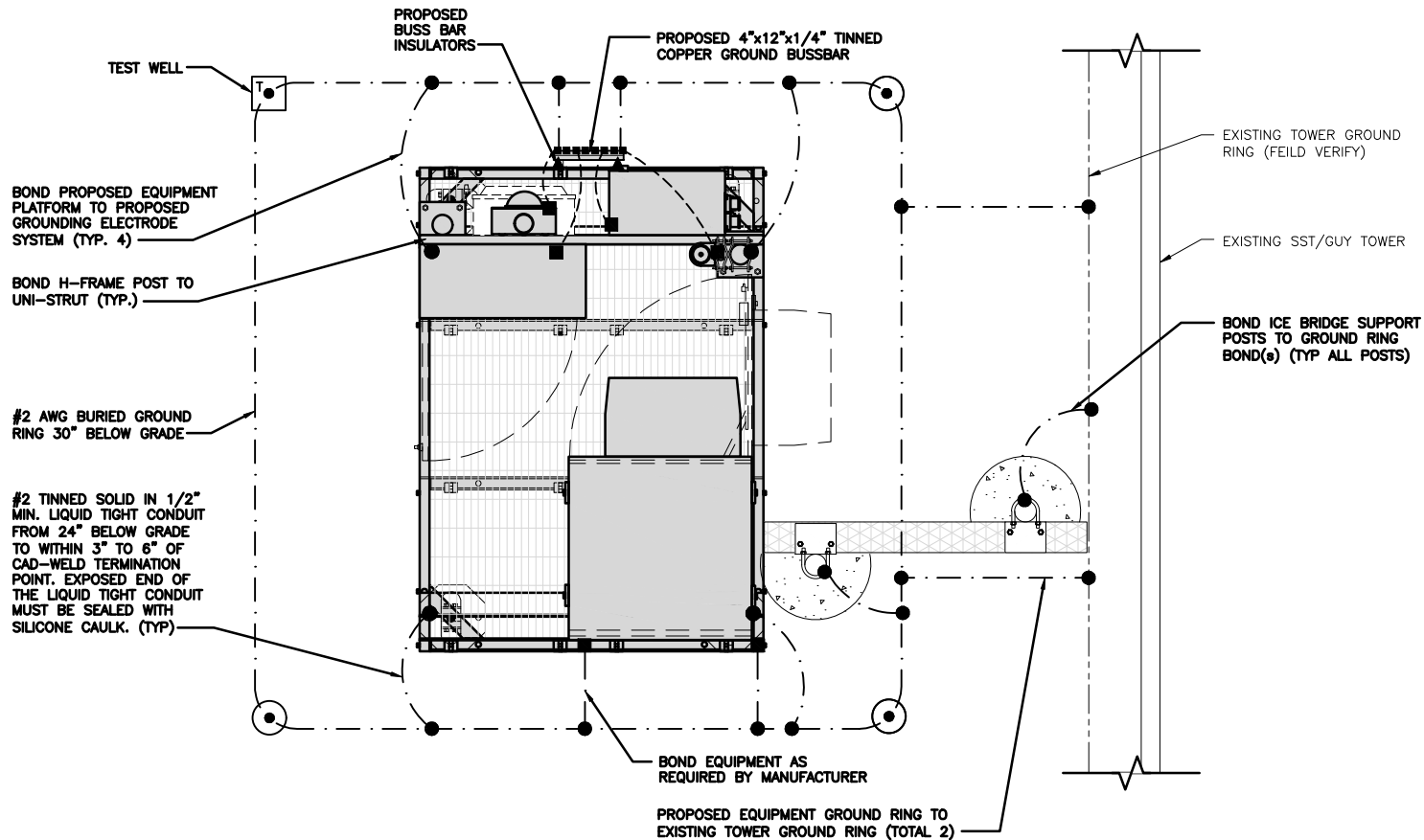
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SHEET NUMBER

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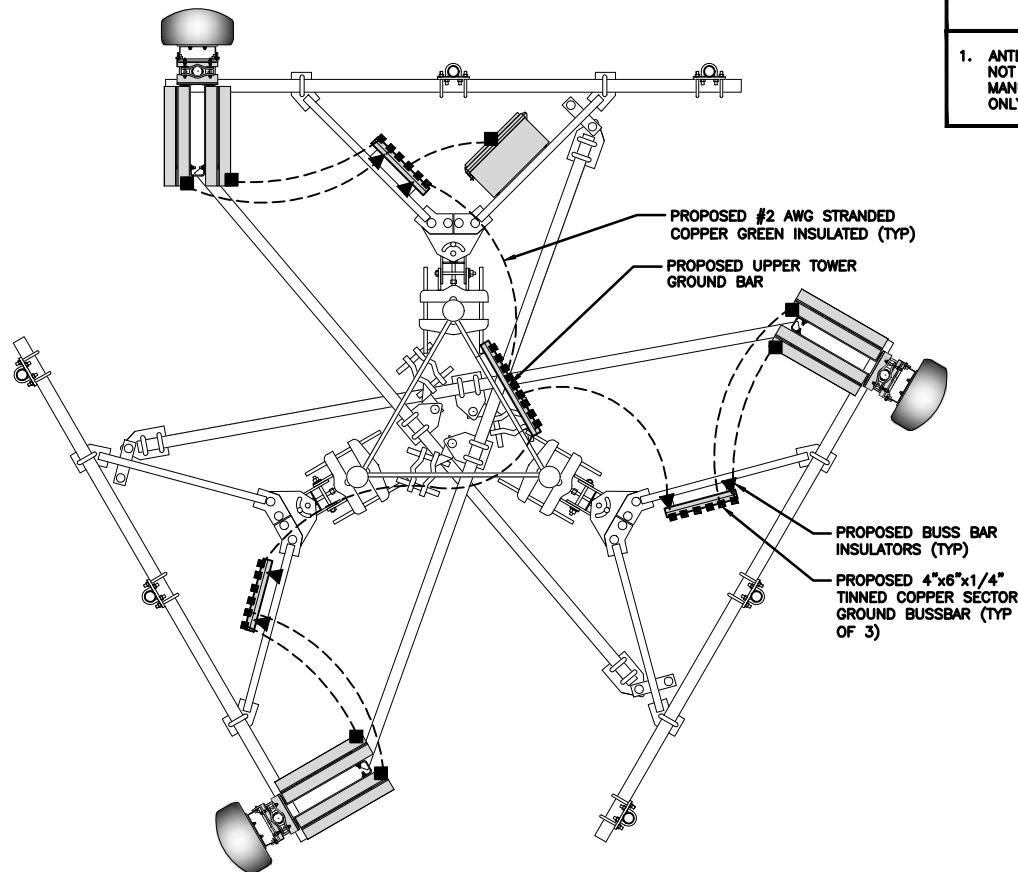




TYPICAL EQUIPMENT GROUNDING PLAN

NO SCALE

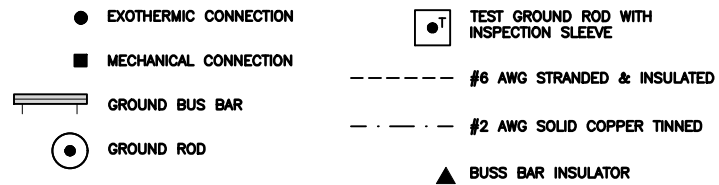
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TYPICAL ANTENNA GROUNDING PLAN

NO SCALE

2



GROUNDING LEGEND

- GROUNDING IS SHOWN DIAGRAMMATICALLY ONLY.
- CONTRACTOR SHALL GROUND ALL EQUIPMENT AS A COMPLETE SYSTEM. GROUNDING SHALL BE IN COMPLIANCE WITH NEC SECTION 250 AND DISH Wireless L.L.C. GROUNDING AND BONDING REQUIREMENTS AND MANUFACTURER'S SPECIFICATIONS.
- ALL GROUND CONDUCTORS SHALL BE COPPER; NO ALUMINUM CONDUCTORS SHALL BE USED.

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.
- (B) **TOWER GROUND RING:** THE GROUND RING SYSTEM SHALL BE INSTALLED AROUND AN ANTENNA TOWER'S LEGS, 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.
- (C) **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.
- (D) **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.
- (E) **GROUND ROD:** UL LISTED COPPER CLAD STEEL. MINIMUM 1/2" DIAMETER BY EIGHT FEET LONG. GROUND RODS SHALL BE INSTALLED WITH INSPECTION SLEEVES. GROUND RODS SHALL BE DRIVEN TO THE DEPTH OF GROUND RING CONDUCTOR.
- (F) **CELL REFERENCE GROUND BAR:** POINT OF GROUND REFERENCE FOR ALL COMMUNICATIONS EQUIPMENT FRAMES. ALL BONDS ARE MADE WITH #2 AWG UNLESS NOTED OTHERWISE STRANDED GREEN INSULATED COPPER CONDUCTORS. BOND TO GROUND RING WITH (2) #2 SOLID TINNED COPPER CONDUCTORS.
- (G) **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 (2) TWO #2 AWG STRANDED GREEN INSULATED COPPER CONDUCTORS EACH.
- (H) **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 AN EXOTHERMIC WELD AND INSPECTION SLEEVE.
- (I) **TELCO GROUND BAR:** BOND TO BOTH CELL REFERENCE GROUND BAR OR EXTERIOR GROUND RING.
- (J) **FRAME BONDING:** THE BONDING POINT FOR TELECOM EQUIPMENT FRAMES SHALL BE THE GROUND BUS THAT IS NOT ISOLATED FROM THE EQUIPMENTS METAL FRAMEWORK.
- (K) **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.
- (L) **FENCE AND GATE GROUNDING:** 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.
- (M) **EXTERIOR UNIT BONDS:** METALLIC OBJECTS, EXTERNAL TO OR MOUNTED TO THE BUILDING, SHALL BE BONDED TO THE EXTERIOR GROUND RING. USING #2 TINNED SOLID COPPER WIRE
- (N) **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.
- (O) **DURING ALL DC POWER SYSTEM CHANGES** INCLUDING DC SYSTEM CHANGE OUTS, RECTIFIER REPLACEMENTS OR ADDITIONS, BREAKER DISTRIBUTION CHANGES, BATTERY ADDITIONS, BATTERY REPLACEMENTS AND INSTALLATIONS OR CHANGES TO DC CONVERTER SYSTEMS IT SHALL BE REQUIRED THAT SERVICE CONTRACTORS VERIFY ALL DC POWER SYSTEMS ARE EQUIPPED WITH A MASTER DC SYSTEM RETURN GROUND CONDUCTOR FROM THE DC POWER SYSTEM COMMON RETURN BUS DIRECTLY CONNECTED TO THE CELL SITE REFERENCE GROUND BAR
- (P) **TOWER TOP COLLECTOR BUSS BAR** IS TO BE MECHANICALLY BONDED TO TOWER STEEL.

REFER TO DISH Wireless L.L.C. GROUNDING NOTES.

GROUNDING KEY NOTES

NO SCALE

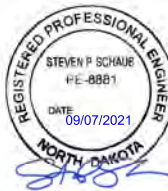
3

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JAM CJM MRL

RFDS REV #: TBD

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| SUBMITTALS |            |                   |
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| 0          | 08/07/2021 | CONSTRUCTION SET  |
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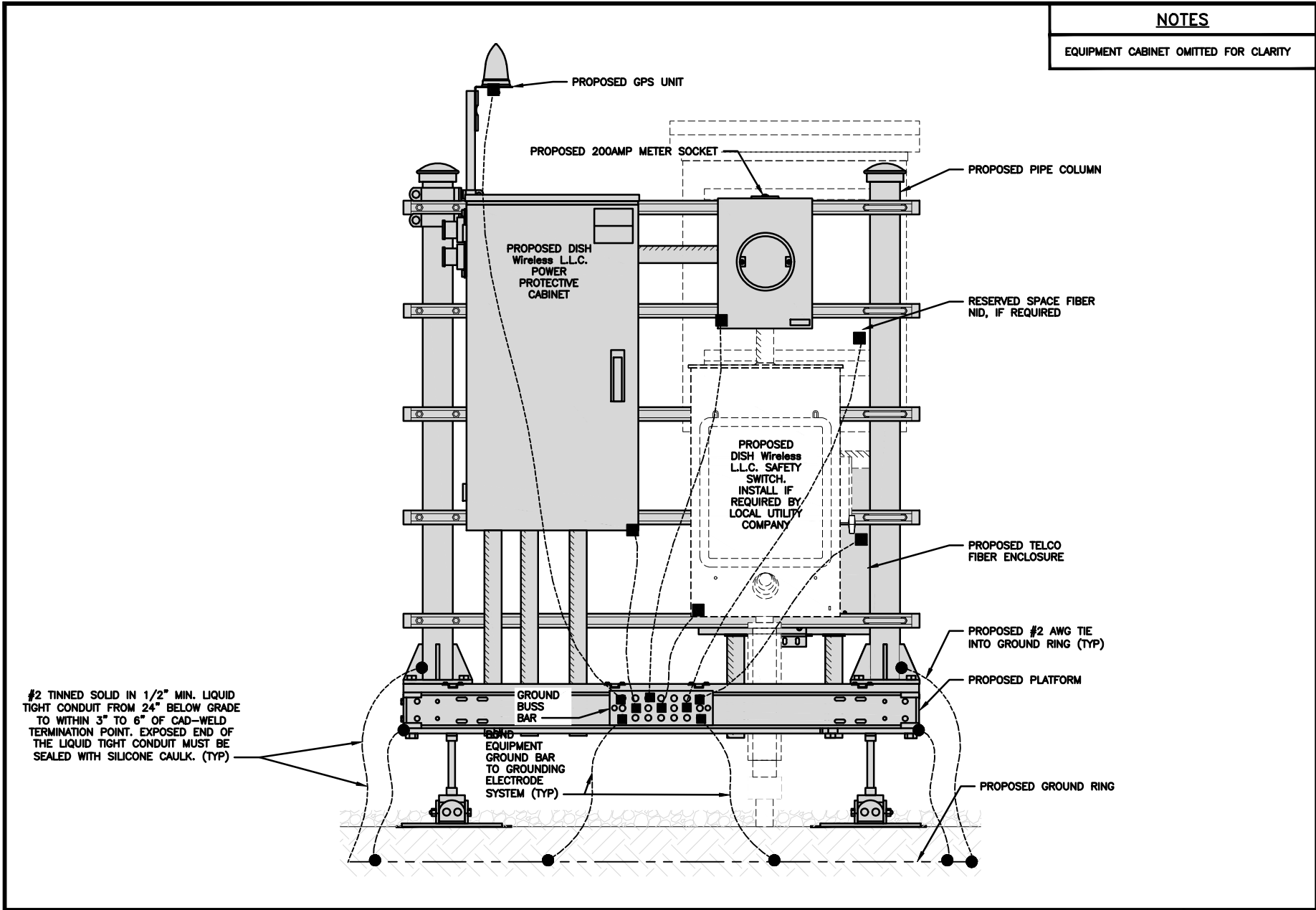
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2021724.75.858319.02

DISH Wireless L.L.C.  
PROJECT INFORMATION  
ND-CCI-T-858319  
MNFAR00007A  
316 11TH ST WEST  
WEST FARGO, ND 58078

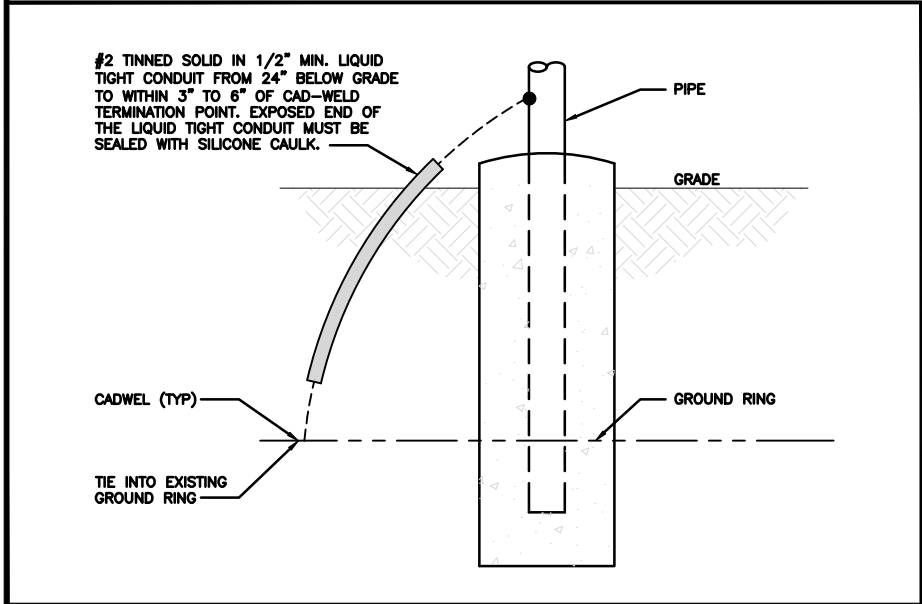
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AND NOTES

SHEET NUMBER

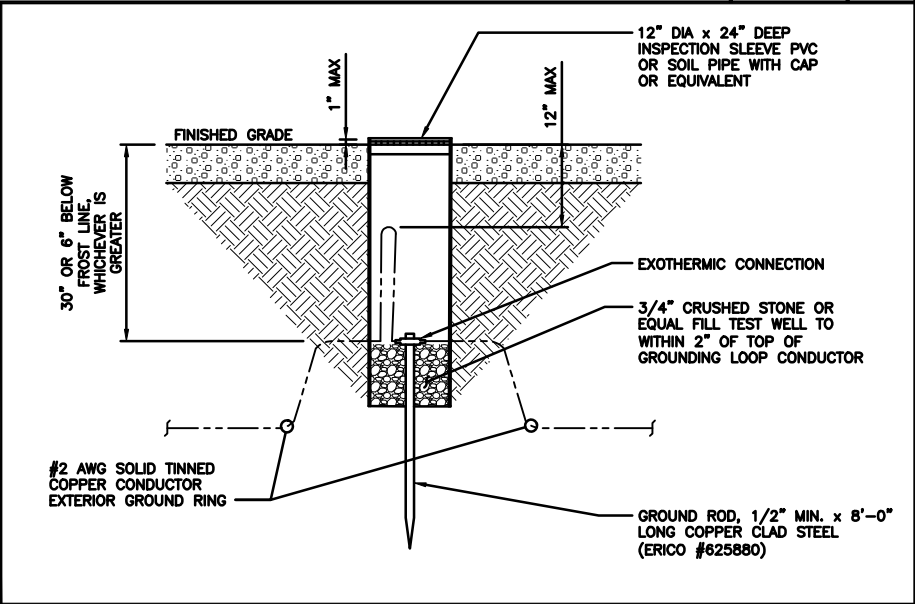
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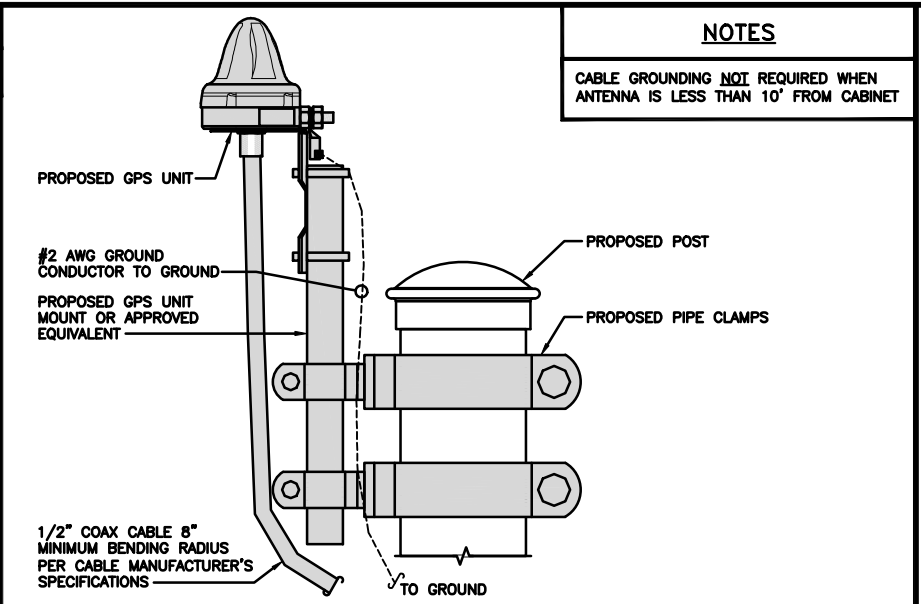
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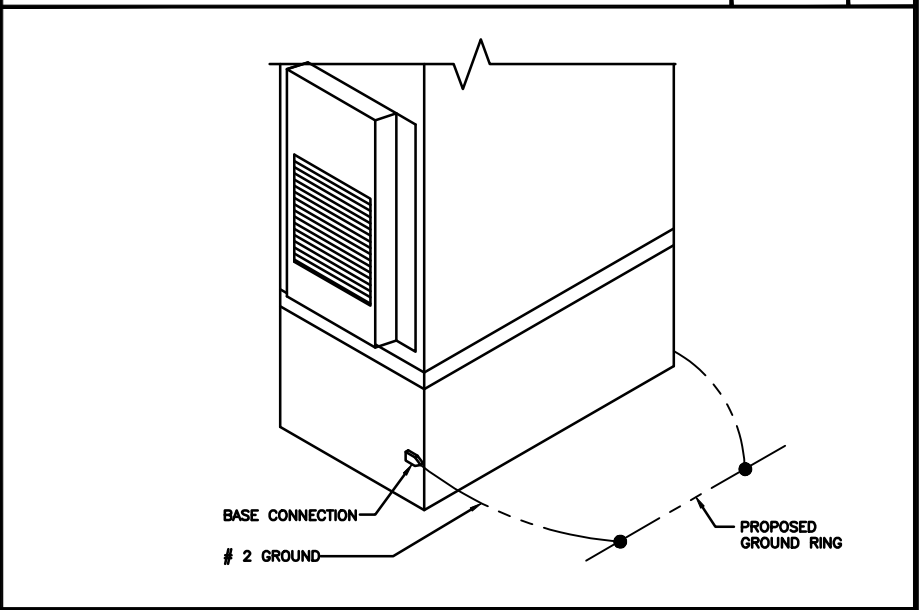
**TRANSITIONING GROUND DETAIL** NO SCALE 4



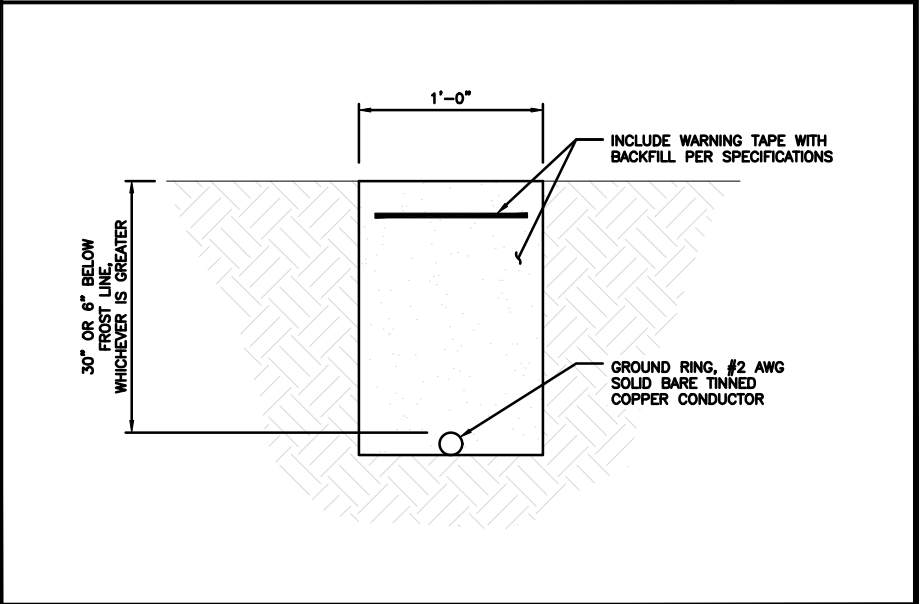
**TYPICAL TEST GROUND ROD WITH INSPECTION SLEEVE** NO SCALE 5



**TYPICAL GPS UNIT GROUNDING** NO SCALE 2



**OUTDOOR CABINET GROUNDING** NO SCALE 3



**TYPICAL GROUND RING TRENCH** NO SCALE 6



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| DRAWN BY: | CHECKED BY: | APPROVED BY: |
| JAM       | CJM         | MRL          |

RFDS REV #: TBD

### CONSTRUCTION DOCUMENTS

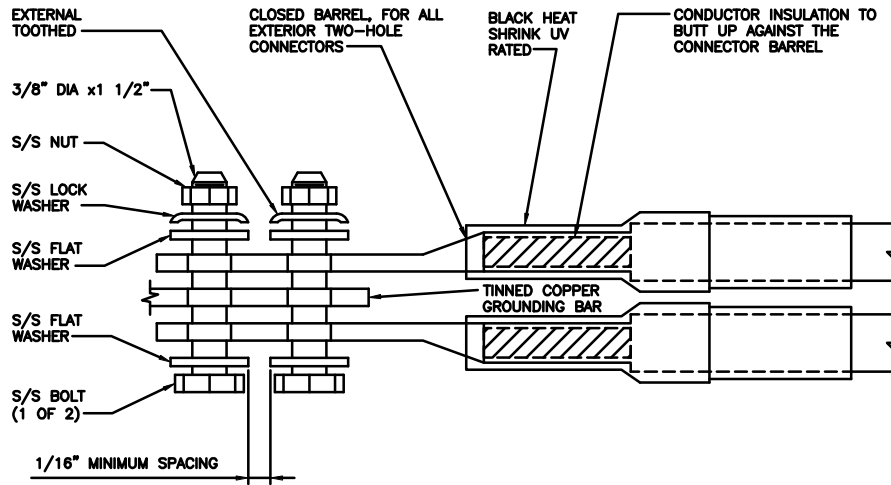
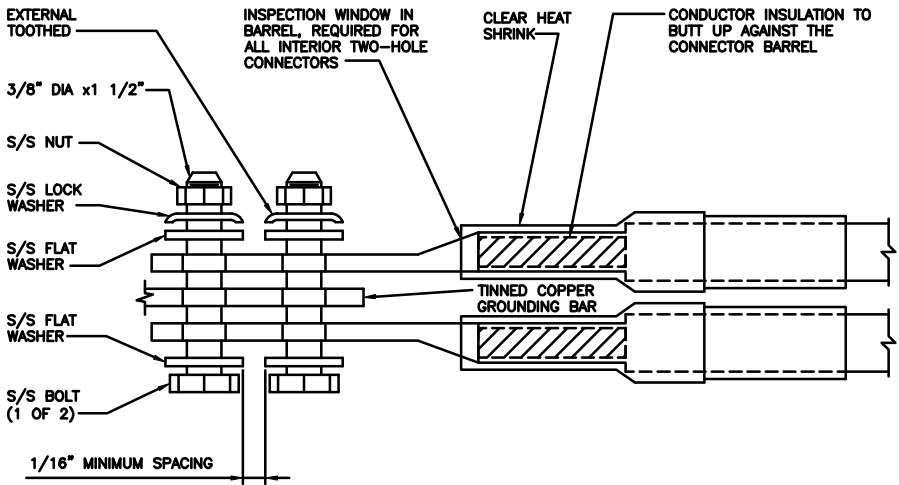
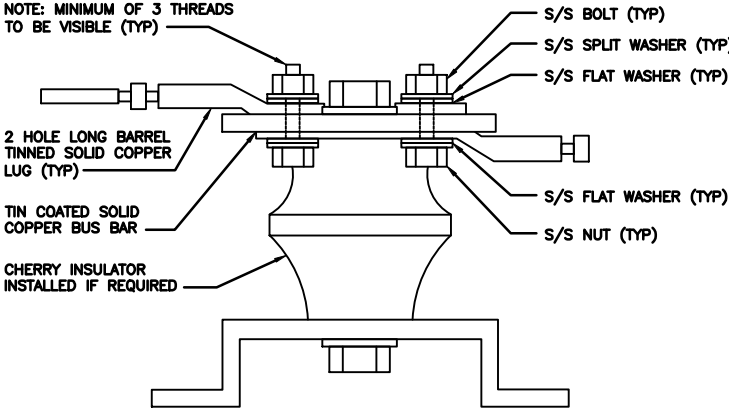
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SHEET TITLE  
GROUNDING DETAILS

SHEET NUMBER  
**G-2**

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |                                                                                    |   |                               |                                                                                     |  |          |   |                               |  |  |          |   |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--|--|------------------------------------------------------------------------------------|---|-------------------------------|-------------------------------------------------------------------------------------|--|----------|---|-------------------------------|--|--|----------|---|
| <div>1. EXOTHERMIC WELD (2) TWO, #2 AWG BARE TINNED SOLID COPPER CONDUCTORS TO GROUND BAR. ROUTE CONDUCTORS TO BURIED GROUND RING AND PROVIDE PARALLEL EXOTHERMIC WELD.</div> <div>2. ALL EXTERIOR GROUNDING 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 MATING.</div> <div>3. FOR GROUND BOND TO STEEL ONLY: COAT ALL SURFACES WITH AN ANTI-OXIDANT COMPOUND BEFORE MATING.</div> <div>4. DO NOT INSTALL CABLE GROUNDING KIT AT A BEND AND ALWAYS DIRECT GROUND CONDUCTOR DOWN TO GROUNDING BUS.</div> <div>5. NUT &amp; WASHER SHALL BE PLACED ON THE FRONT SIDE OF THE GROUND BAR AND BOLTED ON THE BACK SIDE.</div> <div>6. ALL GROUNDING PARTS AND EQUIPMENT TO BE SUPPLIED AND INSTALLED BY CONTRACTOR.</div> <div>7. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INSTALLING ADDITIONAL GROUND BAR AS REQUIRED.</div> <div>8. ENSURE THE WIRE INSULATION TERMINATION IS WITHIN 1/8" OF THE BARREL (NO SHINERS).</div> |  |  |  |   |                               |  |  |          |   |                               |  |  |          |   |
| TYPICAL GROUNDING NOTES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 |  |  | NO SCALE                                                                           | 1 | TYPICAL EXTERIOR TWO HOLE LUG |                                                                                     |  | NO SCALE | 2 | TYPICAL INTERIOR TWO HOLE LUG |  |  | NO SCALE | 3 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                       |  |  |                                                                                    |   |                               |                                                                                     |  |          |   |                               |  |  |          |   |
| LUG DETAIL                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              |  |  | NO SCALE                                                                           | 4 | NOT USED                      |                                                                                     |  | NO SCALE | 5 | NOT USED                      |  |  | NO SCALE | 6 |
|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         |  |  |                                                                                    |   |                               |                                                                                     |  |          |   |                               |  |  |          |   |
| NOT USED                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |  |  | NO SCALE                                                                           | 7 | NOT USED                      |                                                                                     |  | NO SCALE | 8 | NOT USED                      |  |  | NO SCALE | 9 |



5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120



GPD GROUP  
Professional Corporation

520 South Main Street, Suite 2531  
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330.572.2100 Fax 330.572.2101



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DRAWN BY: CHECKED BY: APPROVED BY:

JAM CJM MRL

RFDS REV #: TBD

CONSTRUCTION DOCUMENTS

| SUBMITTALS |            |                   |
|------------|------------|-------------------|
| REV        | DATE       | DESCRIPTION       |
| A          | 07/28/2021 | ISSUED FOR REVIEW |
| 0          | 08/07/2021 | CONSTRUCTION SET  |
|            |            |                   |
|            |            |                   |
|            |            |                   |
|            |            |                   |

A&E PROJECT NUMBER  
2021724.75.858319.02

DISH Wireless L.L.C.  
PROJECT INFORMATION  
ND-CCI-T-858319  
MNFAR00007A  
316 11TH ST WEST  
WEST FARGO, ND 58078

SHEET TITLE  
GROUNDING DETAILS

SHEET NUMBER

G-3

| RF JUMPER COLOR CODING                                                                                           |                                  |                   |                                 | 3/4" TAPE WIDTHS WITH 3/4" SPACING |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
|------------------------------------------------------------------------------------------------------------------|----------------------------------|-------------------|---------------------------------|------------------------------------|------------------------------------|-------------------|---------------------------------|-------------------|------------------------------------|-------------------|---------------------------------|-------------------|
| LOW-BAND RRH –<br>(600MHz N71 BASEBAND) +<br>(850MHz N26 BAND) +<br>(700MHz N29 BAND) – OPTIONAL PER MARKET      | ALPHA RRH                        |                   |                                 |                                    | BETA RRH                           |                   |                                 |                   | GAMMA RRH                          |                   |                                 |                   |
|                                                                                                                  | PORT 1<br>+ SLANT                | PORT 2<br>– SLANT | PORT 3<br>+ SLANT               | PORT 4<br>– SLANT                  | PORT 1<br>+ SLANT                  | PORT 2<br>– SLANT | PORT 3<br>+ SLANT               | PORT 4<br>– SLANT | PORT 1<br>+ SLANT                  | PORT 2<br>– SLANT | PORT 3<br>+ SLANT               | PORT 4<br>– SLANT |
|                                                                                                                  | RED                              | RED               | RED                             | RED                                | BLUE                               | BLUE              | BLUE                            | BLUE              | GREEN                              | GREEN             | GREEN                           | GREEN             |
|                                                                                                                  | ORANGE                           | ORANGE            | RED                             | RED                                | ORANGE                             | ORANGE            | BLUE                            | BLUE              | ORANGE                             | ORANGE            | GREEN                           | GREEN             |
|                                                                                                                  |                                  | WHITE<br>(-) PORT | ORANGE                          | ORANGE                             |                                    | WHITE<br>(-) PORT | ORANGE                          | ORANGE            |                                    | WHITE<br>(-) PORT | ORANGE                          | ORANGE            |
|                                                                                                                  |                                  |                   | WHITE<br>(-) PORT               |                                    |                                    |                   | WHITE<br>(-) PORT               |                   |                                    |                   | WHITE<br>(-) PORT               |                   |
| MID-BAND RRH –<br>(AWS BANDS N66+N70)                                                                            | RED                              | RED               | RED                             | RED                                | BLUE                               | BLUE              | BLUE                            | BLUE              | GREEN                              | GREEN             | GREEN                           | GREEN             |
|                                                                                                                  | PURPLE                           | PURPLE            | RED                             | RED                                | PURPLE                             | PURPLE            | BLUE                            | BLUE              | PURPLE                             | PURPLE            | GREEN                           | GREEN             |
|                                                                                                                  |                                  | WHITE<br>(-) PORT | PURPLE                          | PURPLE                             |                                    | WHITE<br>(-) PORT | PURPLE                          | PURPLE            |                                    | WHITE<br>(-) PORT | PURPLE                          | PURPLE            |
|                                                                                                                  |                                  |                   |                                 | WHITE<br>(-) PORT                  |                                    |                   |                                 | WHITE<br>(-) PORT |                                    |                   |                                 | WHITE<br>(-) PORT |
|                                                                                                                  |                                  |                   |                                 |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
| HYBRID/DISCREET CABLES                                                                                           | EXAMPLE 1                        |                   | EXAMPLE 2                       |                                    | EXAMPLE 3                          |                   |                                 |                   |                                    |                   |                                 |                   |
|                                                                                                                  | RED                              |                   | RED                             |                                    | RED                                |                   |                                 |                   |                                    |                   |                                 |                   |
|                                                                                                                  | BLUE                             |                   | BLUE                            |                                    | ORANGE                             |                   |                                 |                   |                                    |                   |                                 |                   |
|                                                                                                                  | GREEN                            |                   | GREEN                           |                                    | PURPLE                             |                   |                                 |                   |                                    |                   |                                 |                   |
|                                                                                                                  | ORANGE                           |                   | YELLOW                          |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
| FIBER JUMPERS TO RRHs                                                                                            | LOW BAND RRH                     |                   | HIGH BAND RRH                   |                                    | LOW BAND RRH                       |                   | HIGH BAND RRH                   |                   | LOW BAND RRH                       |                   | HIGH BAND RRH                   |                   |
|                                                                                                                  | RED                              |                   | RED                             |                                    | BLUE                               |                   | BLUE                            |                   | GREEN                              |                   | GREEN                           |                   |
|                                                                                                                  |                                  |                   | PURPLE                          |                                    |                                    |                   | PURPLE                          |                   |                                    |                   | PURPLE                          |                   |
|                                                                                                                  |                                  |                   |                                 |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
|                                                                                                                  |                                  |                   |                                 |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
| POWER CABLES TO RRHs                                                                                             | LOW BAND RRH                     |                   | HIGH BAND RRH                   |                                    | LOW BAND RRH                       |                   | HIGH BAND RRH                   |                   | LOW BAND RRH                       |                   | HIGH BAND RRH                   |                   |
|                                                                                                                  | RED                              |                   | RED                             |                                    | BLUE                               |                   | BLUE                            |                   | GREEN                              |                   | GREEN                           |                   |
|                                                                                                                  |                                  |                   | PURPLE                          |                                    |                                    |                   | PURPLE                          |                   |                                    |                   | PURPLE                          |                   |
|                                                                                                                  |                                  |                   |                                 |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
|                                                                                                                  |                                  |                   |                                 |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
| RET MOTORS AT ANTENNAS                                                                                           | ANTENNA 1<br>LOW BAND/<br>"IN"   |                   | ANTENNA 1<br>HIGH BAND/<br>"IN" |                                    | ANTENNA 1<br>LOW BAND/<br>"IN"     |                   | ANTENNA 1<br>HIGH BAND/<br>"IN" |                   | ANTENNA 1<br>LOW BAND/<br>"IN"     |                   | ANTENNA 1<br>HIGH BAND/<br>"IN" |                   |
|                                                                                                                  | RED                              |                   | RED                             |                                    | BLUE                               |                   | BLUE                            |                   | GREEN                              |                   | GREEN                           |                   |
|                                                                                                                  |                                  |                   | PURPLE                          |                                    |                                    |                   | PURPLE                          |                   |                                    |                   | PURPLE                          |                   |
|                                                                                                                  |                                  |                   |                                 |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
|                                                                                                                  |                                  |                   |                                 |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
| MICROWAVE RADIO LINKS                                                                                            | FORWARD AZIMUTH OF 0–120 DEGREES |                   |                                 |                                    | FORWARD AZIMUTH OF 120–240 DEGREES |                   |                                 |                   | FORWARD AZIMUTH OF 240–360 DEGREES |                   |                                 |                   |
|                                                                                                                  | PRIMARY                          |                   | SECONDARY                       |                                    | PRIMARY                            |                   | SECONDARY                       |                   | PRIMARY                            |                   | SECONDARY                       |                   |
|                                                                                                                  | WHITE                            |                   | WHITE                           |                                    | WHITE                              |                   | WHITE                           |                   | WHITE                              |                   | WHITE                           |                   |
|                                                                                                                  | RED                              |                   | RED                             |                                    | BLUE                               |                   | BLUE                            |                   | GREEN                              |                   | GREEN                           |                   |
|                                                                                                                  | WHITE                            |                   | WHITE                           |                                    | WHITE                              |                   | WHITE                           |                   | WHITE                              |                   | WHITE                           |                   |
| MICROWAVE CABLES WILL REQUIRE P-TOUCH<br>LABELS INSIDE THE CABINET TO IDENTIFY THE<br>LOCAL AND REMOTE SITE ID'S |                                  |                   | RED                             |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
|                                                                                                                  |                                  |                   | RED                             |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
|                                                                                                                  |                                  |                   | RED                             |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
|                                                                                                                  |                                  |                   | WHITE                           |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |
|                                                                                                                  |                                  |                   | WHITE                           |                                    |                                    |                   |                                 |                   |                                    |                   |                                 |                   |

RF CABLE COLOR CODES

NO SCALE

1

NOT USED

NO SCALE

4

LOW BANDS (N71+N26)  
OPTIONAL – (N29)

ORANGE

AWS  
(N66+N70+H-BLOCK)

PURPLE

CBRS TECH  
(3 GHz)

YELLOW

NEGATIVE SLANT PORT  
ON ANT/RRH

WHITE

ALPHA SECTOR

RED

BETA SECTOR

BLUE

GAMMA SECTOR

GREEN

COLOR IDENTIFIER

NO SCALE

2

NOT USED

NO SCALE

3

dish  
wireless.

5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

FOR  
REFERENCE  
ONLY

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JAM

CJM

MRL

RFDS REV #: TBD

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DISH Wireless L.L.C.  
PROJECT INFORMATION  
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MNFAR00007A  
316 11TH ST WEST  
WEST FARGO, ND 58078

SHEET TITLE  
RF  
CABLE COLOR CODE

SHEET NUMBER

RF-1



|                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        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|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------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| <div><div>EXOTHERMIC CONNECTION</div><div>MECHANICAL CONNECTION</div><div>BUSS BAR INSULATOR</div><div>CHEMICAL ELECTROLYTIC GROUNDING SYSTEM</div><div>TEST CHEMICAL ELECTROLYTIC GROUNDING SYSTEM</div><div>EXOTHERMIC WITH INSPECTION SLEEVE</div><div>GROUNDING BAR</div><div>GROUND ROD</div><div>TEST GROUND ROD WITH INSPECTION SLEEVE</div><div>SINGLE POLE SWITCH</div><div>DUPLEX RECEPTACLE</div><div>DUPLEX GFCI RECEPTACLE</div><div>FLUORESCENT LIGHTING FIXTURE (2) TWO LAMPS 48-T8</div><div>SMOKE DETECTION (DC)</div><div>EMERGENCY LIGHTING (DC)</div><div>SECURITY LIGHT W/PHOTOCELL LITHONIA ALXW LED-1-25A400/51K-SR4-120-PE-DDBTXD</div><div>CHAIN LINK FENCE</div><div>WOOD/WROUGHT IRON FENCE</div><div>WALL STRUCTURE</div><div>LEASE AREA</div><div>PROPERTY LINE (PL)</div><div>SETBACKS</div><div>ICE BRIDGE</div><div>CABLE TRAY</div><div>WATER LINE</div><div>UNDERGROUND POWER</div><div>UNDERGROUND TELCO</div><div>OVERHEAD POWER</div><div>OVERHEAD TELCO</div><div>UNDERGROUND TELCO/POWER</div><div>ABOVE GROUND POWER</div><div>ABOVE GROUND TELCO</div><div>ABOVE GROUND TELCO/POWER</div><div>WORKPOINT</div><div>SECTION REFERENCE</div><div>DETAIL REFERENCE</div></div> <div><div><div><div>●</div><div>■</div><div>▲</div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div></div></div><div><div>— X — X — X — X —</div><div></div><div></div><div></div><div></div><div></div><div></div><div></div><div><div>W</div><div>W</div><div>W</div><div>W</div><div>W</div></div><div><div>UGP</div><div>UGP</div><div>UGP</div><div>UGP</div><div>UGP</div></div><div><div>UGT</div><div>UGT</div><div>UGT</div><div>UGT</div><div>UGT</div></div><div><div>OHP</div><div>OHP</div><div>OHP</div><div>OHP</div></div><div><div>OHT</div><div>OHT</div><div>OHT</div><div>OHT</div></div><div><div>UGT/P</div><div>UGT/P</div><div>UGT/P</div><div>UGT/P</div></div><div><div>AGP</div><div>AGP</div><div>AGP</div><div>AGP</div><div>AGP</div></div><div><div>AGT</div><div>AGT</div><div>AGT</div><div>AGT</div><div>AGT</div></div><div><div>AGT/P</div><div>AGT/P</div><div>AGT/P</div><div>AGT/P</div></div></div><div><div>W.P.</div><div></div><div></div></div></div></div> <div><div>ABANCHOR BOLT</div><div>ABVABOVE</div><div>ACALTERNATING CURRENT</div><div>ADDLADDITIONAL</div><div>AFFABOVE FINISHED FLOOR</div><div>AFGABOVE FINISHED GRADE</div><div>AGLABOVE GROUND LEVEL</div><div>AICAMPERAGE INTERRUPTION CAPACITY</div><div>ALUMALUMINUM</div><div>ALTALTERNATE</div><div>ANTANTENNA</div><div>APPROXAPPROXIMATE</div><div>ARCHARCHITECTURAL</div><div>ATSAUTOMATIC TRANSFER SWITCH</div><div>AWGAMERICAN WIRE GAUGE</div><div>BATTBATTERY</div><div>BLDGBUILDING</div><div>BLKBLOCK</div><div>BLKGBLOCKING</div><div>BMBEAM</div><div>BTCBARE TINNED COPPER CONDUCTOR</div><div>BOFBOTTOM OF FOOTING</div><div>CABCABINET</div><div>CANTCANTILEVERED</div><div>CHGCHARGING</div><div>CLGCEILING</div><div>CLRCLEAR</div><div>COLCOLUMN</div><div>COMMCOMMON</div><div>CONCCONCRETE</div><div>CONSTRCONSTRUCTION</div><div>DBLDOUBLE</div><div>DCDIRECT CURRENT</div><div>DEPTDEPARTMENT</div><div>DFDOUGLAS FIR</div><div>DIA DIAMETER</div><div>DIAGDIAGONAL</div><div>DIMDIMENSION</div><div>DWGDRAWING</div><div>DWLDOWEL</div><div>EAEACH</div><div>ECELECTRICAL CONDUCTOR</div><div>ELELEVATION</div><div>ELECELECTRICAL</div><div>EMTELECTRICAL METALLIC TUBING</div><div>ENGENGINEER</div><div>EQUEQUAL</div><div>EXPEXPANSION</div><div>EXTEXTERIOR</div><div>EW EACH WAY</div><div>FABFABRICATION</div><div>FFFINISH FLOOR</div><div>FGFINISH GRADE</div><div>FIFACILITY INTERFACE FRAME</div><div>FINFINISH(ED)</div><div>FLRFLOOR</div><div>FDNFOUNDATION</div><div>FOCFACE OF CONCRETE</div><div>FOMFACE OF MASONRY</div><div>FOSFACE OF STUD</div><div>FOWFACE OF WALL</div><div>FSFINISH SURFACE</div><div>FTFOOT</div><div>FTGFOOTING</div><div>GAGAUGE</div><div>GENGENERATOR</div><div>GFCIGROUND FAULT CIRCUIT INTERRUPTER</div><div>GLBGLUE LAMINATED BEAM</div><div>GLVGALVANIZED</div><div>GPSGLOBAL POSITIONING SYSTEM</div><div>GNDGROUND</div><div>GSMGLOBAL SYSTEM FOR MOBILE</div><div>HDBGHOT DIPPED GALVANIZED</div><div>HDRHEADER</div><div>HGRHANGER</div><div>HVACHHEAT/VENTILATION/AIR CONDITIONING</div><div>HTHEIGHT</div><div>IGRINTERIOR GROUND RING</div></div> <div><div>ININCH</div><div>INTINTERIOR</div><div>LB(S)POUND(S)</div><div>LF LINEAR FEET</div><div>LTE LONG TERM EVOLUTION</div><div>MASMASONRY</div><div>MAXMAXIMUM</div><div>MBMACHINE BOLT</div><div>MECHMECHANICAL</div><div>MFRMANUFACTURER</div><div>MGBMASTER GROUND BAR</div><div>MINMINIMUM</div><div>MISCMISCELLANEOUS</div><div>MTLMETAL</div><div>MTSMANUAL TRANSFER SWITCH</div><div>MWMICROWAVE</div><div>NECNATIONAL ELECTRIC CODE</div><div>NMNEWTON METERS</div><div>NO. NUMBER</div><div>#NUMBER</div><div>NTSNOT TO SCALE</div><div>OC ON-CENTER</div><div>OSHA OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION</div><div>OPNGOPENING</div><div>P/C PRECAST CONCRETE</div><div>PCSPERSONAL COMMUNICATION SERVICES</div><div>PCUPRIMARY CONTROL UNIT</div><div>PRCPRIMARY RADIO CABINET</div><div>PPPOLARIZING PRESERVING</div><div>PSFPOUNDS PER SQUARE FOOT</div><div>PSIPOUNDS PER SQUARE INCH</div><div>PTPRESSURE TREATED</div><div>PWRPOWER CABINET</div><div>QTYQUANTITY</div><div>RADRADIUS</div><div>RECTRECTIFIER</div><div>REFREFERENCE</div><div>REINFREINFORCEMENT</div><div>REQ'DREQUIRED</div><div>RETEREMOTE ELECTRIC TILT</div><div>RF RADIO FREQUENCY</div><div>RMC RIGID METALLIC CONDUIT</div><div>RRHREMOTE RADIO HEAD</div><div>RRUREMOTE RADIO UNIT</div><div>RWYRACEWAY</div><div>SCHSCHEDULE</div><div>SHTSHEET</div><div>SIADSMART INTEGRATED ACCESS DEVICE</div><div>SIMSIMILAR</div><div>SPECSPECIFICATION</div><div>SQSQUARE</div><div>SSSTAINLESS STEEL</div><div>STDSTANDARD</div><div>STLSTEEL</div><div>TEMPTEMPORARY</div><div>THKTHICKNESS</div><div>TMATOWER MOUNTED AMPLIFIER</div><div>TNTOE NAIL</div><div>TOATOP OF ANTENNA</div><div>TOCTOP OF CURB</div><div>TOFTOP OF FOUNDATION</div><div>TOPTOP OF PLATE (PARAPET)</div><div>TOSTOP OF STEEL</div><div>TOWTOP OF WALL</div><div>TVSSTRANSIENT VOLTAGE SURGE SUPPRESSION</div><div>TYP TYPICAL</div><div>UGUNDERGROUND</div><div>ULUNDERWRITERS LABORATORY</div><div>UNO UNLESS NOTED OTHERWISE</div><div>UMTS UNIVERSAL MOBILE TELECOMMUNICATIONS SYSTEM</div><div>UPS UNINTERRUPTIBLE POWER SYSTEM (DC POWER PLANT)</div><div>VIFVERIFIED IN FIELD</div><div>WWIDE</div><div>W/ WITH</div><div>WDWOOD</div><div>WPWEATHERPROOF</div><div>WTWEIGHT</div></div> |
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LEGEND

ABBREVIATIONS

5701 SOUTH SANTA FE DRIVE  
LITTLETON, CO 80120

Professional Corporation  
520 South Main Street, Suite 2531  
Akron, OH 44311  
330.572.2100 Fax 330.572.2101

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DRAWN BY: JAM

CHECKED BY: CJM

APPROVED BY: MRL

RFDS REV #: TBD

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DISH Wireless L.L.C.  
PROJECT INFORMATION  
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316 11TH ST WEST  
WEST FARGO, ND 58078

SHEET TITLE  
LEGEND AND ABBREVIATIONS

SHEET NUMBER  
GN-1

DISH Wireless L.L.C. TEMPLATE VERSION 36 – 07/02/2021

Page 34 of 264

SITE ACTIVITY REQUIREMENTS:

1. NOTICE TO PROCEED – NO WORK SHALL COMMENCE PRIOR TO CONTRACTOR RECEIVING A WRITTEN NOTICE TO PROCEED (NTP) AND THE ISSUANCE OF A PURCHASE ORDER. PRIOR TO ACCESSING/ENTERING THE SITE YOU MUST CONTACT THE DISH Wireless L.L.C. AND TOWER OWNER NOC & THE DISH Wireless L.L.C. AND TOWER OWNER CONSTRUCTION MANAGER.
2. "LOOK UP" – DISH Wireless L.L.C. AND TOWER OWNER SAFETY CLIMB REQUIREMENT:  
  
THE INTEGRITY OF THE SAFETY CLIMB AND ALL COMPONENTS OF THE CLIMBING FACILITY SHALL BE CONSIDERED DURING ALL STAGES OF DESIGN, INSTALLATION, AND INSPECTION. TOWER MODIFICATION, MOUNT REINFORCEMENTS, AND/OR EQUIPMENT INSTALLATIONS SHALL NOT COMPROMISE THE INTEGRITY OR FUNCTIONAL USE OF THE SAFETY CLIMB OR ANY COMPONENTS OF THE CLIMBING FACILITY ON THE STRUCTURE. THIS SHALL INCLUDE, BUT NOT BE LIMITED TO: PINCHING OF THE WIRE ROPE, BENDING OF THE WIRE ROPE FROM ITS SUPPORTS, DIRECT CONTACT OR CLOSE PROXIMITY TO THE WIRE ROPE WHICH MAY CAUSE FRICTIONAL WEAR, IMPACT TO THE ANCHORAGE POINTS IN ANY WAY, OR TO IMPEDE/BLOCK ITS INTENDED USE. ANY COMPROMISED SAFETY CLIMB, INCLUDING EXISTING CONDITIONS MUST BE TAGGED OUT AND REPORTED TO YOUR DISH Wireless L.L.C. AND DISH Wireless L.L.C. AND TOWER OWNER POC OR CALL THE NOC TO GENERATE A SAFETY CLIMB MAINTENANCE AND CONTRACTOR NOTICE TICKET.
3. PRIOR TO THE START OF CONSTRUCTION, ALL REQUIRED JURISDICTIONAL PERMITS SHALL BE OBTAINED. THIS INCLUDES, BUT IS NOT LIMITED TO, BUILDING, ELECTRICAL, MECHANICAL, FIRE, FLOOD ZONE, ENVIRONMENTAL, AND ZONING. AFTER ONSITE ACTIVITIES AND CONSTRUCTION ARE COMPLETED, ALL REQUIRED PERMITS SHALL BE SATISFIED AND CLOSED OUT ACCORDING TO LOCAL JURISDICTIONAL REQUIREMENTS.
4. ALL CONSTRUCTION MEANS AND METHODS; INCLUDING BUT NOT LIMITED TO, ERECTION PLANS, RIGGING PLANS, CLIMBING PLANS, AND RESCUE PLANS SHALL BE THE RESPONSIBILITY OF THE GENERAL CONTRACTOR RESPONSIBLE FOR THE EXECUTION OF THE WORK CONTAINED HEREIN, AND SHALL MEET ANSI/ASSE A10.48 (LATEST EDITION); FEDERAL, STATE, AND LOCAL REGULATIONS; AND ANY APPLICABLE INDUSTRY CONSENSUS STANDARDS RELATED TO THE CONSTRUCTION ACTIVITIES BEING PERFORMED. ALL RIGGING PLANS SHALL ADHERE TO ANSI/ASSE A10.48 (LATEST EDITION) AND DISH Wireless L.L.C. AND TOWER OWNER STANDARDS, INCLUDING THE REQUIRED INVOLVEMENT OF A QUALIFIED ENGINEER FOR CLASS IV CONSTRUCTION, TO CERTIFY THE SUPPORTING STRUCTURE(S) IN ACCORDANCE WITH ANSI/TIA–322 (LATEST EDITION).
5. ALL SITE WORK TO COMPLY WITH DISH Wireless L.L.C. AND TOWER OWNER INSTALLATION STANDARDS FOR CONSTRUCTION ACTIVITIES ON DISH Wireless L.L.C. AND TOWER OWNER TOWER SITE AND LATEST VERSION OF ANSI/TIA–1019–A–2012 "STANDARD FOR INSTALLATION, ALTERATION, AND MAINTENANCE OF ANTENNA SUPPORTING STRUCTURES AND ANTENNAS."
6. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY DISH Wireless L.L.C. AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
9. THE CONTRACTOR SHALL CONTACT UTILITY LOCATING SERVICES INCLUDING PRIVATE LOCATES SERVICES PRIOR TO THE START OF CONSTRUCTION.
10. ALL EXISTING ACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES WHERE ENCOUNTERED IN THE WORK, SHALL BE PROTECTED AT ALL TIMES AND WHERE REQUIRED FOR THE PROPER EXECUTION OF THE WORK, SHALL BE RELOCATED AS DIRECTED BY CONTRACTOR. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR DRILLING PIERS AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW. THIS WILL INCLUDE BUT NOT BE LIMITED TO A) FALL PROTECTION B) CONFINED SPACE C) ELECTRICAL SAFETY D) TRENCHING AND EXCAVATION E) CONSTRUCTION SAFETY PROCEDURES.
11. ALL SITE WORK SHALL BE AS INDICATED ON THE STAMPED CONSTRUCTION DRAWINGS AND DISH PROJECT SPECIFICATIONS, LATEST APPROVED REVISION.
12. CONTRACTOR SHALL KEEP THE SITE FREE FROM ACCUMULATING WASTE MATERIAL, DEBRIS, AND TRASH AT THE COMPLETION OF THE WORK. IF NECESSARY, RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
13. ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND/OR CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF DISH Wireless L.L.C. AND TOWER OWNER, AND/OR LOCAL UTILITIES.
14. THE CONTRACTOR SHALL PROVIDE SITE SIGNAGE IN ACCORDANCE WITH THE TECHNICAL SPECIFICATION FOR SITE SIGNAGE REQUIRED BY LOCAL JURISDICTION AND SIGNAGE REQUIRED ON INDIVIDUAL PIECES OF EQUIPMENT, ROOMS, AND SHELTERS.
15. THE SITE SHALL BE GRADED TO CAUSE SURFACE WATER TO FLOW AWAY FROM THE CARRIER’S EQUIPMENT AND TOWER AREAS.
16. THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
17. THE AREAS OF THE OWNERS PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE TOWER, EQUIPMENT OR DRIVEWAY, SHALL BE GRADED TO A UNIFORM SLOPE, AND STABILIZED TO PREVENT EROSION AS SPECIFIED ON THE CONSTRUCTION DRAWINGS AND/OR PROJECT SPECIFICATIONS.
18. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES, IF REQUIRED DURING CONSTRUCTION, SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL.
19. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR’S EXPENSE TO THE SATISFACTION OF OWNER.
20. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS AND RADIOS REMOVED SHALL BE RETURNED TO THE OWNER’S DESIGNATED LOCATION.
21. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.
22. NO FILL OR EMBANKMENT MATERIAL SHALL BE PLACED ON FROZEN GROUND. FROZEN MATERIALS, SNOW OR ICE SHALL NOT BE PLACED IN ANY FILL OR EMBANKMENT.

GENERAL NOTES:

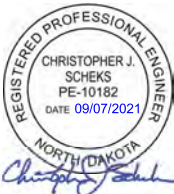
- 1.FOR THE PURPOSE OF CONSTRUCTION DRAWING, THE FOLLOWING DEFINITIONS SHALL APPLY:  
  
CONTRACTOR:GENERAL CONTRACTOR RESPONSIBLE FOR CONSTRUCTION  
  
CARRIER:DISH Wireless L.L.C.  
  
TOWER OWNER:TOWER OWNER
2. THESE DRAWINGS HAVE BEEN PREPARED USING STANDARDS OF PROFESSIONAL CARE AND COMPLETENESS NORMALLY EXERCISED UNDER SIMILAR CIRCUMSTANCES BY REPUTABLE ENGINEERS IN THIS OR SIMILAR LOCALITIES. IT IS ASSUMED THAT THE WORK DEPICTED WILL BE PERFORMED BY AN EXPERIENCED CONTRACTOR AND/OR WORKPEOPLE WHO HAVE A WORKING KNOWLEDGE OF THE APPLICABLE CODE STANDARDS AND REQUIREMENTS AND OF INDUSTRY ACCEPTED STANDARD GOOD PRACTICE. AS NOT EVERY CONDITION OR ELEMENT IS (OR CAN BE) EXPLICITLY SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL USE INDUSTRY ACCEPTED STANDARD GOOD PRACTICE FOR MISCELLANEOUS WORK NOT EXPLICITLY SHOWN.
3. THESE DRAWINGS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE MEANS OR METHODS OF CONSTRUCTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR THE CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES, AND PROCEDURES. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY FOR PROTECTION OF LIFE AND PROPERTY DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO, BRACING, FORMWORK, SHORING, ETC. SITE VISITS BY THE ENGINEER OR HIS REPRESENTATIVE WILL NOT INCLUDE INSPECTION OF THESE ITEMS AND IS FOR STRUCTURAL OBSERVATION OF THE FINISHED STRUCTURE ONLY.
4. NOTES AND DETAILS IN THE CONSTRUCTION DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES AND TYPICAL DETAILS. WHERE NO DETAILS ARE SHOWN, CONSTRUCTION SHALL CONFORM TO SIMILAR WORK ON THE PROJECT, AND/OR AS PROVIDED FOR IN THE CONTRACT DOCUMENTS. WHERE DISCREPANCIES OCCUR BETWEEN PLANS, DETAILS, GENERAL NOTES, AND SPECIFICATIONS, THE GREATER, MORE STRICT REQUIREMENTS, SHALL GOVERN. IF FURTHER CLARIFICATION IS REQUIRED CONTACT THE ENGINEER OF RECORD.
5. SUBSTANTIAL EFFORT HAS BEEN MADE TO PROVIDE ACCURATE DIMENSIONS AND MEASUREMENTS ON THE DRAWINGS TO ASSIST IN THE FABRICATION AND/OR PLACEMENT OF CONSTRUCTION ELEMENTS BUT IT IS THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO FIELD VERIFY THE DIMENSIONS, MEASUREMENTS, AND/OR CLEARANCES SHOWN IN THE CONSTRUCTION DRAWINGS PRIOR TO FABRICATION OR CUTTING OF ANY NEW OR EXISTING CONSTRUCTION ELEMENTS. IF IT IS DETERMINED THAT THERE ARE DISCREPANCIES AND/OR CONFLICTS WITH THE CONSTRUCTION DRAWINGS THE ENGINEER OF RECORD IS TO BE NOTIFIED AS SOON AS POSSIBLE.
6. PRIOR TO THE SUBMISSION OF BIDS, THE BIDDING CONTRACTOR SHALL VISIT THE CELL SITE TO FAMILIARIZE WITH THE EXISTING CONDITIONS AND TO CONFIRM THAT THE WORK CAN BE ACCOMPLISHED AS SHOWN ON THE CONSTRUCTION DRAWINGS. ANY DISCREPANCY FOUND SHALL BE BROUGHT TO THE ATTENTION OF CARRIER POC AND TOWER OWNER.
7. ALL MATERIALS FURNISHED AND INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL ISSUE ALL APPROPRIATE NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. ALL WORK CARRIED OUT SHALL COMPLY WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS AND LOCAL JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
8. UNLESS NOTED OTHERWISE, THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLATIONS AS INDICATED ON THE DRAWINGS.
9. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER’S RECOMMENDATIONS UNLESS SPECIFICALLY STATED OTHERWISE.
10. IF THE SPECIFIED EQUIPMENT CAN NOT BE INSTALLED AS SHOWN ON THESE DRAWINGS, THE CONTRACTOR SHALL PROPOSE AN ALTERNATIVE INSTALLATION FOR APPROVAL BY THE CARRIER AND TOWER OWNER PRIOR TO PROCEEDING WITH ANY SUCH CHANGE OF INSTALLATION.
11. CONTRACTOR IS TO PERFORM A SITE INVESTIGATION, BEFORE SUBMITTING BIDS, TO DETERMINE THE BEST ROUTING OF ALL CONDUITS FOR POWER, AND TELCO AND FOR GROUNDING CABLES AS SHOWN IN THE POWER, TELCO, AND GROUNDING PLAN DRAWINGS.
12. THE CONTRACTOR SHALL PROTECT EXISTING IMPROVEMENTS, PAVEMENTS, CURBS, LANDSCAPING AND STRUCTURES. ANY DAMAGED PART SHALL BE REPAIRED AT CONTRACTOR’S EXPENSE TO THE SATISFACTION OF DISH Wireless L.L.C. AND TOWER OWNER
13. CONTRACTOR SHALL LEGALLY AND PROPERLY DISPOSE OF ALL SCRAP MATERIALS SUCH AS COAXIAL CABLES AND OTHER ITEMS REMOVED FROM THE EXISTING FACILITY. ANTENNAS REMOVED SHALL BE RETURNED TO THE OWNER’S DESIGNATED LOCATION.
14. CONTRACTOR SHALL LEAVE PREMISES IN CLEAN CONDITION. TRASH AND DEBRIS SHOULD BE REMOVED FROM SITE ON A DAILY BASIS.



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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY:APPROVED BY:

JAM CJM MRL

RFDS REV #: TBD

CONSTRUCTION DOCUMENTS

| SUBMITTALS |            |                   |
|------------|------------|-------------------|
| REV        | DATE       | DESCRIPTION       |
| A          | 07/28/2021 | ISSUED FOR REVIEW |
| 0          | 08/07/2021 | CONSTRUCTION SET  |
|            |            |                   |
|            |            |                   |
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|            |            |                   |
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A&E PROJECT NUMBER  
2021724.75.858319.02

DISH Wireless L.L.C.  
PROJECT INFORMATION  
ND–CCI–T–858319  
MNFAR00007A  
316 11TH ST WEST  
WEST FARGO, ND 58078

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
GN-2

CONCRETE, FOUNDATIONS, AND REINFORCING STEEL:

1. ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 301, ACI 318, ACI 336, ASTM A184, ASTM A185 AND THE DESIGN AND CONSTRUCTION SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
2. UNLESS NOTED OTHERWISE, SOIL BEARING PRESSURE USED FOR DESIGN OF SLABS AND FOUNDATIONS IS ASSUMED TO BE 1000 psf.
3. ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH (f'c) OF 3000 psi AT 28 DAYS, UNLESS NOTED OTHERWISE. NO MORE THAN 90 MINUTES SHALL ELAPSE FROM BATCH TIME TO TIME OF PLACEMENT UNLESS APPROVED BY THE ENGINEER OF RECORD. TEMPERATURE OF CONCRETE SHALL NOT EXCEED 90°f AT TIME OF PLACEMENT.
4. CONCRETE EXPOSED TO FREEZE-THAW CYCLES SHALL CONTAIN AIR ENTRAINING ADMIXTURES. AMOUNT OF AIR ENTRAINMENT TO BE BASED ON SIZE OF AGGREGATE AND F3 CLASS EXPOSURE (VERY SEVERE). CEMENT USED TO BE TYPE II PORTLAND CEMENT WITH A MAXIMUM WATER-TO-CEMENT RATIO (W/C) OF 0.45.
5. ALL STEEL REINFORCING SHALL CONFORM TO ASTM A615. ALL WELDED WIRE FABRIC (WWF) SHALL CONFORM TO ASTM A185. ALL SPLICES SHALL BE CLASS "B" TENSION SPLICES, UNLESS NOTED OTHERWISE. ALL HOOKS SHALL BE STANDARD 90 DEGREE HOOKS, UNLESS NOTED OTHERWISE. YIELD STRENGTH (Fy) OF STANDARD DEFORMED BARS ARE AS FOLLOWS:

#4 BARS AND SMALLER 40 ksi

#5 BARS AND LARGER 60 ksi
6. THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

• CONCRETE CAST AGAINST AND PERMANENTLY EXPOSED TO EARTH 3"

• CONCRETE EXPOSED TO EARTH OR WEATHER:

#6 BARS AND LARGER 2"

#5 BARS AND SMALLER 1-1/2"

• CONCRETE NOT EXPOSED TO EARTH OR WEATHER:

SLAB AND WALLS 3/4"

BEAMS AND COLUMNS 1-1/2"

7. A TOOLED EDGE OR A 3/4" CHAMFER SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE, UNLESS NOTED OTHERWISE, IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.
- dish

wireless.

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CHRISTOPHER J. SCHEKS

PE-10182

DATE 09/07/2021

NORTH DAKOTA


- IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

|           |             |              |
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| DRAWN BY: | CHECKED BY: | APPROVED BY: |
| JAM       | CJM         | MRL          |

RFDS REV #: TBD

CONSTRUCTION DOCUMENTS

| SUBMITTALS |            |                   |
|------------|------------|-------------------|
| REV        | DATE       | DESCRIPTION       |
| A          | 07/20/2021 | ISSUED FOR REVIEW |
| 0          | 08/07/2021 | CONSTRUCTION SET  |
|            |            |                   |
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A&E PROJECT NUMBER  
2021724.75.858319.02

DISH Wireless L.L.C.  
PROJECT INFORMATION  
ND-CCI-T-858319  
MNFAR00007A  
316 11TH ST WEST  
WEST FARGO, ND 58078

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
GN-3
- DISH Wireless L.L.C. TEMPLATE VERSION 36 – 07/02/2021
- Page 36 of 264



GROUNDING NOTES:

1. ALL GROUND ELECTRODE SYSTEMS (INCLUDING TELECOMMUNICATION, RADIO, LIGHTNING PROTECTION AND AC POWER GES’S) SHALL BE BONDED TOGETHER AT OR BELOW GRADE, BY TWO OR MORE COPPER BONDING CONDUCTORS IN ACCORDANCE WITH THE NEC.
2. THE CONTRACTOR SHALL PERFORM IEEE FALL–OF–POTENTIAL RESISTANCE TO EARTH TESTING (PER IEEE 1100 AND 81) FOR GROUND ELECTRODE SYSTEMS, THE CONTRACTOR SHALL FURNISH AND INSTALL SUPPLEMENTAL GROUND ELECTRODES AS NEEDED TO ACHIEVE A TEST RESULT OF 5 OHMS OR LESS.
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 AND PROVIDE TESTING RESULTS.
4. METAL CONDUIT AND TRAY SHALL BE GROUNDED AND MADE ELECTRICALLY CONTINUOUS WITH LISTED BONDING FITTINGS OR BY BONDING ACROSS THE DISCONTINUITY WITH #6 COPPER WIRE UL APPROVED GROUNDING TYPE CONDUIT CLAMPS.
5. METAL RACEWAY SHALL NOT BE USED AS THE NEC REQUIRED EQUIPMENT GROUND CONDUCTOR. STRANDED COPPER CONDUCTORS WITH GREEN INSULATION, SIZED IN ACCORDANCE WITH THE NEC, SHALL BE FURNISHED AND INSTALLED WITH THE POWER CIRCUITS TO BTS EQUIPMENT.
6. EACH CABINET FRAME SHALL BE DIRECTLY CONNECTED TO THE MASTER GROUND BAR WITH GREEN INSULATED SUPPLEMENTAL EQUIPMENT GROUND WIRES, #6 STRANDED COPPER OR LARGER FOR INDOOR BTS; #2 BARE SOLID TINNED COPPER FOR OUTDOOR BTS.
7. CONNECTIONS TO THE GROUND BUS SHALL NOT BE DOUBLED UP OR STACKED BACK TO BACK CONNECTIONS ON OPPOSITE SIDE OF THE GROUND BUS ARE PERMITTED.
8. ALL EXTERIOR GROUND CONDUCTORS BETWEEN EQUIPMENT/GROUND BARS AND THE GROUND RING SHALL BE #2 SOLID TINNED COPPER UNLESS OTHERWISE INDICATED.
9. ALUMINUM CONDUCTOR OR COPPER CLAD STEEL CONDUCTOR SHALL NOT BE USED FOR GROUNDING CONNECTIONS.
10. USE OF 90° BENDS IN THE PROTECTION GROUNDING CONDUCTORS SHALL BE AVOIDED WHEN 45° BENDS CAN BE ADEQUATELY SUPPORTED.
11. EXOTHERMIC WELDS SHALL BE USED FOR ALL GROUNDING CONNECTIONS BELOW GRADE.
12. ALL GROUND CONNECTIONS ABOVE GRADE (INTERIOR AND EXTERIOR) SHALL BE FORMED USING HIGH PRESS CRIMPS.
13. COMPRESSION GROUND CONNECTIONS MAY BE REPLACED BY EXOTHERMIC WELD CONNECTIONS.
14. ICE BRIDGE BONDING CONDUCTORS SHALL BE EXOTHERMICALLY BONDED OR BOLTED TO THE BRIDGE AND THE TOWER GROUND BAR.
15. APPROVED ANTIOXIDANT COATINGS (i.e. CONDUCTIVE GEL OR PASTE) SHALL BE USED ON ALL COMPRESSION AND BOLTED GROUND CONNECTIONS.
16. ALL EXTERIOR GROUND CONNECTIONS SHALL BE COATED WITH A CORROSION RESISTANT MATERIAL.
17. MISCELLANEOUS ELECTRICAL AND NON–ELECTRICAL METAL BOXES, FRAMES AND SUPPORTS SHALL BE BONDED TO THE GROUND RING, IN ACCORDANCE WITH THE NEC.
18. BOND ALL METALLIC OBJECTS WITHIN 6 ft OF MAIN GROUND RING WITH (1) #2 BARE SOLID TINNED COPPER GROUND CONDUCTOR.
19. GROUND CONDUCTORS USED FOR THE FACILITY GROUNDING AND LIGHTNING PROTECTION SYSTEMS SHALL NOT BE ROUTED THROUGH METALLIC OBJECTS THAT FORM A RING AROUND THE CONDUCTOR, SUCH AS METALLIC CONDUITS, METAL SUPPORT CLIPS OR SLEEVES THROUGH WALLS OR FLOORS. WHEN IT IS REQUIRED TO BE HOUSED IN CONDUIT TO MEET CODE REQUIREMENTS OR LOCAL CONDITIONS, NON–METALLIC MATERIAL SUCH AS PVC CONDUIT SHALL BE USED. WHERE USE OF METAL CONDUIT IS UNAVOIDABLE (i.e., NONMETALLIC CONDUIT PROHIBITED BY LOCAL CODE) THE GROUND CONDUCTOR SHALL BE BONDED TO EACH END OF THE METAL CONDUIT.
20. ALL GROUNDS THAT TRANSITION FROM BELOW GRADE TO ABOVE GRADE MUST BE #2 BARE SOLID TINNED COPPER IN 3/4” NON–METALLIC, FLEXIBLE CONDUIT FROM 24” BELOW GRADE TO WITHIN 3” TO 6” OF CAD–WELD TERMINATION POINT. THE EXPOSED END OF THE CONDUIT MUST BE SEALED WITH SILICONE CAULK. (ADD TRANSITIONING GROUND STANDARD DETAIL AS WELL).
21. BUILDINGS WHERE THE MAIN GROUNDING CONDUCTORS ARE REQUIRED TO BE ROUTED TO GRADE, THE CONTRACTOR SHALL ROUTE TWO GROUNDING CONDUCTORS FROM THE ROOFTOP, TOWERS, AND WATER TOWERS GROUNDING RING, TO THE EXISTING GROUNDING SYSTEM, THE GROUNDING CONDUCTORS SHALL NOT BE SMALLER THAN 2/0 COPPER. ROOFTOP GROUNDING RING SHALL BE BONDED TO THE EXISTING GROUNDING SYSTEM, THE BUILDING STEEL COLUMNS, LIGHTNING PROTECTION SYSTEM, AND BUILDING MAIN WATER LINE (FERROUS OR NONFERROUS METAL PIPING ONLY). DO NOT ATTACH GROUNDING TO FIRE SPRINKLER SYSTEM PIPES.

ELECTRICAL INSTALLATION NOTES:

1. ALL ELECTRICAL WORK SHALL BE PERFORMED IN ACCORDANCE WITH THE PROJECT SPECIFICATIONS, NEC AND ALL APPLICABLE FEDERAL, STATE, AND LOCAL CODES/ORDINANCES.
2. CONDUIT ROUTINGS ARE SCHEMATIC. CONTRACTOR SHALL INSTALL CONDUITS SO THAT ACCESS TO EQUIPMENT IS NOT BLOCKED AND TRIP HAZARDS ARE ELIMINATED.
3. WIRING, RACEWAY AND SUPPORT METHODS AND MATERIALS SHALL COMPLY WITH THE REQUIREMENTS OF THE NEC.
4. ALL CIRCUITS SHALL BE SEGREGATED AND MAINTAIN MINIMUM CABLE SEPARATION AS REQUIRED BY THE NEC.
- 4.1. ALL EQUIPMENT SHALL BEAR THE UNDERWRITERS LABORATORIES LABEL OF APPROVAL, AND SHALL CONFORM TO REQUIREMENT OF THE NATIONAL ELECTRICAL CODE.
- 4.2. ALL OVERCURRENT DEVICES SHALL HAVE AN INTERRUPTING CURRENT RATING THAT SHALL BE GREATER THAN THE SHORT CIRCUIT CURRENT TO WHICH THEY ARE SUBJECTED, 22,000 AIC MINIMUM. VERIFY AVAILABLE SHORT CIRCUIT CURRENT DOES NOT EXCEED THE RATING OF ELECTRICAL EQUIPMENT IN ACCORDANCE WITH ARTICLE 110.24 NEC OR THE MOST CURRENT ADOPTED CODE PRE THE GOVERNING JURISDICTION.
5. EACH END OF EVERY POWER PHASE CONDUCTOR, GROUNDING CONDUCTOR, AND TELCO CONDUCTOR OR CABLE SHALL BE LABELED WITH COLOR–CODED INSULATION OR ELECTRICAL TAPE (3M BRAND, 1/2” PLASTIC ELECTRICAL TAPE WITH UV PROTECTION, OR EQUAL). THE IDENTIFICATION METHOD SHALL CONFORM WITH NEC AND OSHA.
6. ALL ELECTRICAL COMPONENTS SHALL BE CLEARLY LABELED WITH LAMICOID TAGS SHOWING THEIR RATED VOLTAGE, PHASE CONFIGURATION, WIRE CONFIGURATION, POWER OR AMPACITY RATING AND BRANCH CIRCUIT ID NUMBERS (i.e. PANEL BOARD AND CIRCUIT ID’S).

7. PANEL BOARDS (ID NUMBERS) SHALL BE CLEARLY LABELED WITH PLASTIC LABELS.
8. TIE WRAPS ARE NOT ALLOWED.
9. ALL POWER AND EQUIPMENT GROUND WIRING IN TUBING OR CONDUIT SHALL BE SINGLE COPPER CONDUCTOR (#14 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
10. SUPPLEMENTAL EQUIPMENT GROUND WIRING LOCATED INDOORS SHALL BE SINGLE COPPER CONDUCTOR (#6 OR LARGER) WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
11. POWER AND CONTROL WIRING IN FLEXIBLE CORD SHALL BE MULTI–CONDUCTOR, TYPE SOOW CORD (#14 OR LARGER) UNLESS OTHERWISE SPECIFIED.
12. POWER AND CONTROL WIRING FOR USE IN CABLE TRAY SHALL BE MULTI–CONDUCTOR, TYPE TC CABLE (#14 OR LARGER), WITH TYPE THHW, THWN, THWN–2, XHHW, XHHW–2, THW, THW–2, RHW, OR RHW–2 INSULATION UNLESS OTHERWISE SPECIFIED.
13. ALL POWER AND GROUNDING CONNECTIONS SHALL BE CRIMP–STYLE, COMPRESSION WIRE LUGS AND WIRE NUTS BY THOMAS AND BETTS (OR EQUAL). LUGS AND WIRE NUTS SHALL BE RATED FOR OPERATION NOT LESS THAN 75° C (90° C IF AVAILABLE).
14. RACEWAY AND CABLE TRAY SHALL BE LISTED OR LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND NEC.
15. ELECTRICAL METALLIC TUBING (EMT), INTERMEDIATE METAL CONDUIT (IMC), OR RIGID METAL CONDUIT (RMC) SHALL BE USED FOR EXPOSED INDOOR LOCATIONS.
16. ELECTRICAL METALLIC TUBING (EMT) OR METAL–CLAD CABLE (MC) SHALL BE USED FOR CONCEALED INDOOR LOCATIONS.
17. SCHEDULE 40 PVC UNDERGROUND ON STRAIGHTS AND SCHEDULE 80 PVC FOR ALL ELBOWS/90s AND ALL APPROVED ABOVE GRADE PVC CONDUIT.
18. LIQUID–TIGHT FLEXIBLE METALLIC CONDUIT (LIQUID–TITE FLEX) SHALL BE USED INDOORS AND OUTDOORS, WHERE VIBRATION OCCURS OR FLEXIBILITY IS NEEDED.
19. CONDUIT AND TUBING FITTINGS SHALL BE THREADED OR COMPRESSION–TYPE AND APPROVED FOR THE LOCATION USED. SET SCREW FITTINGS ARE NOT ACCEPTABLE.
20. CABINETS, BOXES AND WIRE WAYS SHALL BE LABELED FOR ELECTRICAL USE IN ACCORDANCE WITH NEMA, UL, ANSI/IEEE AND THE NEC.
21. WIREWAYS SHALL BE METAL WITH AN ENAMEL FINISH AND INCLUDE A HINGED COVER, DESIGNED TO SWING OPEN DOWNWARDS (WIREMOLD SPECMATE WIREWAY).
22. SLOTTED WIRING DUCT SHALL BE PVC AND INCLUDE COVER (PANDUIT TYPE E OR EQUAL).
23. CONDUITS SHALL BE FASTENED SECURELY IN PLACE WITH APPROVED NON–PERFORATED STRAPS AND HANGERS. EXPLOSIVE DEVICES (i.e. POWDER–ACTUATED) FOR ATTACHING HANGERS TO STRUCTURE WILL NOT BE PERMITTED. CLOSELY FOLLOW THE LINES OF THE STRUCTURE, MAINTAIN CLOSE PROXIMITY TO THE STRUCTURE AND KEEP CONDUITS IN TIGHT ENVELOPES. CHANGES IN DIRECTION TO ROUTE AROUND OBSTACLES SHALL BE MADE WITH CONDUIT OUTLET BODIES. CONDUIT SHALL BE INSTALLED IN A NEAT AND WORKMANLIKE MANNER. PARALLEL AND PERPENDICULAR TO STRUCTURE WALL AND CEILING LINES. ALL CONDUIT SHALL BE FISHED TO CLEAR OBSTRUCTIONS. ENDS OF CONDUITS SHALL BE TEMPORARILY CAPPED FLUSH TO FINISH GRADE TO PREVENT CONCRETE, PLASTER OR DIRT FROM ENTERING. CONDUITS SHALL BE RIGIDLY CLAMPED TO BOXES BY GALVANIZED MALLEABLE IRON BUSHING ON INSIDE AND GALVANIZED MALLEABLE IRON LOCKNUT ON OUTSIDE AND INSIDE.
24. EQUIPMENT CABINETS, TERMINAL BOXES, JUNCTION BOXES AND PULL BOXES SHALL BE GALVANIZED OR EPOXY–COATED SHEET STEEL. SHALL MEET OR EXCEED UL 50 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND NEMA 3 (OR BETTER) FOR EXTERIOR LOCATIONS.
25. METAL RECEPTACLE, SWITCH AND DEVICE BOXES SHALL BE GALVANIZED, EPOXY–COATED OR NON–CORRODING; SHALL MEET OR EXCEED UL 514A AND NEMA OS 1 AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
26. NONMETALLIC RECEPTACLE, SWITCH AND DEVICE BOXES SHALL MEET OR EXCEED NEMA OS 2 (NEWEST REVISION) AND BE RATED NEMA 1 (OR BETTER) FOR INTERIOR LOCATIONS AND WEATHER PROTECTED (WP OR BETTER) FOR EXTERIOR LOCATIONS.
27. THE CONTRACTOR SHALL NOTIFY AND OBTAIN NECESSARY AUTHORIZATION FROM THE CARRIER AND/OR DISH Wireless L.L.C. AND TOWER OWNER BEFORE COMMENCING WORK ON THE AC POWER DISTRIBUTION PANELS.
28. THE CONTRACTOR SHALL PROVIDE NECESSARY TAGGING ON THE BREAKERS, CABLES AND DISTRIBUTION PANELS IN ACCORDANCE WITH THE APPLICABLE CODES AND STANDARDS TO SAFEGUARD LIFE AND PROPERTY.
29. INSTALL LAMICOID LABEL ON THE METER CENTER TO SHOW "DISH Wireless L.L.C.”.
30. ALL EMPTY/SPARE CONDUITS THAT ARE INSTALLED ARE TO HAVE A METERED MULE TAPE PULL CORD INSTALLED.



5701 SOUTH SANTA FE DRIVE  
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Akron, OH 44311  
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IT IS A VIOLATION OF LAW FOR ANY PERSON,  
UNLESS THEY ARE ACTING UNDER THE DIRECTION  
OF A LICENSED PROFESSIONAL ENGINEER,  
TO ALTER THIS DOCUMENT.

DRAWN BY: CHECKED BY: APPROVED BY:

JAM CJM MRL

RFDS REV #: TBD

CONSTRUCTION DOCUMENTS

| SUBMITTALS |            |                   |
|------------|------------|-------------------|
| REV        | DATE       | DESCRIPTION       |
| A          | 07/26/2021 | ISSUED FOR REVIEW |
| 0          | 08/07/2021 | CONSTRUCTION SET  |
|            |            |                   |
|            |            |                   |
|            |            |                   |
|            |            |                   |
|            |            |                   |
|            |            |                   |

A&E PROJECT NUMBER  
2021724.75.858319.02

DISH Wireless L.L.C.  
PROJECT INFORMATION  
ND–CCI–T–858319  
MNFAR00007A  
316 11TH ST WEST  
WEST FARGO, ND 58078

SHEET TITLE  
GENERAL NOTES

SHEET NUMBER  
GN-4

Date: **June 25, 2021**



Crown Castle  
2000 Corporate Drive  
Canonsburg, PA 15317  
(724) 416-2000

**Subject:** **Structural Analysis Report**

**Carrier Designation:** **DISH Network Co-Locate**  
**Site Number:** MNFAR00007A  
**Site Name:** ND-CCI-T-858319

**Crown Castle Designation:** **BU Number:** 858319  
**Site Name:** ZOD\_ALLTEL\_NDFA\_FARGOW  
**JDE Job Number:** 659403  
**Work Order Number:** 1974771  
**Order Number:** 562411 Rev. 1

**Engineering Firm Designation:** **Crown Castle Project Number:** 1974771

**Site Data:** **308 11TH STREET WEST, WEST FARGO, CASS County, ND**  
**Latitude 46° 52' 23.79", Longitude -96° 55' 8.92"**  
**150 Foot - Self Support Tower**

Crown Castle is pleased to submit this “**Structural Analysis Report**” to determine the structural integrity of the above-mentioned tower.

The purpose of the analysis is to determine acceptability of the tower stress level. Based on our analysis we have determined the tower stress level for the structure and foundation, under the following load case, to be:

LC5: Proposed Equipment Configuration

**Sufficient Capacity**

This analysis has been performed in accordance with the 2020 North Dakota State Building Code based upon an ultimate 3-second gust wind speed of 111 mph. Applicable Standard references and design criteria are listed in Section 2 - "Analysis Criteria".

Structural analysis prepared by: Nicholas Cvetic, E.I.T.

Respectfully submitted by:

Jamal A. Huwel, P.E.  
Director Engineering



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## 1) INTRODUCTION

This tower is a 150 ft self-support tower designed by ROHN.

## 2) ANALYSIS CRITERIA

|                             |           |
|-----------------------------|-----------|
| <b>TIA-222 Revision:</b>    | TIA-222-H |
| <b>Risk Category:</b>       | II        |
| <b>Wind Speed:</b>          | 111 mph   |
| <b>Exposure Category:</b>   | C         |
| <b>Topographic Factor:</b>  | 1         |
| <b>Ice Thickness:</b>       | 1 in      |
| <b>Wind Speed with Ice:</b> | 50 mph    |
| <b>Service Wind Speed:</b>  | 60 mph    |

**Table 1 - Proposed Equipment Configuration**

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model               | Number of Feed Lines | Feed Line Size (in) |
|---------------------|----------------------------|--------------------|----------------------|-----------------------------|----------------------|---------------------|
| 83.0                | 83.0                       | 3                  | fujitsu              | TA08025-B604                | 1                    | 1-3/8               |
|                     |                            | 3                  | fujitsu              | TA08025-B605                |                      |                     |
|                     |                            | 3                  | jma wireless         | MX08FRO665-21 w/ Mount Pipe |                      |                     |
|                     |                            | 1                  | raycap               | RDIDC-9181-PF-48            |                      |                     |
|                     |                            | 1                  | tower mounts         | Commscope MTC3975083 (3)    |                      |                     |

**Table 2 - Other Considered Equipment**

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model                            | Number of Feed Lines | Feed Line Size (in)           |
|---------------------|----------------------------|--------------------|----------------------|------------------------------------------|----------------------|-------------------------------|
| 148.0               | 148.0                      | 6                  | raycap               | DC2-48-60-0-9E                           | 18<br>2<br>3<br>2    | 1-5/8<br>7/8<br>13/16<br>3/80 |
|                     |                            | 3                  | alcatel lucent       | B66A RRH4X45                             |                      |                               |
|                     |                            | 3                  | alcatel lucent       | RRH4X25-WCS                              |                      |                               |
|                     |                            | 3                  | kaelus               | TMA2105F01V1-1                           |                      |                               |
|                     |                            | 3                  | kmw communications   | EPBQ-654L8H8-B w/ Mount Pipe             |                      |                               |
|                     |                            | 9                  | kmw communications   | EPBQ-654L8H8-L2 w/ Mount Pipe            |                      |                               |
|                     |                            | 3                  | nokia                | AHLBA                                    |                      |                               |
|                     |                            | 3                  | nokia                | AIRSCALE DUAL RRH 4T4R B25/66 320W AHFIB |                      |                               |
|                     |                            | 3                  | nokia                | AIRSCALE RRH 4T4R B5 160W                |                      |                               |
|                     |                            | 3                  | raycap               | DC2-48-60-0-9E                           |                      |                               |
|                     |                            | 3                  | raycap               | FC12-PC6-10E                             |                      |                               |
|                     |                            | 1                  | tower mounts         | Sector Mount [SM 1306-3]                 |                      |                               |
| 135.0               | 135.0                      | 1                  | andrew               | PL6-59D                                  | -                    | -                             |
|                     |                            | 1                  | rfs celwave          | UXA6-W59BC                               |                      |                               |
|                     |                            | 2                  | tower mounts         | Pipe Mount [PM 601-1]                    |                      |                               |
| 114.0               | 114.0                      | 1                  | andrew               | PL4-59D                                  | 1                    | E65                           |
|                     |                            | 1                  | tower mounts         | Pipe Mount [PM 601-1]                    | 1                    | EWP52                         |

| Mounting Level (ft) | Center Line Elevation (ft) | Number of Antennas | Antenna Manufacturer | Antenna Model         | Number of Feed Lines | Feed Line Size (in) |
|---------------------|----------------------------|--------------------|----------------------|-----------------------|----------------------|---------------------|
| 112.0               | 112.0                      | 2                  | alcatel lucent       | 95MPR11-C128F40-220   | 1<br>1               | EW90<br>EW52        |
|                     |                            | 1                  | rfs celwave          | UXA6-W59BC            |                      |                     |
|                     |                            | 1                  | tower mounts         | Pipe Mount [PM 601-1] |                      |                     |
| 90.0                | 90.0                       | 1                  | rfs celwave          | UXA4-107A             | 1<br>1               | EW63<br>E105        |
|                     |                            | 1                  | tower mounts         | Pipe Mount [PM 601-1] |                      |                     |
|                     | 85.0                       | 3                  | alcatel lucent       | 9500 MPT ODU          |                      |                     |

### 3) ANALYSIS PROCEDURE

**Table 3 - Documents Provided**

| Document                                 | Reference | Source   |
|------------------------------------------|-----------|----------|
| 4-GEOTECHNICAL REPORTS                   | 4576320   | CCISITES |
| 4-TOWER FOUNDATION DRAWINGS/DESIGN/SPECS | 5128116   | CCISITES |
| 4-TOWER MANUFACTURER DRAWINGS            | 4860430   | CCISITES |

#### 3.1) Analysis Method

tnxTower (version 8.1.1.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A. When applicable, Crown Castle has calculated and provided the effective area for panel antennas using approved methods following the intent of the TIA-222 standard.

#### 3.2) Assumptions

- 1) Tower and structures were maintained in accordance with the TIA-222 Standard.
- 2) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.

This analysis may be affected if any assumptions are not valid or have been made in error. Crown Castle should be notified to determine the effect on the structural integrity of the tower.

### 4) ANALYSIS RESULTS

**Table 4 - Section Capacity (Summary)**

| Section No. | Elevation (ft) | Component Type | Size              | Critical Element | P (K)     | SF*P <sub>allow</sub> (K) | % Capacity       | Pass / Fail |
|-------------|----------------|----------------|-------------------|------------------|-----------|---------------------------|------------------|-------------|
| T1          | 150 - 140      | Leg            | ROHN 2.5 STD      | 3                | -8.1147   | 60.0519                   | 13.5             | Pass        |
| T2          | 140 - 120      | Leg            | ROHN 2.5 STD      | 21               | -39.7122  | 66.7383                   | 59.5             | Pass        |
| T3          | 120 - 100      | Leg            | ROHN 3 EH         | 54               | -66.5021  | 116.1436                  | 57.3             | Pass        |
| T4          | 100 - 80       | Leg            | ROHN 4 EH         | 84               | -89.8957  | 167.9023                  | 53.5             | Pass        |
| T5          | 80 - 60        | Leg            | ROHN 5 EH         | 105              | -114.4060 | 251.3469                  | 45.5<br>47.5 (b) | Pass        |
| T6          | 60 - 40        | Leg            | ROHN 5 EH         | 126              | -137.4210 | 251.3469                  | 54.7             | Pass        |
| T7          | 40 - 20        | Leg            | ROHN 6 EHS        | 145              | -157.3960 | 256.2493                  | 61.4             | Pass        |
| T8          | 20 - 0         | Leg            | ROHN 6 EH         | 160              | -179.7420 | 318.9448                  | 56.4             | Pass        |
| T1          | 150 - 140      | Diagonal       | L1 3/4x1 3/4x3/16 | 11               | -2.8539   | 10.3390                   | 27.6<br>42.3 (b) | Pass        |

| Section No. | Elevation (ft) | Component Type | Size              | Critical Element | P (K)   | SF*P_allow (K) | % Capacity       | Pass / Fail |
|-------------|----------------|----------------|-------------------|------------------|---------|----------------|------------------|-------------|
| T2          | 140 - 120      | Diagonal       | L2x2x1/4          | 25               | -4.2721 | 21.3073        | 20.0<br>40.1 (b) | Pass        |
| T3          | 120 - 100      | Diagonal       | L2x2x3/16         | 61               | -3.5249 | 10.4037        | 33.9<br>47.0 (b) | Pass        |
| T4          | 100 - 80       | Diagonal       | L2 1/2x2 1/2x3/16 | 88               | -4.2081 | 12.8143        | 32.8<br>54.1 (b) | Pass        |
| T5          | 80 - 60        | Diagonal       | L2 1/2x2 1/2x3/16 | 111              | -4.6127 | 9.8270         | 46.9<br>58.5 (b) | Pass        |
| T6          | 60 - 40        | Diagonal       | L3x3x1/4          | 132              | -5.0702 | 17.4320        | 29.1<br>37.7 (b) | Pass        |
| T7          | 40 - 20        | Diagonal       | L3 1/2x3 1/2x1/4  | 153              | -6.2617 | 19.0160        | 32.9<br>41.6 (b) | Pass        |
| T8          | 20 - 0         | Diagonal       | L3 1/2x3 1/2x1/4  | 168              | -7.3384 | 16.0225        | 45.8<br>47.2 (b) | Pass        |
| T1          | 150 - 140      | Top Girt       | L2x2x1/8          | 4                | -0.0266 | 4.3492         | 0.6              | Pass        |
| T3          | 120 - 100      | Top Girt       | L2x2x1/8          | 56               | -1.1533 | 4.3666         | 26.4             | Pass        |
|             |                |                |                   |                  |         |                | Summary          |             |
|             |                |                |                   |                  |         | Leg (T7)       | 61.4             | Pass        |
|             |                |                |                   |                  |         | Diagonal (T5)  | 58.5             | Pass        |
|             |                |                |                   |                  |         | Top Girt (T3)  | 26.4             | Pass        |
|             |                |                |                   |                  |         | Bolt Checks    | 55.7             | Pass        |
|             |                |                |                   |                  |         | Rating =       | 61.4             | Pass        |

**Table 5 - Tower Component Stresses vs. Capacity - LC5**

| Notes | Component                          | Elevation (ft) | % Capacity | Pass / Fail |
|-------|------------------------------------|----------------|------------|-------------|
| 1     | Anchor Rods                        | 0              | 46.4       | Pass        |
| 1     | Base Foundation (Structure)        | 0              | 29.5       | Pass        |
| 1     | Base Foundation (Soil Interaction) | 0              | 80.2       | Pass        |

|                                                     |              |
|-----------------------------------------------------|--------------|
| <b>Structure Rating (max from all components) =</b> | <b>80.2%</b> |
|-----------------------------------------------------|--------------|

Notes:

- 1) See additional documentation in "Appendix C - Additional Calculations" for calculations supporting the % capacity consumed.

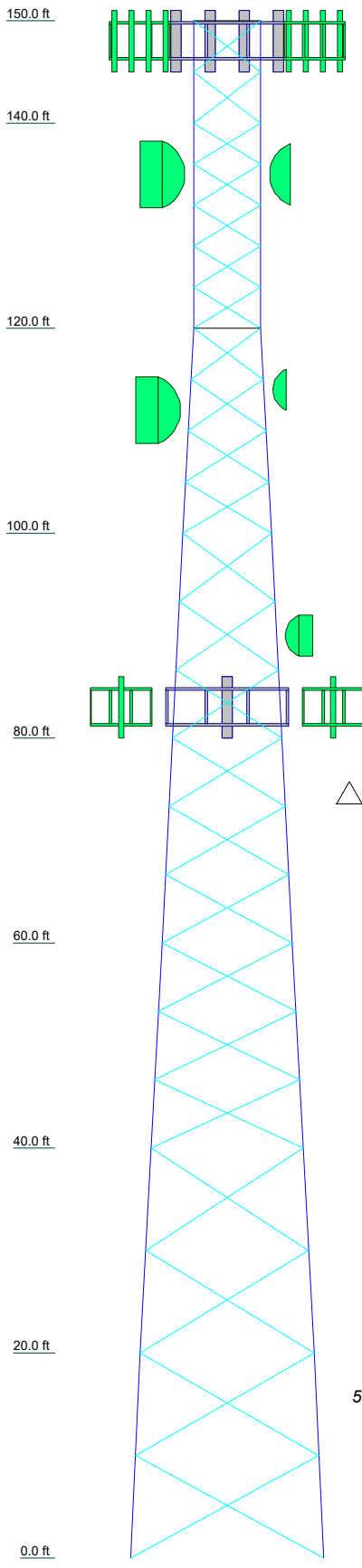
#### 4.1) Recommendations

The tower and its foundation have sufficient capacity to carry the proposed load configuration. No modifications are required at this time.

## **APPENDIX A**

### **TNXTOWER OUTPUT**

|                 |              |    |    |    |                   |    |    |    |
|-----------------|--------------|----|----|----|-------------------|----|----|----|
| Section         | T1           | T2 | T3 | T4 | T5                | T6 | T7 | T8 |
| Legs            | ROHN 2.5 STD |    |    |    | ROHN 3 EH         |    |    |    |
| Leg Grade       |              |    |    |    | ROHN 4 EH         |    |    |    |
| Diagonals       | L2x2x1/4     |    |    |    | L2 1/2x2 1/2x3/16 |    |    |    |
| Diagonal Grade  | A            |    |    |    | A36               |    |    |    |
| Top Girts       | L2x2x1/8     |    |    |    | L2x2x1/8          |    |    |    |
| Face Width (ft) | 6.54         |    |    |    | 6.58              |    |    |    |
| # Panels @ (ft) | 2 @ 5        |    |    |    | 4 @ 5             |    |    |    |
| Weight (K)      | 0.4          |    |    |    | 1.1               |    |    |    |



| MARK | SIZE              | MARK | SIZE |
|------|-------------------|------|------|
| A    | L1 3/4x1 3/4x3/16 |      |      |

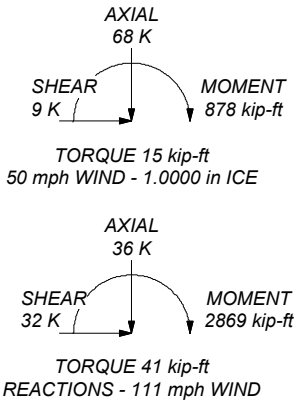
| GRADE   | Fy     | Fu     | GRADE | Fy     | Fu     |
|---------|--------|--------|-------|--------|--------|
| A572-50 | 50 ksi | 65 ksi | A36   | 36 ksi | 58 ksi |

### TOWER DESIGN NOTES

1. Tower is located in Cass County, North Dakota.
2. Tower designed for Exposure C to the TIA-222-H Standard.
3. Tower designed for a 111 mph basic wind in accordance with the TIA-222-H Standard.
4. Tower is also designed for a 50 mph basic wind with 1.00 in ice. Ice is considered to increase in thickness with height.
5. Deflections are based upon a 60 mph wind.
6. Tower Risk Category II.
7. Topographic Category 1 with Crest Height of 0.0000 ft
8. TOWER RATING: 61.4%

ALL REACTIONS  
ARE FACTORED

MAX. CORNER REACTIONS AT BASE:  
DOWN: 186 K  
SHEAR: 20 K  
  
UPLIFT: -166 K  
SHEAR: 18 K



TORQUE 41 kip-ft  
REACTIONS - 111 mph WIND

**Crown Castle**  
2000 Corporate Drive  
Canonsburg, PA 15317  
Phone: (724) 416-2000  
FAX:

Job: **BU# 858319**  
Project:  
Client: Crown Castle  
Code: TIA-222-H  
Path:

Drawn by: NCvetic  
Date: 06/25/21  
Scale: NTS  
Dwg No. E-1

## Tower Input Data

The main tower is a 3x free standing tower with an overall height of 150.0000 ft above the ground line.

The base of the tower is set at an elevation of 0.0000 ft above the ground line.

The face width of the tower is 6.5400 ft at the top and 18.8800 ft at the base.

This tower is designed using the TIA-222-H standard.

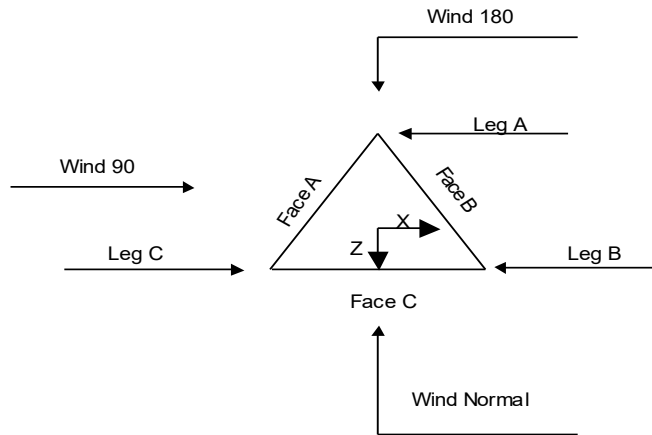
The following design criteria apply:

- Tower is located in Cass County, North Dakota.
- Tower base elevation above sea level: 898.0000 ft.
- Basic wind speed of 111 mph.
- Risk Category II.
- Exposure Category C.
- Simplified Topographic Factor Procedure for wind speed-up calculations is used.
- Topographic Category: 1.
- Crest Height: 0.0000 ft.
- Nominal ice thickness of 1.0000 in.
- Ice thickness is considered to increase with height.
- Ice density of 56.0000 pcf.
- A wind speed of 50 mph is used in combination with ice.
- Temperature drop of 50.0000 °F.
- Deflections calculated using a wind speed of 60 mph.
- Pressures are calculated at each section.
- Stress ratio used in tower member design is 1.
- Tower analysis based on target reliabilities in accordance with Annex S.
- Load Modification Factors used:  $K_{es}(F_w) = 0.95$ ,  $K_{es}(t_i) = 0.85$ .
- Maximum demand-capacity ratio is: 1.05.
- Local bending stresses due to climbing loads, feed line supports, and appurtenance mounts are not considered.

## Options

|                                     |                                      |                                      |
|-------------------------------------|--------------------------------------|--------------------------------------|
| Consider Moments - Legs             | Distribute Leg Loads As Uniform      | Use ASCE 10 X-Brace Ly Rules         |
| Consider Moments - Horizontals      | Assume Legs Pinned                   | ✓ Calculate Redundant Bracing Forces |
| Consider Moments - Diagonals        | ✓ Assume Rigid Index Plate           | Ignore Redundant Members in FEA      |
| Use Moment Magnification            | ✓ Use Clear Spans For Wind Area      | ✓ SR Leg Bolts Resist Compression    |
| ✓ Use Code Stress Ratios            | ✓ Use Clear Spans For KL/r           | All Leg Panels Have Same Allowable   |
| ✓ Use Code Safety Factors - Guys    | Retension Guys To Initial Tension    | Offset Girt At Foundation            |
| Escalate Ice                        | ✓ Bypass Mast Stability Checks       | ✓ Consider Feed Line Torque          |
| Always Use Max Kz                   | ✓ Use Azimuth Dish Coefficients      | ✓ Include Angle Block Shear Check    |
| Use Special Wind Profile            | ✓ Project Wind Area of Appurt.       | ✓ Use TIA-222-H Bracing Resist.      |
| ✓ Include Bolts In Member Capacity  | Autocalc Torque Arm Areas            | Exemption                            |
| Leg Bolts Are At Top Of Section     | Add IBC .6D+W Combination            | Use TIA-222-H Tension Splice         |
| ✓ Secondary Horizontal Braces Leg   | ✓ Sort Capacity Reports By Component | Exemption                            |
| Use Diamond Inner Bracing (4 Sided) | Triangulate Diamond Inner Bracing    | Poles                                |
| SR Members Have Cut Ends            | Treat Feed Line Bundles As Cylinder  | Include Shear-Torsion Interaction    |
| SR Members Are Concentric           | Ignore KL/ry For 60 Deg. Angle Legs  | Always Use Sub-Critical Flow         |
|                                     |                                      | Use Top Mounted Sockets              |
|                                     |                                      | Pole Without Linear Attachments      |
|                                     |                                      | Pole With Shroud Or No               |
|                                     |                                      | Appurtenances                        |
|                                     |                                      | Outside and Inside Corner Radii Are  |
|                                     |                                      | Known                                |





**Triangular Tower**

### Tower Section Geometry

| Tower Section | Tower Elevation   | Assembly Database | Description | Section Width | Number of Sections | Section Length |
|---------------|-------------------|-------------------|-------------|---------------|--------------------|----------------|
|               | ft                |                   |             | ft            |                    | ft             |
| T1            | 150.0000-140.0000 |                   |             | 6.5400        | 1                  | 10.0000        |
| T2            | 140.0000-120.0000 |                   |             | 6.5400        | 1                  | 20.0000        |
| T3            | 120.0000-100.0000 |                   |             | 6.5800        | 1                  | 20.0000        |
| T4            | 100.0000-80.0000  |                   |             | 8.5900        | 1                  | 20.0000        |
| T5            | 80.0000-60.0000   |                   |             | 10.6500       | 1                  | 20.0000        |
| T6            | 60.0000-40.0000   |                   |             | 12.7400       | 1                  | 20.0000        |
| T7            | 40.0000-20.0000   |                   |             | 14.8300       | 1                  | 20.0000        |
| T8            | 20.0000-0.0000    |                   |             | 16.9200       | 1                  | 20.0000        |

### Tower Section Geometry (cont'd)

| Tower Section | Tower Elevation   | Diagonal Spacing | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset | Bottom Girt Offset |
|---------------|-------------------|------------------|--------------|------------------------|-----------------|-----------------|--------------------|
|               | ft                | ft               |              |                        |                 | in              | in                 |
| T1            | 150.0000-140.0000 | 5.0000           | X Brace      | No                     | No              | 0.0000          | 0.0000             |
| T2            | 140.0000-120.0000 | 4.0000           | X Brace      | No                     | No              | 0.0000          | 0.0000             |
| T3            | 120.0000-100.0000 | 5.0000           | X Brace      | No                     | No              | 0.0000          | 0.0000             |
| T4            | 100.0000-80.0000  | 6.6667           | X Brace      | No                     | No              | 0.0000          | 0.0000             |

| Tower Section | Tower Elevation<br>ft | Diagonal Spacing<br>ft | Bracing Type | Has K Brace End Panels | Has Horizontals | Top Girt Offset<br>in | Bottom Girt Offset<br>in |
|---------------|-----------------------|------------------------|--------------|------------------------|-----------------|-----------------------|--------------------------|
| T5            | 80.0000-60.0000       | 6.6667                 | X Brace      | No                     | No              | 0.0000                | 0.0000                   |
| T6            | 60.0000-40.0000       | 6.6667                 | X Brace      | No                     | No              | 0.0000                | 0.0000                   |
| T7            | 40.0000-20.0000       | 10.0000                | X Brace      | No                     | No              | 0.0000                | 0.0000                   |
| T8            | 20.0000-0.0000        | 10.0000                | X Brace      | No                     | No              | 0.0000                | 0.0000                   |

### Tower Section Geometry (cont'd)

| Tower Elevation<br>ft | Leg Type | Leg Size     | Leg Grade        | Diagonal Type | Diagonal Size     | Diagonal Grade   |
|-----------------------|----------|--------------|------------------|---------------|-------------------|------------------|
| T1 150.0000-140.0000  | Pipe     | ROHN 2.5 STD | A572-50 (50 ksi) | Equal Angle   | L1 3/4x1 3/4x3/16 | A36 (36 ksi)     |
| T2 140.0000-120.0000  | Pipe     | ROHN 2.5 STD | A572-50 (50 ksi) | Equal Angle   | L2x2x1/4          | A36 (36 ksi)     |
| T3 120.0000-100.0000  | Pipe     | ROHN 3 EH    | A572-50 (50 ksi) | Equal Angle   | L2x2x3/16         | A36 (36 ksi)     |
| T4 100.0000-80.0000   | Pipe     | ROHN 4 EH    | A572-50 (50 ksi) | Equal Angle   | L2 1/2x2 1/2x3/16 | A36 (36 ksi)     |
| T5 80.0000-60.0000    | Pipe     | ROHN 5 EH    | A572-50 (50 ksi) | Equal Angle   | L2 1/2x2 1/2x3/16 | A36 (36 ksi)     |
| T6 60.0000-40.0000    | Pipe     | ROHN 5 EH    | A572-50 (50 ksi) | Equal Angle   | L3x3x1/4          | A572-50 (50 ksi) |
| T7 40.0000-20.0000    | Pipe     | ROHN 6 EHS   | A572-50 (50 ksi) | Equal Angle   | L3 1/2x3 1/2x1/4  | A572-50 (50 ksi) |
| T8 20.0000-0.0000     | Pipe     | ROHN 6 EH    | A572-50 (50 ksi) | Equal Angle   | L3 1/2x3 1/2x1/4  | A572-50 (50 ksi) |

### Tower Section Geometry (cont'd)

| Tower Elevation<br>ft | Top Girt Type | Top Girt Size | Top Girt Grade | Bottom Girt Type | Bottom Girt Size | Bottom Girt Grade |
|-----------------------|---------------|---------------|----------------|------------------|------------------|-------------------|
| T1 150.0000-140.0000  | Equal Angle   | L2x2x1/8      | A36 (36 ksi)   | Equal Angle      |                  | A36 (36 ksi)      |
| T3 120.0000-100.0000  | Equal Angle   | L2x2x1/8      | A36 (36 ksi)   | Equal Angle      |                  | A36 (36 ksi)      |

### Tower Section Geometry (cont'd)

| Tower Elevation<br>ft | Gusset Area<br>(per face)<br>ft <sup>2</sup> | Gusset Thickness<br>in | Gusset Grade | Adjust. Factor<br>A <sub>r</sub> | Adjust. Factor<br>A <sub>r</sub> | Weight Mult. | Double Angle<br>Stitch Bolt<br>Spacing<br>Diagonals<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Horizontals<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Redundants<br>in |
|-----------------------|----------------------------------------------|------------------------|--------------|----------------------------------|----------------------------------|--------------|-----------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------|
| T1 150.0000-140.0000  | 0.0000                                       | 0.2500                 | A36 (36 ksi) | 1.05                             | 1                                | 1.05         | 0.0000                                                    | 0.0000                                                      | 36.0000                                                    |
| T2 140.0000-120.0000  | 0.0000                                       | 0.2500                 | A36 (36 ksi) | 1.05                             | 1                                | 1.05         | 0.0000                                                    | 0.0000                                                      | 36.0000                                                    |
| T3 120.0000-100.0000  | 0.0000                                       | 0.2500                 | A36 (36 ksi) | 1.05                             | 1                                | 1.05         | 0.0000                                                    | 0.0000                                                      | 36.0000                                                    |
| T4 100.0000-80.0000   | 0.0000                                       | 0.2500                 | A36 (36 ksi) | 1.05                             | 1                                | 1.05         | 0.0000                                                    | 0.0000                                                      | 36.0000                                                    |
| T5 80.0000-           | 0.0000                                       | 0.2500                 | A36          | 1.05                             | 1                                | 1.05         | 0.0000                                                    | 0.0000                                                      | 36.0000                                                    |

| Tower Elevation        | Gusset Area<br>(per face) | Gusset Thickness | Gusset Grade | Adjust. Factor<br>$A_r$ | Adjust. Factor<br>$A_r$ | Weight Mult. | Double Angle<br>Stitch Bolt<br>Spacing<br>Diagonals<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Horizontals<br>in | Double Angle<br>Stitch Bolt<br>Spacing<br>Redundants<br>in |
|------------------------|---------------------------|------------------|--------------|-------------------------|-------------------------|--------------|-----------------------------------------------------------|-------------------------------------------------------------|------------------------------------------------------------|
| ft                     | ft <sup>2</sup>           | in               |              |                         |                         |              |                                                           |                                                             |                                                            |
| 60.0000                |                           |                  | (36 ksi)     |                         |                         |              |                                                           |                                                             |                                                            |
| T6 60.0000-<br>40.0000 | 0.0000                    | 0.2500           | A36          | 1.05                    | 1                       | 1.05         | 0.0000                                                    | 0.0000                                                      | 36.0000                                                    |
| T7 40.0000-<br>20.0000 | 0.0000                    | 0.3750           | A36          | 1.05                    | 1                       | 1.05         | 0.0000                                                    | 0.0000                                                      | 36.0000                                                    |
| T8 20.0000-<br>0.0000  | 0.0000                    | 0.3750           | A36          | 1.05                    | 1                       | 1.05         | 0.0000                                                    | 0.0000                                                      | 36.0000                                                    |
|                        |                           |                  | (36 ksi)     |                         |                         |              |                                                           |                                                             |                                                            |

### Tower Section Geometry (cont'd)

| Tower Elevation        | Calc K<br>Single Angles | Calc K<br>Solid Rounds | Legs | K Factors <sup>1</sup> |                     |                 |        |        |                |                |
|------------------------|-------------------------|------------------------|------|------------------------|---------------------|-----------------|--------|--------|----------------|----------------|
|                        |                         |                        |      | X<br>Brace<br>Diags    | K<br>Brace<br>Diags | Single<br>Diags | Girts  | Horiz. | Sec.<br>Horiz. | Inner<br>Brace |
|                        |                         |                        |      | X<br>Y                 | X<br>Y              | X<br>Y          | X<br>Y | X<br>Y | X<br>Y         | X<br>Y         |
| ft                     |                         |                        |      |                        |                     |                 |        |        |                |                |
| T1                     | Yes                     | Yes                    | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| 150.0000-<br>140.0000  |                         |                        |      | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T2                     | Yes                     | Yes                    | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| 140.0000-<br>120.0000  |                         |                        |      | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T3                     | Yes                     | Yes                    | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| 120.0000-<br>100.0000  |                         |                        |      | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T4                     | Yes                     | Yes                    | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| 100.0000-<br>80.0000   |                         |                        |      | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T5 80.0000-<br>60.0000 | Yes                     | Yes                    | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
|                        |                         |                        |      | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T6 60.0000-<br>40.0000 | Yes                     | Yes                    | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
|                        |                         |                        |      | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
| T7 40.0000-<br>20.0000 | Yes                     | Yes                    | 1    | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
|                        |                         |                        |      | 1                      | 1                   | 1               | 1      | 1      | 0.5            | 1              |
| T8 20.0000-<br>0.0000  | Yes                     | Yes                    | 1    | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |
|                        |                         |                        |      | 1                      | 1                   | 1               | 1      | 1      | 1              | 1              |

<sup>1</sup>Note: K factors are applied to member segment lengths. K-braces without inner supporting members will have the K factor in the out-of-plane direction applied to the overall length.

### Tower Section Geometry (cont'd)

| Tower Elevation<br>ft    | Leg                       |   | Diagonal                  |      | Top Girt                  |      | Bottom Girt               |   | Mid Girt                  |      | Long Horizontal           |   | Short Horizontal          |   |
|--------------------------|---------------------------|---|---------------------------|------|---------------------------|------|---------------------------|---|---------------------------|------|---------------------------|---|---------------------------|---|
|                          | Net Width<br>Deduct<br>in | U | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U | Net Width<br>Deduct<br>in | U |
| T1 150.0000-<br>140.0000 | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 1 |
| T2 140.0000-<br>120.0000 | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 1 |
| T3 120.0000-<br>100.0000 | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 1 |
| T4 100.0000-<br>80.0000  | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 1 |
| T5 80.0000-<br>60.0000   | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 1 |
| T6 60.0000-<br>40.0000   | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1    | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 1 |

| Tower Elevation<br>ft  | Leg                       |   | Diagonal                  |      | Top Girt                  |   | Bottom Girt               |   | Mid Girt                  |      | Long Horizontal           |   | Short Horizontal          |      |
|------------------------|---------------------------|---|---------------------------|------|---------------------------|---|---------------------------|---|---------------------------|------|---------------------------|---|---------------------------|------|
|                        | Net Width<br>Deduct<br>in | U | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U | Net Width<br>Deduct<br>in | U | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U | Net Width<br>Deduct<br>in | U    |
| T7 40.0000-<br>20.0000 | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 0.75 |
| T8 20.0000-<br>0.0000  | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 1 | 0.0000                    | 0.75 | 0.0000                    | 1 | 0.0000                    | 1    |

| Tower Elevation<br>ft    | Redundant Horizontal      |      | Redundant Diagonal        |      | Redundant Sub-Diagonal    |      | Redundant Sub-Horizontal  |      | Redundant Vertical        |      | Redundant Hip             |      | Redundant Hip Diagonal    |      |
|--------------------------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|---------------------------|------|
|                          | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    | Net Width<br>Deduct<br>in | U    |
| T1 150.0000-<br>140.0000 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T2 140.0000-<br>120.0000 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T3 120.0000-<br>100.0000 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T4 100.0000-<br>80.0000  | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T5 80.0000-<br>60.0000   | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T6 60.0000-<br>40.0000   | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T7 40.0000-<br>20.0000   | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |
| T8 20.0000-<br>0.0000    | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 | 0.0000                    | 0.75 |

### Tower Section Geometry (cont'd)

| Tower Elevation<br>ft    | Leg Connection Type | Leg             |     | Diagonal        |     | Top Girt        |     | Bottom Girt     |     | Mid Girt        |     | Long Horizontal |     | Short Horizontal |     |
|--------------------------|---------------------|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|-----------------|-----|------------------|-----|
|                          |                     | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in | No. | Bolt Size<br>in  | No. |
| T1 150.0000-<br>140.0000 | Flange              | 0.6250          | 4   | 0.6250          | 1   | 0.6250          | 1   | 0.0000          | 0   | 0.6250          | 0   | 0.0000          | 0   | 0.0000           | 0   |
|                          |                     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N            |     |
| T2 140.0000-<br>120.0000 | Flange              | 0.7500          | 4   | 0.6250          | 1   | 0.0000          | 0   | 0.0000          | 0   | 0.6250          | 0   | 0.0000          | 0   | 0.0000           | 0   |
|                          |                     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N            |     |
| T3 120.0000-<br>100.0000 | Flange              | 0.8750          | 4   | 0.6250          | 1   | 0.6250          | 1   | 0.0000          | 0   | 0.6250          | 0   | 0.0000          | 0   | 0.0000           | 0   |
|                          |                     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N            |     |
| T4 100.0000-<br>80.0000  | Flange              | 1.0000          | 4   | 0.6250          | 1   | 0.0000          | 0   | 0.0000          | 0   | 0.6250          | 0   | 0.0000          | 0   | 0.0000           | 0   |
|                          |                     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N            |     |
| T5 80.0000-<br>60.0000   | Flange              | 1.0000          | 4   | 0.6250          | 1   | 0.0000          | 0   | 0.0000          | 0   | 0.6250          | 0   | 0.0000          | 0   | 0.0000           | 0   |
|                          |                     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N            |     |
| T6 60.0000-<br>40.0000   | Flange              | 1.0000          | 6   | 0.7500          | 1   | 0.0000          | 0   | 0.0000          | 0   | 0.6250          | 0   | 0.0000          | 0   | 0.0000           | 0   |
|                          |                     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N            |     |
| T7 40.0000-<br>20.0000   | Flange              | 1.0000          | 6   | 0.7500          | 1   | 0.0000          | 0   | 0.0000          | 0   | 0.6250          | 0   | 0.0000          | 0   | 0.5000           | 1   |
|                          |                     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N            |     |
| T8 20.0000-<br>0.0000    | Flange              | 1.0000          | 0   | 0.7500          | 1   | 0.0000          | 0   | 0.0000          | 0   | 0.6250          | 0   | 0.0000          | 0   | 0.0000           | 0   |
|                          |                     | A354-BC         |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N           |     | A325N            |     |

### Feed Line/Linear Appurtenances - Entered As Round Or Flat

| Description                   | Face<br>or<br>Leg | Allow<br>Shield | Exclude<br>From<br>Torque<br>Calculation | Component<br>Type | Placement<br>ft        | Face<br>Offset<br>in | Lateral<br>Offset<br>(Frac FW) | #  | #<br>Per<br>Row | Clear<br>Spacing<br>in | Width or<br>Diameter<br>in | Perimeter<br>in | Weight<br>plf |
|-------------------------------|-------------------|-----------------|------------------------------------------|-------------------|------------------------|----------------------|--------------------------------|----|-----------------|------------------------|----------------------------|-----------------|---------------|
| Climbing<br>Ladder (Af)       | A                 | No              | No                                       | Af (CaAa)         | 150.0000 -<br>0.0000   | -<br>20.000<br>0     | 0.3                            | 1  | 1               | 0.5000                 | 3.0000                     |                 | 8.4000        |
| Safety Line<br>3/8            | A                 | No              | No                                       | Ar (CaAa)         | 150.0000 -<br>0.0000   | -<br>20.000<br>0     | 0.3                            | 1  | 1               | 0.3750                 | 0.3750                     |                 | 0.2200        |
| **                            |                   |                 |                                          |                   |                        |                      |                                |    |                 |                        |                            |                 |               |
| FB-L98B-<br>034-<br>XXX(3/8") | B                 | No              | No                                       | Ar (CaAa)         | 148.0000 -<br>0.0000   | 1.0000               | -0.47                          | 1  | 1               | 0.3937                 | 0.3937                     |                 | 0.0570        |
| FB-L98B-<br>034-<br>XXX(3/8") | B                 | No              | No                                       | Ar (CaAa)         | 148.0000 -<br>0.0000   | 6.0000               | -0.46                          | 1  | 1               | 0.3937                 | 0.3937                     |                 | 0.0570        |
| LDF7-50A(1-<br>5/8")          | B                 | No              | No                                       | Ar (CaAa)         | 148.0000 -<br>0.0000   | 0.0000               | -0.415                         | 18 | 6               | 0.5000                 | 1.9800                     |                 | 0.8200        |
| PWRT-608-<br>S( 13/16")       | B                 | No              | No                                       | Ar (CaAa)         | 148.0000 -<br>0.0000   | 6.0000               | -0.435                         | 3  | 3               | 0.5000                 | 0.8200                     |                 | 0.6200        |
| WR-<br>VG66ST-<br>BRD(7/8")   | B                 | No              | No                                       | Ar (CaAa)         | 148.0000 -<br>0.0000   | 0.0000               | -0.47                          | 2  | 1               | 0.5000                 | 0.9570                     |                 | 0.9120        |
| EWP52(ELLI<br>PTICAL)         | B                 | No              | No                                       | Ar (CaAa)         | 135.0000 -<br>114.0000 | 0.0000               | -0.35                          | 2  | 2               | 2.2100                 | 2.2100                     |                 | 0.5900        |
| EWP52(ELLI<br>PTICAL)         | B                 | No              | No                                       | Ar (CaAa)         | 114.0000 -<br>112.0000 | 0.0000               | -0.35                          | 3  | 3               | 2.2100                 | 2.2100                     |                 | 0.5900        |
| EW52(ELLIP<br>TICAL)          | B                 | No              | No                                       | Ar (CaAa)         | 112.0000 -<br>0.0000   | 0.0000               | -0.35                          | 4  | 4               | 2.2500                 | 2.2500                     |                 | 0.5900        |
| E65(ELLIPTI<br>CAL)           | B                 | No              | No                                       | Ar (CaAa)         | 114.0000 -<br>0.0000   | 2.5000               | -0.34                          | 1  | 1               | 2.0000                 | 2.0000                     |                 | 0.6700        |
| EW90(ELLIP<br>TICAL)          | B                 | No              | No                                       | Ar (CaAa)         | 112.0000 -<br>0.0000   | 2.5000               | -0.35                          | 1  | 1               | 1.2800                 | 1.2800                     |                 | 0.3200        |
| EW63(ELLIP<br>TICAL)          | B                 | No              | No                                       | Ar (CaAa)         | 90.0000 -<br>0.0000    | 2.5000               | -0.36                          | 1  | 1               | 2.0100                 | 2.0100                     |                 | 0.5100        |
| E105(ELLIPT<br>ICAL)          | B                 | No              | No                                       | Ar (CaAa)         | 90.0000 -<br>0.0000    | 0.0000               | -0.48                          | 1  | 1               | 1.3000                 | 1.3000                     |                 | 1.3000        |
| Feedline<br>Ladder (Af)       | B                 | No              | No                                       | Af (CaAa)         | 150.0000 -<br>0.0000   | 0.0000               | -0.4                           | 1  | 1               | 0.5000                 | 3.0000                     |                 | 8.4000        |
| **                            |                   |                 |                                          |                   |                        |                      |                                |    |                 |                        |                            |                 |               |
| CU12PSM9P<br>8XXX(1-3/8)      | B                 | No              | No                                       | Ar (CaAa)         | 83.0000 -<br>0.0000    | 0.0000               | 0                              | 1  | 1               | 1.4110                 | 1.4110                     |                 | 1.6600        |
| **                            |                   |                 |                                          |                   |                        |                      |                                |    |                 |                        |                            |                 |               |

### Feed Line/Linear Appurtenances - Entered As Area

| Description | Face<br>or<br>Leg | Allow<br>Shield | Exclude<br>From<br>Torque<br>Calculation | Component<br>Type | Placement<br>ft | Total<br>Number | C <sub>A</sub> A <sub>A</sub><br>ft <sup>2</sup> /ft | Weight<br>plf |
|-------------|-------------------|-----------------|------------------------------------------|-------------------|-----------------|-----------------|------------------------------------------------------|---------------|
| **          |                   |                 |                                          |                   |                 |                 |                                                      |               |

### Feed Line/Linear Appurtenances Section Areas

| Tower<br>Section | Tower<br>Elevation<br>ft | Face | A <sub>R</sub><br>ft <sup>2</sup> | A <sub>F</sub><br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>In Face<br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>Out Face<br>ft <sup>2</sup> | Weight<br>K |
|------------------|--------------------------|------|-----------------------------------|-----------------------------------|-------------------------------------------------------------|--------------------------------------------------------------|-------------|
| T1               | 150.0000-<br>140.0000    | A    | 0.000                             | 0.000                             | 5.375                                                       | 0.000                                                        | 0.0862      |
|                  |                          | B    | 0.000                             | 0.000                             | 37.641                                                      | 0.000                                                        | 0.2325      |
|                  |                          | C    | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
| T2               | 140.0000-                | A    | 0.000                             | 0.000                             | 10.750                                                      | 0.000                                                        | 0.1724      |

| Tower<br>Section<br>n | Tower<br>Elevation<br>ft | Face | A <sub>R</sub><br>ft <sup>2</sup> | A <sub>F</sub><br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>In Face<br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>Out Face<br>ft <sup>2</sup> | Weight<br>K |
|-----------------------|--------------------------|------|-----------------------------------|-----------------------------------|-------------------------------------------------------------|--------------------------------------------------------------|-------------|
| T3                    | 120.0000-<br>100.0000    | B    | 0.000                             | 0.000                             | 98.233                                                      | 0.000                                                        | 0.5569      |
|                       |                          | C    | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
|                       |                          | A    | 0.000                             | 0.000                             | 10.750                                                      | 0.000                                                        | 0.1724      |
| T4                    | 100.0000-<br>80.0000     | B    | 0.000                             | 0.000                             | 110.717                                                     | 0.000                                                        | 0.5913      |
|                       |                          | C    | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
|                       |                          | A    | 0.000                             | 0.000                             | 10.750                                                      | 0.000                                                        | 0.1724      |
| T5                    | 80.0000-60.0000          | B    | 0.000                             | 0.000                             | 119.896                                                     | 0.000                                                        | 0.6292      |
|                       |                          | C    | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
|                       |                          | A    | 0.000                             | 0.000                             | 10.750                                                      | 0.000                                                        | 0.1724      |
| T6                    | 60.0000-40.0000          | B    | 0.000                             | 0.000                             | 125.605                                                     | 0.000                                                        | 0.6756      |
|                       |                          | C    | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
|                       |                          | A    | 0.000                             | 0.000                             | 10.750                                                      | 0.000                                                        | 0.1724      |
| T7                    | 40.0000-20.0000          | B    | 0.000                             | 0.000                             | 125.605                                                     | 0.000                                                        | 0.6756      |
|                       |                          | C    | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
|                       |                          | A    | 0.000                             | 0.000                             | 10.750                                                      | 0.000                                                        | 0.1724      |
| T8                    | 20.0000-0.0000           | B    | 0.000                             | 0.000                             | 125.605                                                     | 0.000                                                        | 0.6756      |
|                       |                          | C    | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
|                       |                          | A    | 0.000                             | 0.000                             | 10.750                                                      | 0.000                                                        | 0.1724      |

### Feed Line/Linear Appurtenances Section Areas - With Ice

| Tower<br>Section<br>n | Tower<br>Elevation<br>ft | Face<br>or<br>Leg | Ice<br>Thickness<br>in | A <sub>R</sub><br>ft <sup>2</sup> | A <sub>F</sub><br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>In Face<br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>Out Face<br>ft <sup>2</sup> | Weight<br>K |
|-----------------------|--------------------------|-------------------|------------------------|-----------------------------------|-----------------------------------|-------------------------------------------------------------|--------------------------------------------------------------|-------------|
| T1                    | 150.0000-<br>140.0000    | A                 | 0.986                  | 0.000                             | 0.000                             | 9.317                                                       | 0.000                                                        | 0.1629      |
|                       |                          | B                 |                        | 0.000                             | 0.000                             | 40.756                                                      | 0.000                                                        | 0.6643      |
|                       |                          | C                 |                        | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
| T2                    | 140.0000-<br>120.0000    | A                 | 0.975                  | 0.000                             | 0.000                             | 18.549                                                      | 0.000                                                        | 0.3235      |
|                       |                          | B                 |                        | 0.000                             | 0.000                             | 110.537                                                     | 0.000                                                        | 1.7105      |
|                       |                          | C                 |                        | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
| T3                    | 120.0000-<br>100.0000    | A                 | 0.959                  | 0.000                             | 0.000                             | 18.420                                                      | 0.000                                                        | 0.3202      |
|                       |                          | B                 |                        | 0.000                             | 0.000                             | 133.431                                                     | 0.000                                                        | 1.9442      |
|                       |                          | C                 |                        | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
| T4                    | 100.0000-<br>80.0000     | A                 | 0.940                  | 0.000                             | 0.000                             | 18.268                                                      | 0.000                                                        | 0.3163      |
|                       |                          | B                 |                        | 0.000                             | 0.000                             | 152.085                                                     | 0.000                                                        | 2.1174      |
|                       |                          | C                 |                        | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
| T5                    | 80.0000-60.0000          | A                 | 0.916                  | 0.000                             | 0.000                             | 18.081                                                      | 0.000                                                        | 0.3116      |
|                       |                          | B                 |                        | 0.000                             | 0.000                             | 163.152                                                     | 0.000                                                        | 2.2298      |
|                       |                          | C                 |                        | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
| T6                    | 60.0000-40.0000          | A                 | 0.886                  | 0.000                             | 0.000                             | 17.839                                                      | 0.000                                                        | 0.3055      |
|                       |                          | B                 |                        | 0.000                             | 0.000                             | 161.078                                                     | 0.000                                                        | 2.1792      |
|                       |                          | C                 |                        | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
| T7                    | 40.0000-20.0000          | A                 | 0.842                  | 0.000                             | 0.000                             | 17.485                                                      | 0.000                                                        | 0.2969      |
|                       |                          | B                 |                        | 0.000                             | 0.000                             | 158.061                                                     | 0.000                                                        | 2.1069      |
|                       |                          | C                 |                        | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |
| T8                    | 20.0000-0.0000           | A                 | 0.754                  | 0.000                             | 0.000                             | 16.785                                                      | 0.000                                                        | 0.2804      |
|                       |                          | B                 |                        | 0.000                             | 0.000                             | 152.075                                                     | 0.000                                                        | 1.9679      |
|                       |                          | C                 |                        | 0.000                             | 0.000                             | 0.000                                                       | 0.000                                                        | 0.0000      |

### Feed Line Center of Pressure

| Section | Elevation<br>ft       | CP <sub>x</sub><br>in | CP <sub>z</sub><br>in | CP <sub>x</sub><br>Ice<br>in | CP <sub>z</sub><br>Ice<br>in |
|---------|-----------------------|-----------------------|-----------------------|------------------------------|------------------------------|
| T1      | 150.0000-<br>140.0000 | 2.2954                | -15.4218              | 2.6342                       | -16.5182                     |
| T2      | 140.0000-<br>120.0000 | 2.6049                | -17.6560              | 2.9513                       | -19.1092                     |
| T3      | 120.0000-<br>100.0000 | 2.9842                | -21.2226              | 3.3452                       | -23.3033                     |



| Section | Elevation        | CP <sub>x</sub> | CP <sub>z</sub> | CP <sub>x</sub><br>Ice | CP <sub>z</sub><br>Ice |
|---------|------------------|-----------------|-----------------|------------------------|------------------------|
|         | ft               | in              | in              | in                     | in                     |
| T4      | 100.0000-80.0000 | 3.3330          | -26.1230        | 3.7859                 | -29.5842               |
| T5      | 80.0000-60.0000  | 3.8386          | -29.8408        | 4.4669                 | -33.8118               |
| T6      | 60.0000-40.0000  | 3.6954          | -31.2020        | 4.4232                 | -36.4486               |
| T7      | 40.0000-20.0000  | 4.0066          | -35.4195        | 4.7364                 | -41.1857               |
| T8      | 20.0000-0.0000   | 4.1071          | -37.9570        | 4.8260                 | -44.0985               |

## Shielding Factor Ka

| Tower Section | Feed Line Record No. | Description           | Feed Line Segment Elev. | K <sub>a</sub><br>No Ice | K <sub>a</sub><br>Ice |
|---------------|----------------------|-----------------------|-------------------------|--------------------------|-----------------------|
| T1            | 1                    | Climbing Ladder (Af)  | 140.00 - 150.00         | 0.6000                   | 0.6000                |
| T1            | 2                    | Safety Line 3/8       | 140.00 - 150.00         | 0.6000                   | 0.6000                |
| T1            | 4                    | FB-L98B-034-XXX(3/8") | 140.00 - 148.00         | 0.6000                   | 0.6000                |
| T1            | 5                    | FB-L98B-034-XXX(3/8") | 140.00 - 148.00         | 0.6000                   | 0.6000                |
| T1            | 6                    | LDF7-50A(1-5/8")      | 140.00 - 148.00         | 0.6000                   | 0.6000                |
| T1            | 7                    | PWRT-608-S( 13/16")   | 140.00 - 148.00         | 0.6000                   | 0.6000                |
| T1            | 8                    | WR-VG66ST-BRD(7/8")   | 140.00 - 148.00         | 0.6000                   | 0.6000                |
| T1            | 16                   | Feedline Ladder (Af)  | 140.00 - 150.00         | 0.6000                   | 0.6000                |
| T2            | 1                    | Climbing Ladder (Af)  | 120.00 - 140.00         | 0.6000                   | 0.6000                |
| T2            | 2                    | Safety Line 3/8       | 120.00 - 140.00         | 0.6000                   | 0.6000                |
| T2            | 4                    | FB-L98B-034-XXX(3/8") | 120.00 - 140.00         | 0.6000                   | 0.6000                |
| T2            | 5                    | FB-L98B-034-XXX(3/8") | 120.00 - 140.00         | 0.6000                   | 0.6000                |
| T2            | 6                    | LDF7-50A(1-5/8")      | 120.00 - 140.00         | 0.6000                   | 0.6000                |
| T2            | 7                    | PWRT-608-S( 13/16")   | 120.00 - 140.00         | 0.6000                   | 0.6000                |
| T2            | 8                    | WR-VG66ST-BRD(7/8")   | 120.00 - 140.00         | 0.6000                   | 0.6000                |
| T2            | 9                    | EWP52(ELLIPTICAL)     | 120.00 - 135.00         | 0.6000                   | 0.6000                |
| T2            | 16                   | Feedline Ladder (Af)  | 120.00 - 140.00         | 0.6000                   | 0.6000                |
| T3            | 1                    | Climbing Ladder (Af)  | 100.00 - 120.00         | 0.6000                   | 0.6000                |
| T3            | 2                    | Safety Line 3/8       | 100.00 - 120.00         | 0.6000                   | 0.6000                |
| T3            | 4                    | FB-L98B-034-XXX(3/8") | 100.00 - 120.00         | 0.6000                   | 0.6000                |
| T3            | 5                    | FB-L98B-034-XXX(3/8") | 100.00 - 120.00         | 0.6000                   | 0.6000                |
| T3            | 6                    | LDF7-50A(1-5/8")      | 100.00 - 120.00         | 0.6000                   | 0.6000                |
| T3            | 7                    | PWRT-608-S( 13/16")   | 100.00 - 120.00         | 0.6000                   | 0.6000                |
| T3            | 8                    | WR-VG66ST-BRD(7/8")   | 100.00 - 120.00         | 0.6000                   | 0.6000                |
| T3            | 9                    | EWP52(ELLIPTICAL)     | 114.00 - 120.00         | 0.6000                   | 0.6000                |
| T3            | 10                   | EWP52(ELLIPTICAL)     | 112.00 - 114.00         | 0.6000                   | 0.6000                |

| Tower Section | Feed Line Record No. | Description           | Feed Line Segment Elev. | K <sub>a</sub> No Ice | K <sub>a</sub> Ice |
|---------------|----------------------|-----------------------|-------------------------|-----------------------|--------------------|
| T3            | 11                   | EW52(ELLIPTICAL)      | 100.00 -<br>112.00      | 0.6000                | 0.6000             |
| T3            | 12                   | E65(ELLIPTICAL)       | 100.00 -<br>114.00      | 0.6000                | 0.6000             |
| T3            | 13                   | EW90(ELLIPTICAL)      | 100.00 -<br>112.00      | 0.6000                | 0.6000             |
| T3            | 16                   | Feedline Ladder (Af)  | 100.00 -<br>120.00      | 0.6000                | 0.6000             |
| T4            | 1                    | Climbing Ladder (Af)  | 80.00 -<br>100.00       | 0.6000                | 0.6000             |
| T4            | 2                    | Safety Line 3/8       | 80.00 -<br>100.00       | 0.6000                | 0.6000             |
| T4            | 4                    | FB-L98B-034-XXX(3/8") | 80.00 -<br>100.00       | 0.6000                | 0.6000             |
| T4            | 5                    | FB-L98B-034-XXX(3/8") | 80.00 -<br>100.00       | 0.6000                | 0.6000             |
| T4            | 6                    | LDF7-50A(1-5/8")      | 80.00 -<br>100.00       | 0.6000                | 0.6000             |
| T4            | 7                    | PWRT-608-S( 13/16")   | 80.00 -<br>100.00       | 0.6000                | 0.6000             |
| T4            | 8                    | WR-VG66ST-BRD(7/8")   | 80.00 -<br>100.00       | 0.6000                | 0.6000             |
| T4            | 11                   | EW52(ELLIPTICAL)      | 80.00 -<br>100.00       | 0.6000                | 0.6000             |
| T4            | 12                   | E65(ELLIPTICAL)       | 80.00 -<br>100.00       | 0.6000                | 0.6000             |
| T4            | 13                   | EW90(ELLIPTICAL)      | 80.00 -<br>100.00       | 0.6000                | 0.6000             |
| T4            | 14                   | EW63(ELLIPTICAL)      | 80.00 -<br>90.00        | 0.6000                | 0.6000             |
| T4            | 15                   | E105(ELLIPTICAL)      | 80.00 -<br>90.00        | 0.6000                | 0.6000             |
| T4            | 16                   | Feedline Ladder (Af)  | 80.00 -<br>100.00       | 0.6000                | 0.6000             |
| T4            | 18                   | CU12PSM9P8XXX(1-3/8)  | 80.00 -<br>83.00        | 0.6000                | 0.6000             |
| T5            | 1                    | Climbing Ladder (Af)  | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 2                    | Safety Line 3/8       | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 4                    | FB-L98B-034-XXX(3/8") | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 5                    | FB-L98B-034-XXX(3/8") | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 6                    | LDF7-50A(1-5/8")      | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 7                    | PWRT-608-S( 13/16")   | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 8                    | WR-VG66ST-BRD(7/8")   | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 11                   | EW52(ELLIPTICAL)      | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 12                   | E65(ELLIPTICAL)       | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 13                   | EW90(ELLIPTICAL)      | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 14                   | EW63(ELLIPTICAL)      | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 15                   | E105(ELLIPTICAL)      | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 16                   | Feedline Ladder (Af)  | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T5            | 18                   | CU12PSM9P8XXX(1-3/8)  | 60.00 -<br>80.00        | 0.6000                | 0.6000             |
| T6            | 1                    | Climbing Ladder (Af)  | 40.00 -<br>60.00        | 0.6000                | 0.6000             |
| T6            | 2                    | Safety Line 3/8       | 40.00 -<br>60.00        | 0.6000                | 0.6000             |
| T6            | 4                    | FB-L98B-034-XXX(3/8") | 40.00 -                 | 0.6000                | 0.6000             |

| Tower Section | Feed Line Record No. | Description           | Feed Line Segment Elev. | K <sub>a</sub> No Ice | K <sub>a</sub> Ice |
|---------------|----------------------|-----------------------|-------------------------|-----------------------|--------------------|
| T6            | 5                    | FB-L98B-034-XXX(3/8") | 60.00<br>40.00 -        | 0.6000                | 0.6000             |
| T6            | 6                    | LDF7-50A(1-5/8")      | 60.00<br>40.00 -        | 0.6000                | 0.6000             |
| T6            | 7                    | PWRT-608-S( 13/16")   | 60.00<br>40.00 -        | 0.6000                | 0.6000             |
| T6            | 8                    | WR-VG66ST-BRD(7/8")   | 60.00<br>40.00 -        | 0.6000                | 0.6000             |
| T6            | 11                   | EW52(ELLIPTICAL)      | 60.00<br>40.00 -        | 0.6000                | 0.6000             |
| T6            | 12                   | E65(ELLIPTICAL)       | 60.00<br>40.00 -        | 0.6000                | 0.6000             |
| T6            | 13                   | EW90(ELLIPTICAL)      | 60.00<br>40.00 -        | 0.6000                | 0.6000             |
| T6            | 14                   | EW63(ELLIPTICAL)      | 60.00<br>40.00 -        | 0.6000                | 0.6000             |
| T6            | 15                   | E105(ELLIPTICAL)      | 60.00<br>40.00 -        | 0.6000                | 0.6000             |
| T6            | 16                   | Feedline Ladder (Af)  | 60.00<br>40.00 -        | 0.6000                | 0.6000             |
| T6            | 18                   | CU12PSM9P8XXX(1-3/8)  | 60.00<br>40.00 -        | 0.6000                | 0.6000             |
| T7            | 1                    | Climbing Ladder (Af)  | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 2                    | Safety Line 3/8       | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 4                    | FB-L98B-034-XXX(3/8") | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 5                    | FB-L98B-034-XXX(3/8") | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 6                    | LDF7-50A(1-5/8")      | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 7                    | PWRT-608-S( 13/16")   | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 8                    | WR-VG66ST-BRD(7/8")   | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 11                   | EW52(ELLIPTICAL)      | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 12                   | E65(ELLIPTICAL)       | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 13                   | EW90(ELLIPTICAL)      | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 14                   | EW63(ELLIPTICAL)      | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 15                   | E105(ELLIPTICAL)      | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 16                   | Feedline Ladder (Af)  | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T7            | 18                   | CU12PSM9P8XXX(1-3/8)  | 40.00<br>20.00 -        | 0.6000                | 0.6000             |
| T8            | 1                    | Climbing Ladder (Af)  | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 2                    | Safety Line 3/8       | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 4                    | FB-L98B-034-XXX(3/8") | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 5                    | FB-L98B-034-XXX(3/8") | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 6                    | LDF7-50A(1-5/8")      | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 7                    | PWRT-608-S( 13/16")   | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 8                    | WR-VG66ST-BRD(7/8")   | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 11                   | EW52(ELLIPTICAL)      | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 12                   | E65(ELLIPTICAL)       | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 13                   | EW90(ELLIPTICAL)      | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 14                   | EW63(ELLIPTICAL)      | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 15                   | E105(ELLIPTICAL)      | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 16                   | Feedline Ladder (Af)  | 0.00 - 20.00            | 0.6000                | 0.6000             |
| T8            | 18                   | CU12PSM9P8XXX(1-3/8)  | 0.00 - 20.00            | 0.6000                | 0.6000             |

## Discrete Tower Loads

| Description                      | Face<br>or<br>Leg | Offset<br>Type | Offsets:<br>Horz<br>Lateral<br>Vert<br>ft<br>ft<br>ft | Azimuth<br>Adjustmen<br>t<br>° | Placement<br><br>ft |                                 | C <sub>A</sub> A <sub>A</sub><br>Front<br><br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>Side<br><br>ft <sup>2</sup> | Weight<br><br>K            |
|----------------------------------|-------------------|----------------|-------------------------------------------------------|--------------------------------|---------------------|---------------------------------|---------------------------------------------------------------|--------------------------------------------------------------|----------------------------|
| (2) DC2-48-60-0-9E               | A                 | From Leg       | 0.5000<br>0.0000<br>-2.0000                           | 0.0000                         | 150.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 0.9299<br>1.0510<br>1.1795                                    | 0.5635<br>0.6618<br>0.7676                                   | 0.0160<br>0.0248<br>0.0357 |
| (2) DC2-48-60-0-9E               | B                 | From Leg       | 0.5000<br>0.0000<br>-2.0000                           | 0.0000                         | 150.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 0.9299<br>1.0510<br>1.1795                                    | 0.5635<br>0.6618<br>0.7676                                   | 0.0160<br>0.0248<br>0.0357 |
| (2) DC2-48-60-0-9E               | C                 | From Leg       | 0.5000<br>0.0000<br>-2.0000                           | 0.0000                         | 150.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 0.9299<br>1.0510<br>1.1795                                    | 0.5635<br>0.6618<br>0.7676                                   | 0.0160<br>0.0248<br>0.0357 |
| **                               |                   |                |                                                       |                                |                     |                                 |                                                               |                                                              |                            |
| EPBQ-654L8H8-L2 w/<br>Mount Pipe | A                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 14.8600<br>15.7200<br>16.5900                                 | 6.2500<br>7.0200<br>7.8000                                   | 0.1189<br>0.2281<br>0.3514 |
| EPBQ-654L8H8-L2 w/<br>Mount Pipe | B                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 14.8600<br>15.7200<br>16.5900                                 | 6.2500<br>7.0200<br>7.8000                                   | 0.1189<br>0.2281<br>0.3514 |
| EPBQ-654L8H8-L2 w/<br>Mount Pipe | C                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 14.8600<br>15.7200<br>16.5900                                 | 6.2500<br>7.0200<br>7.8000                                   | 0.1189<br>0.2281<br>0.3514 |
| EPBQ-654L8H8-L2 w/<br>Mount Pipe | A                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 14.8600<br>15.7200<br>16.5900                                 | 6.2500<br>7.0200<br>7.8000                                   | 0.1189<br>0.2281<br>0.3514 |
| EPBQ-654L8H8-L2 w/<br>Mount Pipe | B                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 14.8600<br>15.7200<br>16.5900                                 | 6.2500<br>7.0200<br>7.8000                                   | 0.1189<br>0.2281<br>0.3514 |
| EPBQ-654L8H8-L2 w/<br>Mount Pipe | C                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 14.8600<br>15.7200<br>16.5900                                 | 6.2500<br>7.0200<br>7.8000                                   | 0.1189<br>0.2281<br>0.3514 |
| EPBQ-654L8H8-L2 w/<br>Mount Pipe | A                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 14.8600<br>15.7200<br>16.5900                                 | 6.2500<br>7.0200<br>7.8000                                   | 0.1189<br>0.2281<br>0.3514 |
| EPBQ-654L8H8-L2 w/<br>Mount Pipe | B                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 14.8600<br>15.7200<br>16.5900                                 | 6.2500<br>7.0200<br>7.8000                                   | 0.1189<br>0.2281<br>0.3514 |
| EPBQ-654L8H8-L2 w/<br>Mount Pipe | C                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 14.8600<br>15.7200<br>16.5900                                 | 6.2500<br>7.0200<br>7.8000                                   | 0.1189<br>0.2281<br>0.3514 |
| EPBQ-654L8H8-B w/<br>Mount Pipe  | A                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 5.8200<br>6.3600<br>6.9100                                    | 4.3500<br>4.8700<br>5.4000                                   | 0.1041<br>0.1871<br>0.2836 |
| EPBQ-654L8H8-B w/<br>Mount Pipe  | B                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 5.8200<br>6.3600<br>6.9100                                    | 4.3500<br>4.8700<br>5.4000                                   | 0.1041<br>0.1871<br>0.2836 |
| EPBQ-654L8H8-B w/<br>Mount Pipe  | C                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000            | No Ice<br>1/2"<br>Ice<br>1" Ice | 5.8200<br>6.3600<br>6.9100                                    | 4.3500<br>4.8700<br>5.4000                                   | 0.1041<br>0.1871<br>0.2836 |

| Description                                 | Face<br>or<br>Leg | Offset<br>Type | Offsets:<br>Horz<br>Lateral<br>Vert<br>ft<br>ft<br>ft | Azimuth<br>Adjustmen<br>t<br>° | Placement<br>ft |          | C <sub>A</sub> A <sub>A</sub><br>Front<br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>Side<br>ft <sup>2</sup> | Weight<br>K |
|---------------------------------------------|-------------------|----------------|-------------------------------------------------------|--------------------------------|-----------------|----------|-----------------------------------------------------------|----------------------------------------------------------|-------------|
| RRH4X25-WCS                                 | A                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   |                                                           |                                                          |             |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 3.3367                                                    | 3.8352                                                   | 0.0910      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 3.5863                                                    | 4.0945                                                   | 0.1253      |
| RRH4X25-WCS                                 | B                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 3.8430                                                    | 4.3640                                                   | 0.1637      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 3.3367                                                    | 3.8352                                                   | 0.0910      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 3.5863                                                    | 4.0945                                                   | 0.1253      |
| RRH4X25-WCS                                 | C                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 3.8430                                                    | 4.3640                                                   | 0.1637      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 3.3367                                                    | 3.8352                                                   | 0.0910      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 3.5863                                                    | 4.0945                                                   | 0.1253      |
| FC12-PC6-10E                                | A                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 3.8430                                                    | 4.3640                                                   | 0.1637      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 2.0983                                                    | 0.8579                                                   | 0.0280      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 2.2784                                                    | 0.9846                                                   | 0.0443      |
| FC12-PC6-10E                                | B                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 2.4658                                                    | 1.1188                                                   | 0.0632      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 2.0983                                                    | 0.8579                                                   | 0.0280      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 2.2784                                                    | 0.9846                                                   | 0.0443      |
| FC12-PC6-10E                                | C                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 2.4658                                                    | 1.1188                                                   | 0.0632      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 2.0983                                                    | 0.8579                                                   | 0.0280      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 2.2784                                                    | 0.9846                                                   | 0.0443      |
| AIRSCALE DUAL RRH<br>4T4R B25/66 320W AHFIB | A                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 2.4658                                                    | 1.1188                                                   | 0.0632      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 2.9042                                                    | 1.5298                                                   | 0.0882      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 3.1349                                                    | 1.7195                                                   | 0.1088      |
| AIRSCALE DUAL RRH<br>4T4R B25/66 320W AHFIB | B                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 3.3731                                                    | 1.9163                                                   | 0.1326      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 2.9042                                                    | 1.5298                                                   | 0.0882      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 3.1349                                                    | 1.7195                                                   | 0.1088      |
| AIRSCALE DUAL RRH<br>4T4R B25/66 320W AHFIB | C                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 3.3731                                                    | 1.9163                                                   | 0.1326      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 2.9042                                                    | 1.5298                                                   | 0.0882      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 3.1349                                                    | 1.7195                                                   | 0.1088      |
| AIRSCALE RRH 4T4R B5<br>160W                | A                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 3.3731                                                    | 1.9163                                                   | 0.1326      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 1.2857                                                    | 0.7204                                                   | 0.0353      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 1.4277                                                    | 0.8341                                                   | 0.0466      |
| AIRSCALE RRH 4T4R B5<br>160W                | B                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 1.5771                                                    | 0.9552                                                   | 0.0601      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 1.2857                                                    | 0.7204                                                   | 0.0353      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 1.4277                                                    | 0.8341                                                   | 0.0466      |
| AIRSCALE RRH 4T4R B5<br>160W                | C                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 1.5771                                                    | 0.9552                                                   | 0.0601      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 1.2857                                                    | 0.7204                                                   | 0.0353      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 1.4277                                                    | 0.8341                                                   | 0.0466      |
| TMA2105F01V1-1                              | A                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 1.5771                                                    | 0.9552                                                   | 0.0601      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 1.6200                                                    | 1.2300                                                   | 0.0550      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 1.7837                                                    | 1.3793                                                   | 0.0702      |
| TMA2105F01V1-1                              | B                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 1.9548                                                    | 1.5359                                                   | 0.0880      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 1.6200                                                    | 1.2300                                                   | 0.0550      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 1.7837                                                    | 1.3793                                                   | 0.0702      |
| TMA2105F01V1-1                              | C                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 1.9548                                                    | 1.5359                                                   | 0.0880      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 1.6200                                                    | 1.2300                                                   | 0.0550      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 1.7837                                                    | 1.3793                                                   | 0.0702      |
| AHLBA                                       | A                 | From Leg       | 4.0000                                                | 0.0000                         | 148.0000        | 1" Ice   | 1.9548                                                    | 1.5359                                                   | 0.0880      |
|                                             |                   |                | 0.0000                                                |                                |                 | No Ice   | 3.6712                                                    | 2.3051                                                   | 0.1000      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1/2" Ice | 3.9196                                                    | 2.5127                                                   | 0.1309      |
|                                             |                   |                | 0.0000                                                |                                |                 | 1" Ice   | 4.1755                                                    | 2.7273                                                   | 0.1641      |

| Description              | Face<br>or<br>Leg | Offset<br>Type | Offsets:<br>Horz<br>Lateral<br>Vert<br>ft<br>ft<br>ft | Azimuth<br>Adjustmen<br>t<br>° | Placement<br>ft |                                 | C <sub>A</sub> A <sub>A</sub><br>Front<br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>Side<br>ft <sup>2</sup> | Weight<br>K                |
|--------------------------|-------------------|----------------|-------------------------------------------------------|--------------------------------|-----------------|---------------------------------|-----------------------------------------------------------|----------------------------------------------------------|----------------------------|
| AHLBA                    | B                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 3.6712<br>3.9196<br>4.1755                                | 2.3051<br>2.5127<br>2.7273                               | 0.1000<br>0.1309<br>0.1641 |
| AHLBA                    | C                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 3.6712<br>3.9196<br>4.1755                                | 2.3051<br>2.5127<br>2.7273                               | 0.1000<br>0.1309<br>0.1641 |
| DC2-48-60-0-9E           | A                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 0.9299<br>1.0510<br>1.1795                                | 0.5635<br>0.6618<br>0.7676                               | 0.0160<br>0.0248<br>0.0357 |
| DC2-48-60-0-9E           | B                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 0.9299<br>1.0510<br>1.1795                                | 0.5635<br>0.6618<br>0.7676                               | 0.0160<br>0.0248<br>0.0357 |
| DC2-48-60-0-9E           | C                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 0.9299<br>1.0510<br>1.1795                                | 0.5635<br>0.6618<br>0.7676                               | 0.0160<br>0.0248<br>0.0357 |
| B66A RRH4X45             | A                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 2.5800<br>2.7937<br>3.0148                                | 1.6296<br>1.8106<br>1.9986                               | 0.0670<br>0.0875<br>0.1111 |
| B66A RRH4X45             | B                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 2.5800<br>2.7937<br>3.0148                                | 1.6296<br>1.8106<br>1.9986                               | 0.0670<br>0.0875<br>0.1111 |
| B66A RRH4X45             | C                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 148.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 2.5800<br>2.7937<br>3.0148                                | 1.6296<br>1.8106<br>1.9986                               | 0.0670<br>0.0875<br>0.1111 |
| Sector Mount [SM 1306-3] | C                 | None           |                                                       | 0.0000                         | 148.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 45.8400<br>57.5600<br>69.4400                             | 45.8400<br>57.5600<br>69.4400                            | 2.2920<br>3.2288<br>4.3754 |
| **                       |                   |                |                                                       |                                |                 |                                 |                                                           |                                                          |                            |
| Pipe Mount [PM 601-1]    | B                 | From Leg       | 0.5000<br>0.0000<br>0.0000                            | 0.0000                         | 135.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.3200<br>1.5800<br>1.8400                                | 1.3200<br>1.5800<br>1.8400                               | 0.0650<br>0.0775<br>0.0930 |
| Pipe Mount [PM 601-1]    | C                 | From Leg       | 0.5000<br>0.0000<br>0.0000                            | 0.0000                         | 135.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.3200<br>1.5800<br>1.8400                                | 1.3200<br>1.5800<br>1.8400                               | 0.0650<br>0.0775<br>0.0930 |
| **                       |                   |                |                                                       |                                |                 |                                 |                                                           |                                                          |                            |
| Pipe Mount [PM 601-1]    | B                 | From Leg       | 0.5000<br>0.0000<br>0.0000                            | 0.0000                         | 114.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.3200<br>1.5800<br>1.8400                                | 1.3200<br>1.5800<br>1.8400                               | 0.0650<br>0.0775<br>0.0930 |
| **                       |                   |                |                                                       |                                |                 |                                 |                                                           |                                                          |                            |
| (2) 95MPR11-C128F40-220  | A                 | From Leg       | 0.5000<br>0.0000<br>0.0000                            | 0.0000                         | 112.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 0.9000<br>1.0204<br>1.1481                                | 0.4528<br>0.5454<br>0.6481                               | 0.0115<br>0.0189<br>0.0282 |
| Pipe Mount [PM 601-1]    | C                 | From Leg       | 0.5000<br>0.0000<br>0.0000                            | 0.0000                         | 112.0000        | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.3200<br>1.5800<br>1.8400                                | 1.3200<br>1.5800<br>1.8400                               | 0.0650<br>0.0775<br>0.0930 |
| **                       |                   |                |                                                       |                                |                 |                                 |                                                           |                                                          |                            |
| 9500 MPT ODU             | A                 | From Leg       | 0.5000<br>0.0000<br>-5.0000                           | 0.0000                         | 90.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 0.4432<br>0.5303<br>0.6247                                | 0.7901<br>0.9021<br>1.0216                               | 0.0130<br>0.0206<br>0.0299 |
| 9500 MPT ODU             | B                 | From Leg       | 0.5000                                                | 0.0000                         | 90.0000         | No Ice                          | 0.4432                                                    | 0.7901                                                   | 0.0130                     |

| Description                          | Face<br>or<br>Leg | Offset<br>Type | Offsets:<br>Horz<br>Lateral<br>Vert<br>ft<br>ft<br>ft | Azimuth<br>Adjustmen<br>t<br>° | Placement<br>ft |                                 | C <sub>A</sub> A <sub>A</sub><br>Front<br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>Side<br>ft <sup>2</sup> | Weight<br>K                |
|--------------------------------------|-------------------|----------------|-------------------------------------------------------|--------------------------------|-----------------|---------------------------------|-----------------------------------------------------------|----------------------------------------------------------|----------------------------|
|                                      |                   |                | 0.0000<br>-5.0000                                     |                                |                 | 1/2"<br>Ice<br>1" Ice           | 0.5303<br>0.6247                                          | 0.9021<br>1.0216                                         | 0.0206<br>0.0299           |
| 9500 MPT ODU                         | C                 | From Leg       | 0.5000<br>0.0000<br>-5.0000                           | 0.0000                         | 90.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 0.4432<br>0.5303<br>0.6247                                | 0.7901<br>0.9021<br>1.0216                               | 0.0130<br>0.0206<br>0.0299 |
| Pipe Mount [PM 601-1]                | B                 | From Leg       | 0.5000<br>0.0000<br>0.0000                            | 0.0000                         | 90.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.3200<br>1.5800<br>1.8400                                | 1.3200<br>1.5800<br>1.8400                               | 0.0650<br>0.0775<br>0.0930 |
| **<br>MX08FRO665-21 w/<br>Mount Pipe | A                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 8.0100<br>8.5200<br>9.0400                                | 4.2300<br>4.6900<br>5.1600                               | 0.1081<br>0.1943<br>0.2919 |
| MX08FRO665-21 w/<br>Mount Pipe       | B                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 8.0100<br>8.5200<br>9.0400                                | 4.2300<br>4.6900<br>5.1600                               | 0.1081<br>0.1943<br>0.2919 |
| MX08FRO665-21 w/<br>Mount Pipe       | C                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 8.0100<br>8.5200<br>9.0400                                | 4.2300<br>4.6900<br>5.1600                               | 0.1081<br>0.1943<br>0.2919 |
| TA08025-B604                         | A                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.9635<br>2.1378<br>2.3195                                | 0.9811<br>1.1117<br>1.2496                               | 0.0639<br>0.0807<br>0.1001 |
| TA08025-B604                         | B                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.9635<br>2.1378<br>2.3195                                | 0.9811<br>1.1117<br>1.2496                               | 0.0639<br>0.0807<br>0.1001 |
| TA08025-B604                         | C                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.9635<br>2.1378<br>2.3195                                | 0.9811<br>1.1117<br>1.2496                               | 0.0639<br>0.0807<br>0.1001 |
| TA08025-B605                         | A                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.9635<br>2.1378<br>2.3195                                | 1.1295<br>1.2666<br>1.4112                               | 0.0750<br>0.0930<br>0.1137 |
| TA08025-B605                         | B                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.9635<br>2.1378<br>2.3195                                | 1.1295<br>1.2666<br>1.4112                               | 0.0750<br>0.0930<br>0.1137 |
| TA08025-B605                         | C                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.9635<br>2.1378<br>2.3195                                | 1.1295<br>1.2666<br>1.4112                               | 0.0750<br>0.0930<br>0.1137 |
| RDIDC-9181-PF-48                     | A                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 2.3118<br>2.5022<br>2.7000                                | 1.2931<br>1.4479<br>1.6101                               | 0.0219<br>0.0411<br>0.0633 |
| Commscope MTC3975083<br>(3)          | C                 | None           |                                                       | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 23.8500<br>34.1200<br>44.3900                             | 23.8500<br>34.1200<br>44.3900                            | 1.2600<br>1.8026<br>2.3453 |
| (2) 8' x 2" Mount Pipe               | A                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.9000<br>2.7281<br>3.4009                                | 1.9000<br>2.7281<br>3.4009                               | 0.0293<br>0.0436<br>0.0632 |
| (2) 8' x 2" Mount Pipe               | B                 | From Leg       | 4.0000<br>0.0000<br>0.0000                            | 0.0000                         | 83.0000         | No Ice<br>1/2"<br>Ice<br>1" Ice | 1.9000<br>2.7281<br>3.4009                                | 1.9000<br>2.7281<br>3.4009                               | 0.0293<br>0.0436<br>0.0632 |
| (2) 8' x 2" Mount Pipe               | C                 | From Leg       | 4.0000                                                | 0.0000                         | 83.0000         | No Ice                          | 1.9000                                                    | 1.9000                                                   | 0.0293                     |



| Description | Face<br>or<br>Leg | Offset<br>Type | Offsets:<br>Horz<br>Lateral<br>Vert<br>ft<br>ft<br>ft | Azimuth<br>Adjustmen<br>t<br>° | Placement<br>ft | C <sub>A</sub> A <sub>A</sub><br>Front<br>ft <sup>2</sup> | C <sub>A</sub> A <sub>A</sub><br>Side<br>ft <sup>2</sup> | Weight<br>K |
|-------------|-------------------|----------------|-------------------------------------------------------|--------------------------------|-----------------|-----------------------------------------------------------|----------------------------------------------------------|-------------|
| **          |                   |                | 0.0000                                                |                                | 1/2"            | 2.7281                                                    | 2.7281                                                   | 0.0436      |
|             |                   |                | 0.0000                                                |                                | Ice             | 3.4009                                                    | 3.4009                                                   | 0.0632      |
|             |                   |                |                                                       |                                | 1" Ice          |                                                           |                                                          |             |

## Dishes

| Description | Face<br>or<br>Leg | Dish<br>Type                | Offset<br>Type | Offsets:<br>Horz<br>Lateral<br>Vert<br>ft | Azimuth<br>Adjustment<br>° | 3 dB<br>Beam<br>Width<br>° | Elevation<br>ft | Outside<br>Diameter<br>ft | Aperture<br>Area<br>ft <sup>2</sup>                  | Weight<br>K                |
|-------------|-------------------|-----------------------------|----------------|-------------------------------------------|----------------------------|----------------------------|-----------------|---------------------------|------------------------------------------------------|----------------------------|
| **          |                   |                             |                |                                           |                            |                            |                 |                           |                                                      |                            |
| UXA6-W59BC  | C                 | Paraboloid<br>w/Shroud (HP) | From<br>Leg    | 1.0000<br>0.0000<br>0.0000                | 30.0000                    |                            | 135.0000        | 6.5833                    | No Ice 34.0400<br>1/2" Ice 34.9100<br>1" Ice 35.7700 | 0.2000<br>0.4000<br>0.6000 |
| PL6-59D     | B                 | Paraboloid w/o<br>Radome    | From<br>Leg    | 1.0000<br>0.0000<br>0.0000                | 53.0000                    |                            | 135.0000        | 6.0000                    | No Ice 28.2700<br>1/2" Ice 29.0500<br>1" Ice 29.8300 | 0.1000<br>0.3000<br>0.4000 |
| **          |                   |                             |                |                                           |                            |                            |                 |                           |                                                      |                            |
| PL4-59D     | B                 | Paraboloid w/o<br>Radome    | From<br>Leg    | 1.0000<br>0.0000<br>0.0000                | 53.0000                    |                            | 114.0000        | 4.0000                    | No Ice 12.5700<br>1/2" Ice 13.0900<br>1" Ice 13.6100 | 0.1000<br>0.2000<br>0.2000 |
| **          |                   |                             |                |                                           |                            |                            |                 |                           |                                                      |                            |
| UXA6-W59BC  | C                 | Paraboloid<br>w/Shroud (HP) | From<br>Leg    | 1.0000<br>0.0000<br>0.0000                | 30.0000                    |                            | 112.0000        | 6.5833                    | No Ice 34.0400<br>1/2" Ice 34.9100<br>1" Ice 35.7700 | 0.2000<br>0.4000<br>0.6000 |
| **          |                   |                             |                |                                           |                            |                            |                 |                           |                                                      |                            |
| UXA4-107A   | B                 | Paraboloid<br>w/Shroud (HP) | From<br>Leg    | 1.0000<br>0.0000<br>0.0000                | -60.0000                   |                            | 90.0000         | 4.0000                    | No Ice 12.5700<br>1/2" Ice 13.1000<br>1" Ice 13.6200 | 0.0900<br>0.0900<br>0.1000 |
| **          |                   |                             |                |                                           |                            |                            |                 |                           |                                                      |                            |

## Load Combinations

| Comb.<br>No. | Description                        |
|--------------|------------------------------------|
| 1            | Dead Only                          |
| 2            | 1.2 Dead+1.0 Wind 0 deg - No Ice   |
| 3            | 0.9 Dead+1.0 Wind 0 deg - No Ice   |
| 4            | 1.2 Dead+1.0 Wind 30 deg - No Ice  |
| 5            | 0.9 Dead+1.0 Wind 30 deg - No Ice  |
| 6            | 1.2 Dead+1.0 Wind 60 deg - No Ice  |
| 7            | 0.9 Dead+1.0 Wind 60 deg - No Ice  |
| 8            | 1.2 Dead+1.0 Wind 90 deg - No Ice  |
| 9            | 0.9 Dead+1.0 Wind 90 deg - No Ice  |
| 10           | 1.2 Dead+1.0 Wind 120 deg - No Ice |
| 11           | 0.9 Dead+1.0 Wind 120 deg - No Ice |
| 12           | 1.2 Dead+1.0 Wind 150 deg - No Ice |
| 13           | 0.9 Dead+1.0 Wind 150 deg - No Ice |
| 14           | 1.2 Dead+1.0 Wind 180 deg - No Ice |
| 15           | 0.9 Dead+1.0 Wind 180 deg - No Ice |
| 16           | 1.2 Dead+1.0 Wind 210 deg - No Ice |
| 17           | 0.9 Dead+1.0 Wind 210 deg - No Ice |
| 18           | 1.2 Dead+1.0 Wind 240 deg - No Ice |
| 19           | 0.9 Dead+1.0 Wind 240 deg - No Ice |

| Comb. No. | Description                                |
|-----------|--------------------------------------------|
| 20        | 1.2 Dead+1.0 Wind 270 deg - No Ice         |
| 21        | 0.9 Dead+1.0 Wind 270 deg - No Ice         |
| 22        | 1.2 Dead+1.0 Wind 300 deg - No Ice         |
| 23        | 0.9 Dead+1.0 Wind 300 deg - No Ice         |
| 24        | 1.2 Dead+1.0 Wind 330 deg - No Ice         |
| 25        | 0.9 Dead+1.0 Wind 330 deg - No Ice         |
| 26        | 1.2 Dead+1.0 Ice+1.0 Temp                  |
| 27        | 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp   |
| 28        | 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp  |
| 29        | 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp  |
| 30        | 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp  |
| 31        | 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp |
| 32        | 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp |
| 33        | 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp |
| 34        | 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp |
| 35        | 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp |
| 36        | 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp |
| 37        | 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp |
| 38        | 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp |
| 39        | Dead+Wind 0 deg - Service                  |
| 40        | Dead+Wind 30 deg - Service                 |
| 41        | Dead+Wind 60 deg - Service                 |
| 42        | Dead+Wind 90 deg - Service                 |
| 43        | Dead+Wind 120 deg - Service                |
| 44        | Dead+Wind 150 deg - Service                |
| 45        | Dead+Wind 180 deg - Service                |
| 46        | Dead+Wind 210 deg - Service                |
| 47        | Dead+Wind 240 deg - Service                |
| 48        | Dead+Wind 270 deg - Service                |
| 49        | Dead+Wind 300 deg - Service                |
| 50        | Dead+Wind 330 deg - Service                |

### Maximum Member Forces

| Section No. | Elevation ft | Component Type | Condition        | Gov. Load Comb. | Axial K  | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|--------------|----------------|------------------|-----------------|----------|--------------------------|--------------------------|
| T1          | 150 - 140    | Leg            | Max Tension      | 7               | 3.9291   | 0.2668                   | -0.0869                  |
|             |              |                | Max. Compression | 2               | -8.1147  | -0.0051                  | -0.2738                  |
|             |              |                | Max. Mx          | 9               | -1.7170  | 1.8589                   | -0.0032                  |
|             |              |                | Max. My          | 3               | -1.1962  | 0.0443                   | -1.8273                  |
|             |              |                | Max. Vy          | 9               | -0.9890  | 0.0000                   | 0.0000                   |
|             |              |                | Max. Vx          | 3               | 0.9640   | 0.0000                   | 0.0000                   |
|             |              | Diagonal       | Max Tension      | 16              | 2.8904   | 0.0000                   | 0.0000                   |
|             |              |                | Max. Compression | 4               | -2.8539  | 0.0000                   | 0.0000                   |
|             |              |                | Max. Mx          | 30              | 0.4599   | 0.0148                   | 0.0005                   |
|             |              |                | Max. My          | 24              | 2.8467   | 0.0055                   | -0.0033                  |
|             |              |                | Max. Vy          | 30              | -0.0148  | 0.0148                   | 0.0005                   |
|             |              |                | Max. Vx          | 24              | -0.0008  | 0.0055                   | -0.0033                  |
|             |              | Top Girt       | Max Tension      | 21              | 0.0192   | 0.0000                   | 0.0000                   |
|             |              |                | Max. Compression | 16              | -0.0266  | 0.0000                   | 0.0000                   |
|             |              |                | Max. Mx          | 26              | -0.0116  | -0.0357                  | 0.0000                   |
|             |              |                | Max. Vy          | 26              | 0.0218   | 0.0000                   | 0.0000                   |
| T2          | 140 - 120    | Leg            | Max Tension      | 7               | 34.0329  | -0.1074                  | 0.0409                   |
|             |              |                | Max. Compression | 2               | -39.7122 | 0.1482                   | -0.0083                  |
|             |              |                | Max. Mx          | 2               | -18.7407 | 0.3340                   | -0.0532                  |
|             |              |                | Max. My          | 7               | -9.8876  | 0.0115                   | 0.6635                   |
|             |              |                | Max. Vy          | 7               | -0.5591  | -0.3248                  | -0.1300                  |
|             |              |                | Max. Vx          | 7               | -0.9599  | 0.1186                   | -0.2989                  |
|             |              | Diagonal       | Max Tension      | 23              | 4.1857   | 0.0000                   | 0.0000                   |
|             |              |                | Max. Compression | 24              | -4.2721  | 0.0000                   | 0.0000                   |
|             |              |                | Max. Mx          | 4               | 2.1188   | 0.0397                   | 0.0009                   |
|             |              |                | Max. My          | 22              | -3.1160  | 0.0024                   | -0.0068                  |
|             |              |                | Max. Vy          | 28              | -0.0219  | 0.0300                   | 0.0005                   |
|             |              |                | Max. Vx          | 22              | 0.0018   | 0.0000                   | 0.0000                   |
| T3          | 120 - 100    | Leg            | Max Tension      | 7               | 59.4429  | -0.2244                  | 0.0465                   |
|             |              |                | Max. Compression | 2               | -66.5021 | 0.2249                   | 0.0045                   |

| Section No. | Elevation ft | Component Type | Condition        | Gov. Load Comb. | Axial K   | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|--------------|----------------|------------------|-----------------|-----------|--------------------------|--------------------------|
| T4          | 100 - 80     | Diagonal       | Max. Mx          | 10              | -58.2895  | 0.3451                   | -0.1254                  |
|             |              |                | Max. My          | 6               | -23.1946  | 0.0838                   | -0.4452                  |
|             |              |                | Max. Vy          | 6               | 0.3045    | -0.3335                  | -0.0826                  |
|             |              |                | Max. Vx          | 6               | -0.5032   | 0.0838                   | -0.4452                  |
|             |              |                | Max Tension      | 7               | 3.6817    | 0.0000                   | 0.0000                   |
|             |              |                | Max. Compression | 6               | -3.5256   | 0.0000                   | 0.0000                   |
|             |              |                | Max. Mx          | 27              | 0.7534    | 0.0246                   | -0.0026                  |
|             |              |                | Max. My          | 22              | -2.9690   | -0.0055                  | -0.0058                  |
|             |              |                | Max. Vy          | 29              | 0.0206    | 0.0224                   | 0.0025                   |
|             |              |                | Max. Vx          | 22              | 0.0016    | 0.0000                   | 0.0000                   |
|             |              |                | Max Tension      | 7               | 0.1153    | 0.0000                   | 0.0000                   |
|             |              |                | Max. Compression | 2               | -0.1288   | 0.0000                   | 0.0000                   |
|             |              | Top Girt       | Max. Mx          | 26              | -0.0107   | -0.0352                  | 0.0000                   |
|             |              |                | Max. My          | 26              | -0.0149   | 0.0000                   | 0.0010                   |
|             |              |                | Max. Vy          | 26              | -0.0214   | 0.0000                   | 0.0000                   |
|             |              |                | Max. Vx          | 26              | -0.0006   | 0.0000                   | 0.0000                   |
|             |              |                | Max Tension      | 7               | 81.0501   | -0.5273                  | 0.0083                   |
|             |              |                | Max. Compression | 2               | -89.8957  | 0.5686                   | 0.0023                   |
|             |              |                | Max. Mx          | 6               | 79.0685   | -0.6489                  | 0.0895                   |
|             |              |                | Max. My          | 8               | -5.7352   | -0.0609                  | 0.6645                   |
|             |              |                | Max. Vy          | 14              | 0.3636    | -0.6451                  | -0.0110                  |
|             |              |                | Max. Vx          | 20              | 0.3929    | -0.0334                  | -0.6587                  |
|             |              |                | Max Tension      | 23              | 4.2384    | 0.0000                   | 0.0000                   |
|             |              |                | Max. Compression | 24              | -4.2081   | 0.0000                   | 0.0000                   |
| T5          | 80 - 60      | Diagonal       | Max. Mx          | 27              | 0.7180    | 0.0430                   | -0.0055                  |
|             |              |                | Max. My          | 37              | 0.6503    | 0.0406                   | -0.0062                  |
|             |              |                | Max. Vy          | 29              | 0.0305    | 0.0411                   | -0.0049                  |
|             |              |                | Max. Vx          | 37              | 0.0018    | 0.0000                   | 0.0000                   |
|             |              |                | Max Tension      | 7               | 103.4945  | -0.3505                  | 0.0581                   |
|             |              |                | Max. Compression | 2               | -114.4059 | 0.5789                   | -0.0310                  |
|             |              | Leg            | Max. Mx          | 6               | 86.9745   | -0.6489                  | 0.0894                   |
|             |              |                | Max. My          | 8               | -5.8979   | -0.0609                  | 0.6645                   |
|             |              |                | Max. Vy          | 14              | -0.1094   | -0.6451                  | -0.0110                  |
|             |              |                | Max. Vx          | 21              | -0.1569   | -0.0209                  | -0.6589                  |
|             |              |                | Max Tension      | 23              | 4.5772    | 0.0000                   | 0.0000                   |
|             |              |                | Max. Compression | 18              | -4.6127   | 0.0000                   | 0.0000                   |
|             |              |                | Max. Mx          | 29              | 1.0419    | 0.0548                   | -0.0060                  |
|             |              |                | Max. My          | 36              | -0.9087   | 0.0453                   | -0.0077                  |
|             |              |                | Max. Vy          | 29              | 0.0358    | 0.0548                   | -0.0060                  |
|             |              |                | Max. Vx          | 36              | 0.0020    | 0.0000                   | 0.0000                   |
|             |              |                | Max Tension      | 7               | 124.4421  | -0.3894                  | 0.0443                   |
|             |              |                | Max. Compression | 2               | -137.4212 | 0.6402                   | -0.0237                  |
| T6          | 60 - 40      | Diagonal       | Max. Mx          | 33              | 10.9737   | -0.8392                  | 0.0055                   |
|             |              |                | Max. My          | 8               | -8.8610   | -0.0042                  | 0.5627                   |
|             |              |                | Max. Vy          | 33              | 0.2180    | -0.8392                  | 0.0055                   |
|             |              |                | Max. Vx          | 21              | 0.1448    | 0.0136                   | -0.5572                  |
|             |              |                | Max Tension      | 18              | 5.0813    | 0.0000                   | 0.0000                   |
|             |              |                | Max. Compression | 18              | -5.0703   | 0.0000                   | 0.0000                   |
|             |              | Leg            | Max. Mx          | 27              | 0.7029    | 0.0963                   | -0.0108                  |
|             |              |                | Max. My          | 37              | -0.8095   | 0.0625                   | -0.0133                  |
|             |              |                | Max. Vy          | 29              | 0.0535    | 0.0949                   | -0.0095                  |
|             |              |                | Max. Vx          | 37              | 0.0031    | 0.0000                   | 0.0000                   |
|             |              |                | Max Tension      | 7               | 142.2060  | -0.5589                  | 0.1426                   |
|             |              |                | Max. Compression | 18              | -157.3958 | 0.8082                   | -0.0853                  |
| T7          | 40 - 20      | Diagonal       | Max. Mx          | 29              | 24.3732   | -1.5077                  | 0.0270                   |
|             |              |                | Max. My          | 8               | -9.6710   | -0.0787                  | 1.2179                   |
|             |              |                | Max. Vy          | 33              | 0.2704    | -1.5053                  | 0.0040                   |
|             |              |                | Max. Vx          | 8               | 0.2578    | -0.0787                  | 1.2179                   |
|             |              |                | Max Tension      | 18              | 5.8845    | 0.0000                   | 0.0000                   |
|             |              |                | Max. Compression | 18              | -6.2617   | 0.0000                   | 0.0000                   |
|             |              | Leg            | Max. Mx          | 29              | 0.2920    | 0.1534                   | 0.0167                   |
|             |              |                | Max. My          | 36              | 1.9142    | 0.1166                   | -0.0221                  |
|             |              |                | Max. Vy          | 29              | 0.0686    | 0.1534                   | 0.0167                   |
|             |              |                | Max. Vx          | 36              | 0.0042    | 0.0000                   | 0.0000                   |
|             |              |                | Max Tension      | 7               | 161.1592  | -0.6314                  | 0.1466                   |
|             |              |                | Max. Compression | 18              | -179.7423 | 0.0000                   | 0.0001                   |
| T8          | 20 - 0       | Leg            | Max. Mx          | 35              | -67.0405  | 1.6361                   | 0.0060                   |
|             |              |                | Max. My          | 8               | -11.5371  | -0.0985                  | 1.4545                   |
|             |              |                | Max. Vy          | 33              | -0.3255   | -1.5053                  | 0.0040                   |
|             |              |                | Max. Vx          |                 |           |                          |                          |

| Section No. | Elevation ft | Component Type | Condition        | Gov. Load Comb. | Axial K | Major Axis Moment kip-ft | Minor Axis Moment kip-ft |
|-------------|--------------|----------------|------------------|-----------------|---------|--------------------------|--------------------------|
|             |              | Diagonal       | Max. Vx          | 8               | 0.2754  | -0.0985                  | 1.4545                   |
|             |              |                | Max Tension      | 18              | 6.6730  | 0.0000                   | 0.0000                   |
|             |              |                | Max. Compression | 18              | -7.3384 | 0.0000                   | 0.0000                   |
|             |              |                | Max. Mx          | 29              | -0.1933 | 0.1949                   | 0.0182                   |
|             |              |                | Max. My          | 20              | 4.6664  | 0.1220                   | -0.0246                  |
|             |              |                | Max. Vy          | 29              | 0.0748  | 0.1949                   | 0.0182                   |
|             |              |                | Max. Vx          | 30              | -0.0041 | 0.0000                   | 0.0000                   |

## Maximum Reactions

| Location | Condition           | Gov. Load Comb. | Vertical K | Horizontal, X K | Horizontal, Z K |
|----------|---------------------|-----------------|------------|-----------------|-----------------|
| Leg C    | Max. Vert           | 18              | 185.5963   | 16.8093         | -10.7995        |
|          | Max. H <sub>x</sub> | 18              | 185.5963   | 16.8093         | -10.7995        |
|          | Max. H <sub>z</sub> | 7               | -166.0088  | -15.0763        | 9.5852          |
|          | Min. Vert           | 7               | -166.0088  | -15.0763        | 9.5852          |
|          | Min. H <sub>x</sub> | 7               | -166.0088  | -15.0763        | 9.5852          |
|          | Min. H <sub>z</sub> | 18              | 185.5963   | 16.8093         | -10.7995        |
| Leg B    | Max. Vert           | 10              | 181.0416   | -16.1580        | -10.3698        |
|          | Max. H <sub>x</sub> | 23              | -154.8186  | 13.8177         | 9.2410          |
|          | Max. H <sub>z</sub> | 23              | -154.8186  | 13.8177         | 9.2410          |
|          | Min. Vert           | 23              | -154.8186  | 13.8177         | 9.2410          |
|          | Min. H <sub>x</sub> | 10              | 181.0416   | -16.1580        | -10.3698        |
|          | Min. H <sub>z</sub> | 10              | 181.0416   | -16.1580        | -10.3698        |
| Leg A    | Max. Vert           | 2               | 184.4516   | 0.2466          | 19.2466         |
|          | Max. H <sub>x</sub> | 20              | 17.7600    | 3.2828          | 1.2632          |
|          | Max. H <sub>z</sub> | 2               | 184.4516   | 0.2466          | 19.2466         |
|          | Min. Vert           | 15              | -147.4514  | -0.1977         | -16.1253        |
|          | Min. H <sub>x</sub> | 9               | 9.0709     | -3.2243         | 0.6320          |
|          | Min. H <sub>z</sub> | 15              | -147.4514  | -0.1977         | -16.1253        |

## Tower Mast Reaction Summary

| Load Combination                   | Vertical K | Shear <sub>x</sub> K | Shear <sub>z</sub> K | Overturning Moment, M <sub>x</sub> kip-ft | Overturning Moment, M <sub>z</sub> kip-ft | Torque kip-ft |
|------------------------------------|------------|----------------------|----------------------|-------------------------------------------|-------------------------------------------|---------------|
| Dead Only                          | 29.8484    | 0.0000               | 0.0000               | -30.2896                                  | -4.3054                                   | 0.0000        |
| 1.2 Dead+1.0 Wind 0 deg - No Ice   | 35.8181    | -0.3286              | -30.4237             | -2820.6708                                | 41.1122                                   | 7.7476        |
| 0.9 Dead+1.0 Wind 0 deg - No Ice   | 26.8636    | -0.3286              | -30.4237             | -2811.5839                                | 42.4038                                   | 7.7476        |
| 1.2 Dead+1.0 Wind 30 deg - No Ice  | 35.8181    | 15.4501              | -26.3713             | -2455.7644                                | -1419.9797                                | -7.1826       |
| 0.9 Dead+1.0 Wind 30 deg - No Ice  | 26.8636    | 15.4501              | -26.3713             | -2446.6775                                | -1418.6881                                | -7.1826       |
| 1.2 Dead+1.0 Wind 60 deg - No Ice  | 35.8181    | 26.4266              | -15.9621             | -1529.0108                                | -2427.0703                                | -25.3489      |
| 0.9 Dead+1.0 Wind 60 deg - No Ice  | 26.8636    | 26.4266              | -15.9621             | -1519.9239                                | -2425.7787                                | -25.3489      |
| 1.2 Dead+1.0 Wind 90 deg - No Ice  | 35.8181    | 30.4387              | 0.1650               | -10.9900                                  | -2788.4171                                | -39.1843      |
| 0.9 Dead+1.0 Wind 90 deg - No Ice  | 26.8636    | 30.4387              | 0.1650               | -1.9031                                   | -2787.1255                                | -39.1843      |
| 1.2 Dead+1.0 Wind 120 deg - No Ice | 35.8181    | 26.7189              | 14.5432              | 1274.8322                                 | -2456.6249                                | -29.1778      |
| 0.9 Dead+1.0 Wind 120 deg - No Ice | 26.8636    | 26.7189              | 14.5432              | 1283.9191                                 | -2455.3333                                | -29.1778      |
| 1.2 Dead+1.0 Wind 150 deg - No Ice | 35.8181    | 14.6645              | 23.0427              | 2086.3728                                 | -1398.0653                                | -15.3801      |
| 0.9 Dead+1.0 Wind 150 deg - No Ice | 26.8636    | 14.6645              | 23.0427              | 2095.4597                                 | -1396.7737                                | -15.3801      |

| Load<br>Combination                        | Vertical<br>K | Shear <sub>x</sub><br>K | Shear <sub>z</sub><br>K | Overturning<br>Moment, M <sub>x</sub><br>kip-ft | Overturning<br>Moment, M <sub>z</sub><br>kip-ft | Torque<br>kip-ft |
|--------------------------------------------|---------------|-------------------------|-------------------------|-------------------------------------------------|-------------------------------------------------|------------------|
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 1.2 Dead+1.0 Wind 180 deg                  | 35.8181       | -0.3920                 | 28.0833                 | 2548.2369                                       | 36.2398                                         | -7.2567          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 0.9 Dead+1.0 Wind 180 deg                  | 26.8636       | -0.3920                 | 28.0833                 | 2557.3238                                       | 37.5315                                         | -7.2567          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 1.2 Dead+1.0 Wind 210 deg                  | 35.8181       | -15.6924                | 25.5480                 | 2274.2148                                       | 1440.6156                                       | 11.5742          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 0.9 Dead+1.0 Wind 210 deg                  | 26.8636       | -15.6924                | 25.5480                 | 2283.3017                                       | 1441.9072                                       | 11.5742          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 1.2 Dead+1.0 Wind 240 deg                  | 35.8181       | -27.6990                | 15.6418                 | 1363.0041                                       | 2491.7121                                       | 30.2956          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 0.9 Dead+1.0 Wind 240 deg                  | 26.8636       | -27.6990                | 15.6418                 | 1372.0910                                       | 2493.0037                                       | 30.2956          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 1.2 Dead+1.0 Wind 270 deg                  | 35.8181       | -30.0867                | -0.4176                 | -95.1710                                        | 2731.9385                                       | 41.0309          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 0.9 Dead+1.0 Wind 270 deg                  | 26.8636       | -30.0867                | -0.4176                 | -86.0841                                        | 2733.2301                                       | 41.0309          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 1.2 Dead+1.0 Wind 300 deg                  | 35.8181       | -24.5822                | -14.9044                | -1447.8925                                      | 2260.0506                                       | 36.5781          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 0.9 Dead+1.0 Wind 300 deg                  | 26.8636       | -24.5822                | -14.9044                | -1438.8056                                      | 2261.3422                                       | 36.5781          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 1.2 Dead+1.0 Wind 330 deg                  | 35.8181       | -13.8434                | -24.0666                | -2288.8055                                      | 1286.6462                                       | 20.1235          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 0.9 Dead+1.0 Wind 330 deg                  | 26.8636       | -13.8434                | -24.0666                | -2279.7186                                      | 1287.9378                                       | 20.1235          |
| - No Ice                                   |               |                         |                         |                                                 |                                                 |                  |
| 1.2 Dead+1.0 Ice+1.0 Temp                  | 68.0581       | 0.0000                  | 0.0000                  | -96.7442                                        | -12.5220                                        | 0.0000           |
| 1.2 Dead+1.0 Wind 0 deg+1.0 Ice+1.0 Temp   | 68.0581       | -0.0698                 | -8.5260                 | -866.2211                                       | -2.6621                                         | 2.4401           |
| 1.2 Dead+1.0 Wind 30 deg+1.0 Ice+1.0 Temp  | 68.0581       | 4.4130                  | -7.5652                 | -777.1874                                       | -408.8682                                       | -3.8087          |
| 1.2 Dead+1.0 Wind 60 deg+1.0 Ice+1.0 Temp  | 68.0581       | 7.6118                  | -4.5488                 | -512.0021                                       | -696.1208                                       | -10.4604         |
| 1.2 Dead+1.0 Wind 90 deg+1.0 Ice+1.0 Temp  | 68.0581       | 8.7289                  | 0.0352                  | -91.3206                                        | -795.5144                                       | -14.5802         |
| 1.2 Dead+1.0 Wind 120 deg+1.0 Ice+1.0 Temp | 68.0581       | 7.4605                  | 4.1189                  | 270.5695                                        | -687.1840                                       | -11.2146         |
| 1.2 Dead+1.0 Wind 150 deg+1.0 Ice+1.0 Temp | 68.0581       | 4.1812                  | 6.7402                  | 512.8622                                        | -400.0981                                       | -6.7288          |
| 1.2 Dead+1.0 Wind 180 deg+1.0 Ice+1.0 Temp | 68.0581       | -0.0846                 | 8.0769                  | 634.0736                                        | -3.6019                                         | -2.3322          |
| 1.2 Dead+1.0 Wind 210 deg+1.0 Ice+1.0 Temp | 68.0581       | -4.4665                 | 7.3877                  | 560.2492                                        | 390.6376                                        | 4.7463           |
| 1.2 Dead+1.0 Wind 240 deg+1.0 Ice+1.0 Temp | 68.0581       | -7.8397                 | 4.4527                  | 296.3100                                        | 683.6274                                        | 11.5199          |
| 1.2 Dead+1.0 Wind 270 deg+1.0 Ice+1.0 Temp | 68.0581       | -8.6545                 | -0.0895                 | -109.3631                                       | 760.6978                                        | 14.9732          |
| 1.2 Dead+1.0 Wind 300 deg+1.0 Ice+1.0 Temp | 68.0581       | -7.0492                 | -4.2243                 | -487.8378                                       | 625.9561                                        | 12.8058          |
| 1.2 Dead+1.0 Wind 330 deg+1.0 Ice+1.0 Temp | 68.0581       | -4.0052                 | -6.9606                 | -734.2492                                       | 353.4032                                        | 7.7542           |
| Dead+Wind 0 deg - Service                  | 29.8484       | -0.1011                 | -9.4651                 | -891.2630                                       | 9.9282                                          | 2.3829           |
| Dead+Wind 30 deg - Service                 | 29.8484       | 4.8059                  | -8.2043                 | -778.4125                                       | -441.7589                                       | -2.2091          |
| Dead+Wind 60 deg - Service                 | 29.8484       | 8.2213                  | -4.9633                 | -491.6868                                       | -753.1932                                       | -7.7964          |
| Dead+Wind 90 deg - Service                 | 29.8484       | 9.4697                  | 0.0508                  | -22.4906                                        | -864.9489                                       | -12.0516         |
| Dead+Wind 120 deg - Service                | 29.8484       | 8.3112                  | 4.5269                  | 375.2901                                        | -762.2831                                       | -8.9740          |
| Dead+Wind 150 deg - Service                | 29.8484       | 4.5642                  | 7.1805                  | 626.5806                                        | -435.0188                                       | -4.7303          |
| Dead+Wind 180 deg - Service                | 29.8484       | -0.1206                 | 8.7453                  | 769.2517                                        | 8.4296                                          | -2.2319          |
| Dead+Wind 210 deg - Service                | 29.8484       | -4.8804                 | 7.9511                  | 684.3538                                        | 442.6729                                        | 3.5598           |
| Dead+Wind 240 deg - Service                | 29.8484       | -8.6127                 | 4.8648                  | 402.4084                                        | 767.6418                                        | 9.3178           |
| Dead+Wind 270 deg - Service                | 29.8484       | -9.3615                 | -0.1284                 | -48.3815                                        | 842.1454                                        | 12.6196          |
| Dead+Wind 300 deg - Service                | 29.8484       | -7.6540                 | -4.6380                 | -466.7379                                       | 696.3915                                        | 11.2501          |
| Dead+Wind 330 deg -                        | 29.8484       | -4.3117                 | -7.4955                 | -727.0623                                       | 395.3178                                        | 6.1892           |

| Load<br>Combination | Vertical | Shear <sub>x</sub> | Shear <sub>z</sub> | Overturning<br>Moment, M <sub>x</sub> | Overturning<br>Moment, M <sub>z</sub> | Torque |
|---------------------|----------|--------------------|--------------------|---------------------------------------|---------------------------------------|--------|
|                     | K        | K                  | K                  | kip-ft                                | kip-ft                                | kip-ft |
| Service             |          |                    |                    |                                       |                                       |        |

## Solution Summary

| Load<br>Comb. | Sum of Applied Forces |          |          | Sum of Reactions |         |          | % Error |
|---------------|-----------------------|----------|----------|------------------|---------|----------|---------|
|               | PX<br>K               | PY<br>K  | PZ<br>K  | PX<br>K          | PY<br>K | PZ<br>K  |         |
| 1             | 0.0000                | -29.8484 | 0.0000   | 0.0000           | 29.8484 | -0.0000  | 0.000%  |
| 2             | -0.3286               | -35.8181 | -30.4237 | 0.3286           | 35.8181 | 30.4237  | 0.000%  |
| 3             | -0.3286               | -26.8636 | -30.4237 | 0.3286           | 26.8636 | 30.4237  | 0.000%  |
| 4             | 15.4501               | -35.8181 | -26.3713 | -15.4501         | 35.8181 | 26.3713  | 0.000%  |
| 5             | 15.4501               | -26.8636 | -26.3713 | -15.4501         | 26.8636 | 26.3713  | 0.000%  |
| 6             | 26.4266               | -35.8181 | -15.9621 | -26.4266         | 35.8181 | 15.9621  | 0.000%  |
| 7             | 26.4266               | -26.8636 | -15.9621 | -26.4266         | 26.8636 | 15.9621  | 0.000%  |
| 8             | 30.4387               | -35.8181 | 0.1650   | -30.4387         | 35.8181 | -0.1650  | 0.000%  |
| 9             | 30.4387               | -26.8636 | 0.1650   | -30.4387         | 26.8636 | -0.1650  | 0.000%  |
| 10            | 26.7189               | -35.8181 | 14.5432  | -26.7189         | 35.8181 | -14.5432 | 0.000%  |
| 11            | 26.7189               | -26.8636 | 14.5432  | -26.7189         | 26.8636 | -14.5432 | 0.000%  |
| 12            | 14.6645               | -35.8181 | 23.0427  | -14.6645         | 35.8181 | -23.0427 | 0.000%  |
| 13            | 14.6645               | -26.8636 | 23.0427  | -14.6645         | 26.8636 | -23.0427 | 0.000%  |
| 14            | -0.3920               | -35.8181 | 28.0833  | 0.3920           | 35.8181 | -28.0833 | 0.000%  |
| 15            | -0.3920               | -26.8636 | 28.0833  | 0.3920           | 26.8636 | -28.0833 | 0.000%  |
| 16            | -15.6924              | -35.8181 | 25.5480  | 15.6924          | 35.8181 | -25.5480 | 0.000%  |
| 17            | -15.6924              | -26.8636 | 25.5480  | 15.6924          | 26.8636 | -25.5480 | 0.000%  |
| 18            | -27.6990              | -35.8181 | 15.6418  | 27.6990          | 35.8181 | -15.6418 | 0.000%  |
| 19            | -27.6990              | -26.8636 | 15.6418  | 27.6990          | 26.8636 | -15.6418 | 0.000%  |
| 20            | -30.0867              | -35.8181 | -0.4176  | 30.0867          | 35.8181 | 0.4176   | 0.000%  |
| 21            | -30.0867              | -26.8636 | -0.4176  | 30.0867          | 26.8636 | 0.4176   | 0.000%  |
| 22            | -24.5822              | -35.8181 | -14.9044 | 24.5822          | 35.8181 | 14.9044  | 0.000%  |
| 23            | -24.5822              | -26.8636 | -14.9044 | 24.5822          | 26.8636 | 14.9044  | 0.000%  |
| 24            | -13.8434              | -35.8181 | -24.0666 | 13.8434          | 35.8181 | 24.0666  | 0.000%  |
| 25            | -13.8434              | -26.8636 | -24.0666 | 13.8434          | 26.8636 | 24.0666  | 0.000%  |
| 26            | 0.0000                | -68.0581 | 0.0000   | 0.0000           | 68.0581 | -0.0000  | 0.000%  |
| 27            | -0.0698               | -68.0581 | -8.5260  | 0.0698           | 68.0581 | 8.5260   | 0.000%  |
| 28            | 4.4130                | -68.0581 | -7.5652  | -4.4130          | 68.0581 | 7.5652   | 0.000%  |
| 29            | 7.6118                | -68.0581 | -4.5488  | -7.6118          | 68.0581 | 4.5488   | 0.000%  |
| 30            | 8.7289                | -68.0581 | 0.0352   | -8.7289          | 68.0581 | -0.0352  | 0.000%  |
| 31            | 7.4605                | -68.0581 | 4.1189   | -7.4605          | 68.0581 | -4.1189  | 0.000%  |
| 32            | 4.1812                | -68.0581 | 6.7402   | -4.1812          | 68.0581 | -6.7402  | 0.000%  |
| 33            | -0.0846               | -68.0581 | 8.0769   | 0.0846           | 68.0581 | -8.0769  | 0.000%  |
| 34            | -4.4665               | -68.0581 | 7.3877   | 4.4665           | 68.0581 | -7.3877  | 0.000%  |
| 35            | -7.8397               | -68.0581 | 4.4527   | 7.8397           | 68.0581 | -4.4527  | 0.000%  |
| 36            | -8.6545               | -68.0581 | -0.0895  | 8.6545           | 68.0581 | 0.0895   | 0.000%  |
| 37            | -7.0492               | -68.0581 | -4.2243  | 7.0492           | 68.0581 | 4.2243   | 0.000%  |
| 38            | -4.0052               | -68.0581 | -6.9606  | 4.0052           | 68.0581 | 6.9606   | 0.000%  |
| 39            | -0.1011               | -29.8484 | -9.4651  | 0.1011           | 29.8484 | 9.4651   | 0.000%  |
| 40            | 4.8059                | -29.8484 | -8.2043  | -4.8059          | 29.8484 | 8.2043   | 0.000%  |
| 41            | 8.2213                | -29.8484 | -4.9633  | -8.2213          | 29.8484 | 4.9633   | 0.000%  |
| 42            | 9.4697                | -29.8484 | 0.0508   | -9.4697          | 29.8484 | -0.0508  | 0.000%  |
| 43            | 8.3112                | -29.8484 | 4.5269   | -8.3112          | 29.8484 | -4.5269  | 0.000%  |
| 44            | 4.5642                | -29.8484 | 7.1805   | -4.5642          | 29.8484 | -7.1805  | 0.000%  |
| 45            | -0.1206               | -29.8484 | 8.7453   | 0.1206           | 29.8484 | -8.7453  | 0.000%  |
| 46            | -4.8804               | -29.8484 | 7.9511   | 4.8804           | 29.8484 | -7.9511  | 0.000%  |
| 47            | -8.6127               | -29.8484 | 4.8648   | 8.6127           | 29.8484 | -4.8648  | 0.000%  |
| 48            | -9.3615               | -29.8484 | -0.1284  | 9.3615           | 29.8484 | 0.1284   | 0.000%  |
| 49            | -7.6540               | -29.8484 | -4.6380  | 7.6540           | 29.8484 | 4.6380   | 0.000%  |
| 50            | -4.3117               | -29.8484 | -7.4955  | 4.3117           | 29.8484 | 7.4955   | 0.000%  |

## Maximum Tower Deflections - Service Wind

| Section No. | Elevation<br>ft | Horz.<br>Deflection<br>in | Gov.<br>Load<br>Comb. | Tilt<br>° | Twist<br>° |
|-------------|-----------------|---------------------------|-----------------------|-----------|------------|
| T1          | 150 - 140       | 3.7845                    | 41                    | 0.2443    | 0.0444     |
| T2          | 140 - 120       | 3.2650                    | 41                    | 0.2411    | 0.0438     |
| T3          | 120 - 100       | 2.3067                    | 41                    | 0.1971    | 0.0380     |
| T4          | 100 - 80        | 1.5513                    | 41                    | 0.1495    | 0.0278     |
| T5          | 80 - 60         | 0.9806                    | 41                    | 0.1117    | 0.0206     |
| T6          | 60 - 40         | 0.5443                    | 41                    | 0.0825    | 0.0138     |
| T7          | 40 - 20         | 0.2415                    | 41                    | 0.0517    | 0.0087     |
| T8          | 20 - 0          | 0.0675                    | 41                    | 0.0231    | 0.0045     |

### Critical Deflections and Radius of Curvature - Service Wind

| Elevation<br>ft | Appurtenance                     | Gov.<br>Load<br>Comb. | Deflection<br>in | Tilt<br>° | Twist<br>° | Radius of<br>Curvature<br>ft |
|-----------------|----------------------------------|-----------------------|------------------|-----------|------------|------------------------------|
| 150.0000        | (2) DC2-48-60-0-9E               | 41                    | 3.7845           | 0.2443    | 0.0444     | 114577                       |
| 148.0000        | EPBQ-654L8H8-L2 w/ Mount<br>Pipe | 41                    | 3.6799           | 0.2443    | 0.0443     | 114577                       |
| 135.0000        | UXA6-W59BC                       | 41                    | 3.0117           | 0.2340    | 0.0430     | 39099                        |
| 114.0000        | PL4-59D                          | 41                    | 2.0574           | 0.1817    | 0.0350     | 21427                        |
| 112.0000        | UXA6-W59BC                       | 41                    | 1.9789           | 0.1768    | 0.0340     | 21939                        |
| 90.0000         | UXA4-107A                        | 41                    | 1.2467           | 0.1293    | 0.0239     | 31177                        |
| 83.0000         | MX08FRO665-21 w/ Mount Pipe      | 41                    | 1.0569           | 0.1166    | 0.0217     | 36758                        |

### Maximum Tower Deflections - Design Wind

| Section No. | Elevation<br>ft | Horz.<br>Deflection<br>in | Gov.<br>Load<br>Comb. | Tilt<br>° | Twist<br>° |
|-------------|-----------------|---------------------------|-----------------------|-----------|------------|
| T1          | 150 - 140       | 12.1280                   | 6                     | 0.7831    | 0.1443     |
| T2          | 140 - 120       | 10.4621                   | 6                     | 0.7731    | 0.1423     |
| T3          | 120 - 100       | 7.3884                    | 6                     | 0.6318    | 0.1237     |
| T4          | 100 - 80        | 4.9664                    | 6                     | 0.4786    | 0.0903     |
| T5          | 80 - 60         | 3.1385                    | 6                     | 0.3571    | 0.0671     |
| T6          | 60 - 40         | 1.7418                    | 6                     | 0.2638    | 0.0450     |
| T7          | 40 - 20         | 0.7729                    | 6                     | 0.1652    | 0.0284     |
| T8          | 20 - 0          | 0.2189                    | 19                    | 0.0736    | 0.0145     |

### Critical Deflections and Radius of Curvature - Design Wind

| Elevation<br>ft | Appurtenance                     | Gov.<br>Load<br>Comb. | Deflection<br>in | Tilt<br>° | Twist<br>° | Radius of<br>Curvature<br>ft |
|-----------------|----------------------------------|-----------------------|------------------|-----------|------------|------------------------------|
| 150.0000        | (2) DC2-48-60-0-9E               | 6                     | 12.1280          | 0.7831    | 0.1443     | 36296                        |
| 148.0000        | EPBQ-654L8H8-L2 w/ Mount<br>Pipe | 6                     | 11.7927          | 0.7831    | 0.1440     | 36296                        |
| 135.0000        | UXA6-W59BC                       | 6                     | 9.6496           | 0.7502    | 0.1397     | 12341                        |
| 114.0000        | PL4-59D                          | 6                     | 6.5890           | 0.5822    | 0.1139     | 6715                         |
| 112.0000        | UXA6-W59BC                       | 6                     | 6.3370           | 0.5664    | 0.1104     | 6873                         |
| 90.0000         | UXA4-107A                        | 6                     | 3.9907           | 0.4136    | 0.0779     | 9706                         |
| 83.0000         | MX08FRO665-21 w/ Mount Pipe      | 6                     | 3.3828           | 0.3731    | 0.0704     | 11477                        |

### Bolt Design Data



| Section No. | Elevation<br>ft | Component Type | Bolt Grade | Bolt Size<br>in | Number Of Bolts | Maximum Load per Bolt<br>K | Allowable Load per Bolt<br>K | Ratio Load Allowable | Allowable Ratio | Criteria           |
|-------------|-----------------|----------------|------------|-----------------|-----------------|----------------------------|------------------------------|----------------------|-----------------|--------------------|
| T1          | 150             | Leg            | A325N      | 0.6250          | 4               | 0.9823                     | 20.3401                      | 0.048                | 1.05            | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.6250          | 1               | 2.8904                     | 6.8309                       | 0.423                | 1.05            | Member Block Shear |
|             |                 | Top Girt       | A325N      | 0.6250          | 1               | 0.0192                     | 5.2200                       | 0.004                | 1.05            | Member Bearing     |
| T2          | 140             | Leg            | A325N      | 0.7500          | 4               | 8.5082                     | 30.1014                      | 0.283                | 1.05            | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.6250          | 1               | 4.1857                     | 10.4400                      | 0.401                | 1.05            | Member Bearing     |
| T3          | 120             | Leg            | A325N      | 0.8750          | 4               | 14.8607                    | 41.5560                      | 0.358                | 1.05            | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.6250          | 1               | 3.6817                     | 7.8300                       | 0.470                | 1.05            | Member Bearing     |
|             |                 | Top Girt       | A325N      | 0.6250          | 1               | 1.1533                     | 5.2200                       | 0.221                | 1.05            | Member Bearing     |
| T4          | 100             | Leg            | A325N      | 1.0000          | 4               | 20.2625                    | 54.5170                      | 0.372                | 1.05            | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.6250          | 1               | 4.2384                     | 7.8300                       | 0.541                | 1.05            | Member Bearing     |
| T5          | 80              | Leg            | A325N      | 1.0000          | 4               | 25.8736                    | 54.5170                      | 0.475                | 1.05            | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.6250          | 1               | 4.5773                     | 7.8300                       | 0.585                | 1.05            | Member Bearing     |
| T6          | 60              | Leg            | A325N      | 1.0000          | 6               | 20.7404                    | 54.5170                      | 0.380                | 1.05            | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.7500          | 1               | 5.0813                     | 13.4850                      | 0.377                | 1.05            | Gusset Bearing     |
| T7          | 40              | Leg            | A325N      | 1.0000          | 6               | 23.7010                    | 54.5170                      | 0.435                | 1.05            | Bolt Tension       |
|             |                 | Diagonal       | A325N      | 0.7500          | 1               | 5.8845                     | 14.1375                      | 0.416                | 1.05            | Member Bearing     |
| T8          | 20              | Diagonal       | A325N      | 0.7500          | 1               | 6.6730                     | 14.1375                      | 0.472                | 1.05            | Member Bearing     |

## Compression Checks

## Leg Design Data (Compression)

| Section No. | Elevation<br>ft | Size         | L<br>ft | L <sub>u</sub><br>ft | Kl/r           | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--------------|---------|----------------------|----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1          | 150 - 140       | ROHN 2.5 STD | 10.000  | 5.0000               | 63.3<br>K=1.00 | 1.7040               | -8.1147             | 57.1923              | 0.142 <sup>1</sup>              |
| T2          | 140 - 120       | ROHN 2.5 STD | 20.000  | 4.0000               | 50.7<br>K=1.00 | 1.7040               | -39.7122            | 63.5603              | 0.625 <sup>1</sup>              |
| T3          | 120 - 100       | ROHN 3 EH    | 20.033  | 5.0084               | 52.9<br>K=1.00 | 3.0159               | -66.5021            | 110.6130             | 0.601 <sup>1</sup>              |
| T4          | 100 - 80        | ROHN 4 EH    | 20.035  | 6.6784               | 54.3<br>K=1.00 | 4.4074               | -89.8957            | 159.9070             | 0.562 <sup>1</sup>              |
| T5          | 80 - 60         | ROHN 5 EH    | 20.036  | 6.6788               | 43.6<br>K=1.00 | 6.1120               | -114.4060           | 239.3780             | 0.478 <sup>1</sup>              |
| T6          | 60 - 40         | ROHN 5 EH    | 20.036  | 6.6788               | 43.6<br>K=1.00 | 6.1120               | -137.4210           | 239.3780             | 0.574 <sup>1</sup>              |
| T7          | 40 - 20         | ROHN 6 EHS   | 20.036  | 10.018               | 54.0<br>K=1.00 | 6.7133               | -157.3960           | 244.0470             | 0.645 <sup>1</sup>              |
| T8          | 20 - 0          | ROHN 6 EH    | 20.032  | 10.016               | 54.8<br>K=1.00 | 8.4049               | -179.7420           | 303.7570             | 0.592 <sup>1</sup>              |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

## Diagonal Design Data (Compression)

| Section No. | Elevation<br>ft | Size              | L<br>ft     | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|-------------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1          | 150 - 140       | L1 3/4x1 3/4x3/16 | 8.2324      | 3.8456               | 134.4<br>K=1.00 | 0.6211               | -2.8539             | 9.8467               | 0.290 <sup>1</sup>              |
| T2          | 140 - 120       | L2x2x1/4          | 7.6970      | 3.5908               | 112.7<br>K=1.02 | 0.9380               | -4.2721             | 20.2927              | 0.211 <sup>1</sup>              |
| T3          | 120 - 100       | L2x2x3/16         | 9.7240      | 4.7187               | 143.7<br>K=1.00 | 0.7150               | -3.5249             | 9.9082               | 0.356 <sup>1</sup>              |
| T4          | 100 - 80        | L2 1/2x2 1/2x3/16 | 12.276<br>4 | 5.9996               | 145.4<br>K=1.00 | 0.9020               | -4.2081             | 12.2041              | 0.345 <sup>1</sup>              |
| T5          | 80 - 60         | L2 1/2x2 1/2x3/16 | 14.072<br>6 | 6.8511               | 166.1<br>K=1.00 | 0.9020               | -4.6127             | 9.3590               | 0.493 <sup>1</sup>              |
| T6          | 60 - 40         | L3x3x1/4          | 15.943<br>7 | 7.7731               | 157.6<br>K=1.00 | 1.4400               | -5.0702             | 16.6019              | 0.305 <sup>1</sup>              |
| T7          | 40 - 20         | L3 1/2x3 1/2x1/4  | 19.208<br>6 | 9.4516               | 163.4<br>K=1.00 | 1.6900               | -6.2617             | 18.1105              | 0.346 <sup>1</sup>              |
| T8          | 20 - 0          | L3 1/2x3 1/2x1/4  | 20.934<br>9 | 10.296<br>7          | 178.0<br>K=1.00 | 1.6900               | -7.3384             | 15.2595              | 0.481 <sup>1</sup>              |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Top Girt Design Data (Compression)

| Section No. | Elevation<br>ft | Size     | L<br>ft | L <sub>u</sub><br>ft | Kl/r            | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|----------|---------|----------------------|-----------------|----------------------|---------------------|----------------------|---------------------------------|
| T1          | 150 - 140       | L2x2x1/8 | 6.5400  | 6.0608               | 182.9<br>K=1.00 | 0.4844               | -0.0266             | 4.1421               | 0.006 <sup>1</sup>              |
| T3          | 120 - 100       | L2x2x1/8 | 6.5800  | 6.0487               | 182.6<br>K=1.00 | 0.4844               | -1.1533             | 4.1586               | 0.277 <sup>1</sup>              |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Tension Checks

### Leg Design Data (Tension)

| Section No. | Elevation<br>ft | Size         | L<br>ft     | L <sub>u</sub><br>ft | Kl/r | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|--------------|-------------|----------------------|------|----------------------|---------------------|----------------------|---------------------------------|
| T1          | 150 - 140       | ROHN 2.5 STD | 10.000<br>0 | 5.0000               | 63.3 | 1.7040               | 3.9291              | 76.6823              | 0.051 <sup>1</sup>              |
| T2          | 140 - 120       | ROHN 2.5 STD | 20.000<br>0 | 4.0000               | 50.7 | 1.7040               | 34.0329             | 76.6823              | 0.444 <sup>1</sup>              |
| T3          | 120 - 100       | ROHN 3 EH    | 20.033<br>7 | 5.0084               | 52.9 | 3.0159               | 59.4429             | 135.7170             | 0.438 <sup>1</sup>              |
| T4          | 100 - 80        | ROHN 4 EH    | 20.035<br>3 | 6.6784               | 54.3 | 4.4074               | 81.0501             | 198.3350             | 0.409 <sup>1</sup>              |
| T5          | 80 - 60         | ROHN 5 EH    | 20.036<br>3 | 6.6788               | 43.6 | 6.1120               | 103.4950            | 275.0390             | 0.376 <sup>1</sup>              |
| T6          | 60 - 40         | ROHN 5 EH    | 20.036<br>3 | 6.6788               | 43.6 | 6.1120               | 124.4420            | 275.0390             | 0.452 <sup>1</sup>              |
| T7          | 40 - 20         | ROHN 6 EHS   | 20.036<br>3 | 10.018<br>2          | 54.0 | 6.7133               | 142.2060            | 302.0970             | 0.471 <sup>1</sup>              |
| T8          | 20 - 0          | ROHN 6 EH    | 20.032<br>0 | 10.016<br>0          | 54.8 | 8.4049               | 161.1590            | 378.2220             | 0.426 <sup>1</sup>              |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Diagonal Design Data (Tension)

| Section No. | Elevation<br>ft | Size              | L<br>ft     | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|-------------------|-------------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T1          | 150 - 140       | L1 3/4x1 3/4x3/16 | 8.2324      | 3.8456               | 88.6  | 0.3604               | 2.8904              | 15.6753              | 0.184 <sup>1</sup>              |
| T2          | 140 - 120       | L2x2x1/4          | 7.6970      | 3.5908               | 73.1  | 0.5629               | 4.1857              | 24.4851              | 0.171 <sup>1</sup>              |
| T3          | 120 - 100       | L2x2x3/16         | 9.2967      | 4.5075               | 90.0  | 0.4308               | 3.6817              | 18.7390              | 0.196 <sup>1</sup>              |
| T4          | 100 - 80        | L2 1/2x2 1/2x3/16 | 12.276<br>4 | 5.9996               | 94.4  | 0.5710               | 4.2384              | 24.8399              | 0.171 <sup>1</sup>              |
| T5          | 80 - 60         | L2 1/2x2 1/2x3/16 | 14.072<br>6 | 6.8511               | 107.5 | 0.5710               | 4.5773              | 24.8399              | 0.184 <sup>1</sup>              |
| T6          | 60 - 40         | L3x3x1/4          | 15.943<br>7 | 7.7731               | 102.0 | 0.9159               | 5.0813              | 44.6520              | 0.114 <sup>1</sup>              |
| T7          | 40 - 20         | L3 1/2x3 1/2x1/4  | 19.208<br>6 | 9.4516               | 105.5 | 1.1034               | 5.8845              | 53.7926              | 0.109 <sup>1</sup>              |
| T8          | 20 - 0          | L3 1/2x3 1/2x1/4  | 20.079<br>6 | 9.8727               | 110.2 | 1.1034               | 6.6730              | 53.7926              | 0.124 <sup>1</sup>              |

<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Top Girt Design Data (Tension)

| Section No. | Elevation<br>ft | Size     | L<br>ft | L <sub>u</sub><br>ft | Kl/r  | A<br>in <sup>2</sup> | P <sub>u</sub><br>K | φP <sub>n</sub><br>K | Ratio<br>$\frac{P_u}{\phi P_n}$ |
|-------------|-----------------|----------|---------|----------------------|-------|----------------------|---------------------|----------------------|---------------------------------|
| T1          | 150 - 140       | L2x2x1/8 | 6.5400  | 6.0608               | 120.7 | 0.2930               | 0.0192              | 12.7441              | 0.002 <sup>1</sup>              |
| T3          | 120 - 100       | L2x2x1/8 | 6.5800  | 6.0487               | 120.5 | 0.2930               | 1.1533              | 12.7441              | 0.090 <sup>1</sup>              |

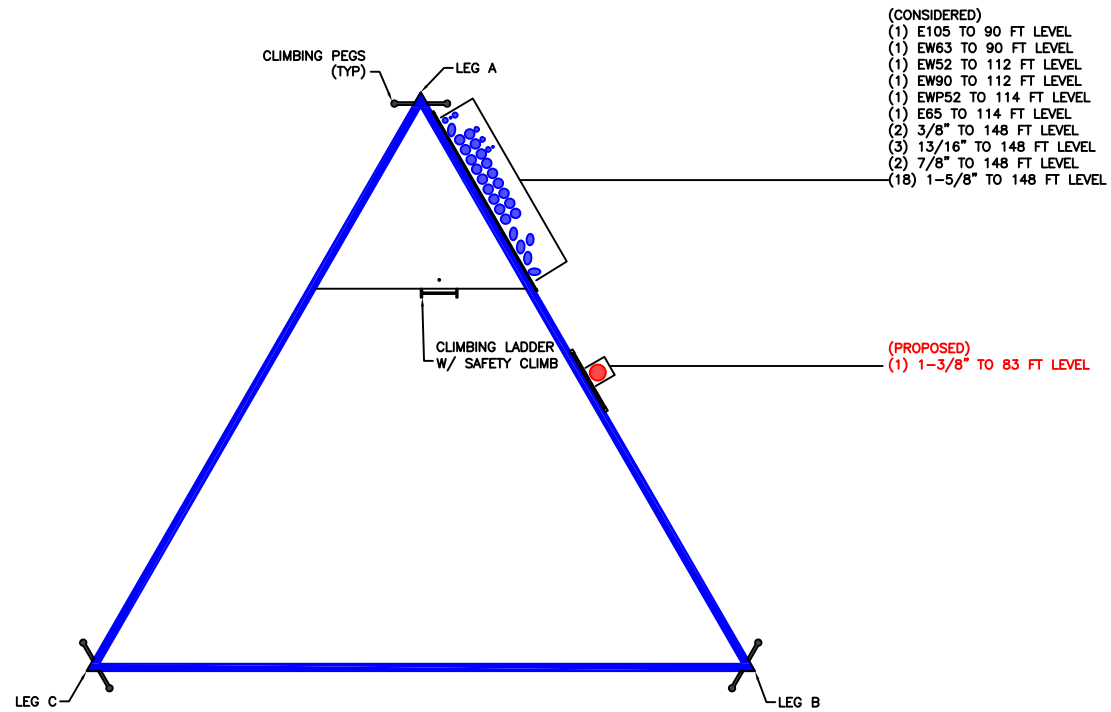
<sup>1</sup> P<sub>u</sub> / φP<sub>n</sub> controls

### Section Capacity Table

| Section No. | Elevation<br>ft | Component Type | Size              | Critical Element | P<br>K    | φP <sub>allow</sub><br>K | %<br>Capacity | Pass<br>Fail |
|-------------|-----------------|----------------|-------------------|------------------|-----------|--------------------------|---------------|--------------|
| T1          | 150 - 140       | Leg            | ROHN 2.5 STD      | 3                | -8.1147   | 60.0519                  | 13.5          | Pass         |
| T2          | 140 - 120       | Leg            | ROHN 2.5 STD      | 21               | -39.7122  | 66.7383                  | 59.5          | Pass         |
| T3          | 120 - 100       | Leg            | ROHN 3 EH         | 54               | -66.5021  | 116.1436                 | 57.3          | Pass         |
| T4          | 100 - 80        | Leg            | ROHN 4 EH         | 84               | -89.8957  | 167.9023                 | 53.5          | Pass         |
| T5          | 80 - 60         | Leg            | ROHN 5 EH         | 105              | -114.4060 | 251.3469                 | 45.5          | Pass         |
| T6          | 60 - 40         | Leg            | ROHN 5 EH         | 126              | -137.4210 | 251.3469                 | 47.5 (b)      | Pass         |
| T7          | 40 - 20         | Leg            | ROHN 6 EHS        | 145              | -157.3960 | 256.2493                 | 54.7          | Pass         |
| T8          | 20 - 0          | Leg            | ROHN 6 EH         | 160              | -179.7420 | 318.9448                 | 61.4          | Pass         |
| T1          | 150 - 140       | Diagonal       | L1 3/4x1 3/4x3/16 | 11               | -2.8539   | 10.3390                  | 56.4          | Pass         |
| T2          | 140 - 120       | Diagonal       | L2x2x1/4          | 25               | -4.2721   | 21.3073                  | 27.6          | Pass         |
| T3          | 120 - 100       | Diagonal       | L2x2x3/16         | 61               | -3.5249   | 10.4037                  | 42.3 (b)      | Pass         |
| T4          | 100 - 80        | Diagonal       | L2 1/2x2 1/2x3/16 | 88               | -4.2081   | 12.8143                  | 20.0          | Pass         |
| T5          | 80 - 60         | Diagonal       | L2 1/2x2 1/2x3/16 | 111              | -4.6127   | 9.8270                   | 40.1 (b)      | Pass         |
| T6          | 60 - 40         | Diagonal       | L3x3x1/4          | 132              | -5.0702   | 17.4320                  | 33.9          | Pass         |
| T7          | 40 - 20         | Diagonal       | L3 1/2x3 1/2x1/4  | 153              | -6.2617   | 19.0160                  | 47.0 (b)      | Pass         |
| T8          | 20 - 0          | Diagonal       | L3 1/2x3 1/2x1/4  | 168              | -7.3384   | 16.0225                  | 32.8          | Pass         |

| Section No. | Elevation ft | Component Type | Size     | Critical Element | P K     | $\phi P_{allow}$ K | % Capacity  | Pass Fail   |
|-------------|--------------|----------------|----------|------------------|---------|--------------------|-------------|-------------|
| T1          | 150 - 140    | Top Girt       | L2x2x1/8 | 4                | -0.0266 | 4.3492             | 47.2 (b)    | Pass        |
| T3          | 120 - 100    | Top Girt       | L2x2x1/8 | 56               | -1.1533 | 4.3666             | 0.6         | Pass        |
|             |              |                |          |                  |         |                    | 26.4        | Pass        |
|             |              |                |          |                  |         |                    | Summary     |             |
|             |              |                |          |                  |         | Leg (T7)           | 61.4        | Pass        |
|             |              |                |          |                  |         | Diagonal (T5)      | 58.5        | Pass        |
|             |              |                |          |                  |         | Top Girt (T3)      | 26.4        | Pass        |
|             |              |                |          |                  |         | Bolt               | 55.7        | Pass        |
|             |              |                |          |                  |         | Checks             |             |             |
|             |              |                |          |                  |         | <b>RATING =</b>    | <b>61.4</b> | <b>Pass</b> |

**APPENDIX B**  
**BASE LEVEL DRAWING**



## **APPENDIX C**

### **ADDITIONAL CALCULATIONS**

## Self Support Anchor Rod Capacity

| Site Info |                    |
|-----------|--------------------|
| BU #      | 858319             |
| Site Name | D_ALLTEL_NDFA_FARG |
| Order #   | 562411 Rev. 1      |

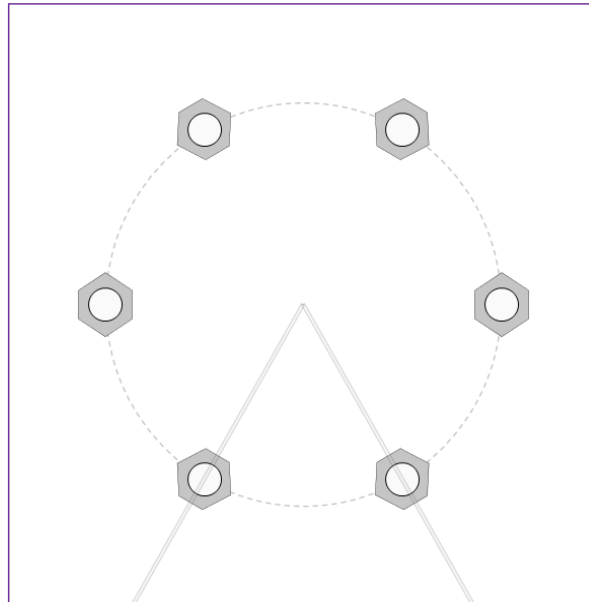
| Analysis Considerations |       |
|-------------------------|-------|
| TIA-222 Revision        | H     |
| Grout Considered:       | Yes   |
| $l_{ar}$ (in)           | 2.875 |

| Applied Loads      |        |        |
|--------------------|--------|--------|
|                    | Comp.  | Uplift |
| Axial Force (kips) | 185.60 | 166.01 |
| Shear Force (kips) | 19.98  | 17.87  |

\*TIA-222-H Section 15.5 Applied

| Considered Eccentricity   |       |
|---------------------------|-------|
| Leg Mod Eccentricity (in) | 0.000 |
| Anchor Rod N.A Shift (in) | 0.000 |
| Total Eccentricity (in)   | 0.000 |

\*Anchor Rod Eccentricity Applied



| Connection Properties                                         |  | Analysis Results        |                      |
|---------------------------------------------------------------|--|-------------------------|----------------------|
| Anchor Rod Data                                               |  | Anchor Rod Summary      |                      |
| (6) 1" $\phi$ bolts (A354-BC N; $F_y=109$ ksi, $F_u=125$ ksi) |  | (units of kips, kip-in) |                      |
| $l_{ar}$ (in): 2.875                                          |  | $Pu_t = 27.67$          | $\phi Pn_t = 56.81$  |
|                                                               |  | $Vu = 2.98$             | $\phi Vn = 36.82$    |
|                                                               |  | $Mu = n/a$              | $\phi Mn = n/a$      |
|                                                               |  |                         | <b>Stress Rating</b> |
|                                                               |  |                         | <b>46.4%</b>         |
|                                                               |  |                         | <b>Pass</b>          |



## Pier and Pad Foundation



BU #: 858319  
 Site Name: ZOD\_ALLTEL\_ND  
 App. Number: 562411 Rev. 1

TIA-222 Revision: H  
 Tower Type: Self Support

|                                  |                          |
|----------------------------------|--------------------------|
| Top & Bot. Pad Rein. Different?: | <input type="checkbox"/> |
| Block Foundation?:               | <input type="checkbox"/> |
| Rectangular Pad?:                | <input type="checkbox"/> |

| Superstructure Analysis Reactions  |        |      |
|------------------------------------|--------|------|
| Compression, $P_{comp}$ :          | 185.6  | kips |
| Compression Shear, $V_{u\_comp}$ : | 19.98  | kips |
| Uplift, $P_{uplift}$ :             | 166.01 | kips |
| Uplift Shear, $V_{u\_uplift}$ :    | 17.87  | kips |
| Tower Height, $H$ :                | 150    | ft   |
| Base Face Width, $BW$ :            | 18.88  | ft   |
| BP Dist. Above Fdn, $bp_{dist}$ :  | 3.875  | in   |

| Pier Properties                  |          |    |
|----------------------------------|----------|----|
| Pier Shape:                      | Circular |    |
| Pier Diameter, $dpier$ :         | 3.5      | ft |
| Ext. Above Grade, $E$ :          | 0.5      | ft |
| Pier Rebar Size, $Sc$ :          | 9        |    |
| Pier Rebar Quantity, $mc$ :      | 14       |    |
| Pier Tie/Spiral Size, $St$ :     | 4        |    |
| Pier Tie/Spiral Quantity, $mt$ : | 23       |    |
| Pier Reinforcement Type:         | Tie      |    |
| Pier Clear Cover, $cc_{pier}$ :  | 3        | in |

| Pad Properties                               |    |    |
|----------------------------------------------|----|----|
| Depth, $D$ :                                 | 12 | ft |
| Pad Width, $W_1$ :                           | 14 | ft |
| Pad Thickness, $T$ :                         | 2  | ft |
| Pad Rebar Size (Bottom dir. 2), $Sp_2$ :     | 7  |    |
| Pad Rebar Quantity (Bottom dir. 2), $mp_2$ : | 16 |    |
| Pad Clear Cover, $cc_{pad}$ :                | 3  | in |

| Material Properties                     |     |     |
|-----------------------------------------|-----|-----|
| Rebar Grade, $F_y$ :                    | 60  | ksi |
| Concrete Compressive Strength, $F'_c$ : | 3   | ksi |
| Dry Concrete Density, $\delta_c$ :      | 150 | pcf |

| Soil Properties                    |       |         |
|------------------------------------|-------|---------|
| Total Soil Unit Weight, $\gamma$ : | 100   | pcf     |
| Ultimate Net Bearing, $Q_{net}$ :  | 2.600 | ksf     |
| Cohesion, $C_u$ :                  | 0.500 | ksf     |
| Friction Angle, $\phi$ :           | 0     | degrees |
| SPT Blow Count, $N_{blows}$ :      |       |         |
| Base Friction, $\mu$ :             |       |         |
| Neglected Depth, $N$ :             | 6.70  | ft      |
| Foundation Bearing on Rock?        | No    |         |
| Groundwater Depth, $gw$ :          | 8     | ft      |

| Foundation Analysis Checks        |          |        |         |       |
|-----------------------------------|----------|--------|---------|-------|
|                                   | Capacity | Demand | Rating* | Check |
| Uplift (kips)                     | 248.02   | 166.01 | 63.7%   | Pass  |
| Lateral (Sliding) (kips)          | 129.24   | 19.98  | 14.7%   | Pass  |
| Bearing Pressure (ksf)            | 2.66     | 2.24   | 80.2%   | Pass  |
| Pier Flexure (Comp.) (kip*ft)     | 1138.65  | 209.79 | 17.5%   | Pass  |
| Pier Flexure (Tension) (kip*ft)   | 811.21   | 187.64 | 22.0%   | Pass  |
| Pier Compression (kip)            | 2255.33  | 202.34 | 8.5%    | Pass  |
| Pad Flexure (kip*ft)              | 821.46   | 189.23 | 21.9%   | Pass  |
| Pad Shear - 1-way (kips)          | 271.74   | 49.56  | 17.4%   | Pass  |
| Pad Shear - 2-way (Comp) (ksi)    | 0.164    | 0.048  | 27.7%   | Pass  |
| Flexural 2-way (Comp) (kip*ft)    | 1090.62  | 125.87 | 11.0%   | Pass  |
| Pad Shear - 2-way (Uplift) (ksi)  | 0.164    | 0.051  | 29.5%   | Pass  |
| Flexural 2-way (Tension) (kip*ft) | 1090.62  | 112.58 | 9.8%    | Pass  |

\*Rating per TIA-222-H Section 15.5

|                     |       |
|---------------------|-------|
| Structural Rating*: | 29.5% |
| Soil Rating*:       | 80.2% |

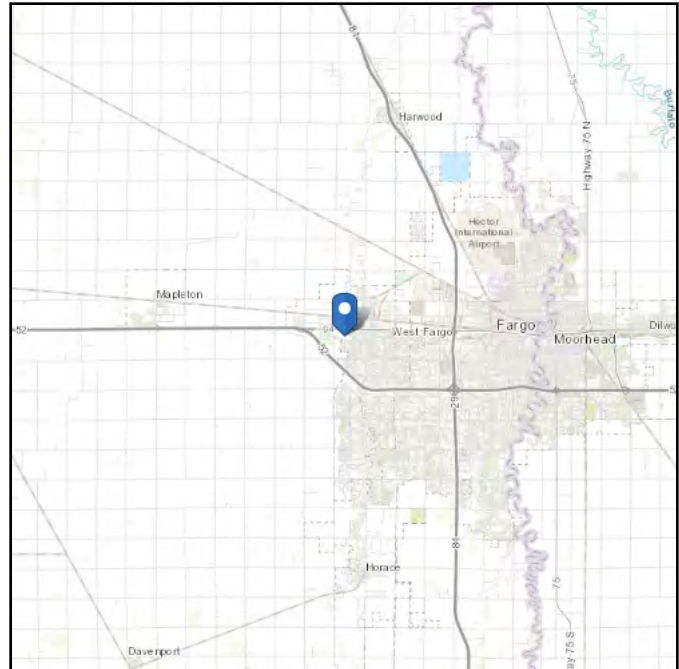
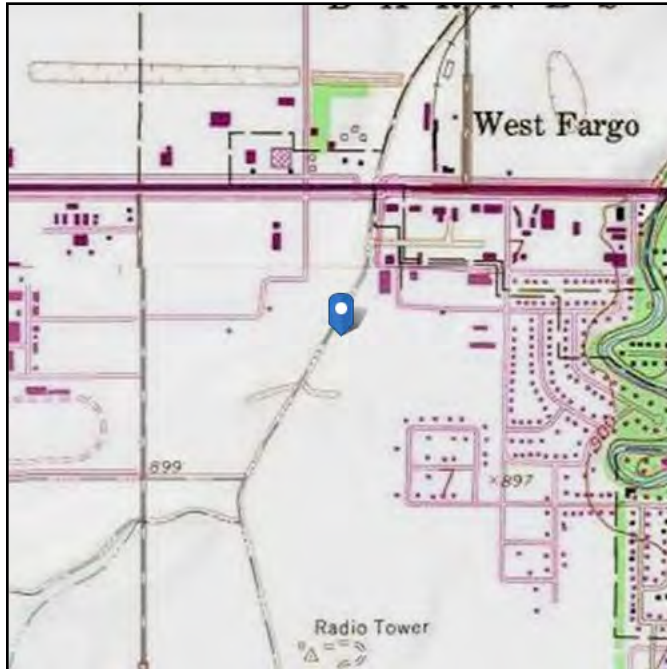
<-- Toggle between Gross and Net

# ASCE 7 Hazards Report

**Address:**  
No Address at This  
Location

**Standard:** ASCE/SEI 7-16  
**Risk Category:** II  
**Soil Class:** D - Default (see  
Section 11.4.3)

**Elevation:** 898.12 ft (NAVD 88)  
**Latitude:** 46.873275  
**Longitude:** -96.919144



## Wind

### Results:

|              |          |
|--------------|----------|
| Wind Speed:  | 111 Vmph |
| 10-year MRI  | 75 Vmph  |
| 25-year MRI  | 83 Vmph  |
| 50-year MRI  | 88 Vmph  |
| 100-year MRI | 94 Vmph  |

Data Source: ASCE/SEI 7-16, Fig. 26.5-1B and Figs. CC.2-1–CC.2-4, and Section 26.5.2

Date Accessed: Wed Jun 23 2021

Value provided is 3-second gust wind speeds at 33 ft above ground for Exposure C Category, based on linear interpolation between contours. Wind speeds are interpolated in accordance with the 7-16 Standard. Wind speeds correspond to approximately a 7% probability of exceedance in 50 years (annual exceedance probability = 0.00143, MRI = 700 years).

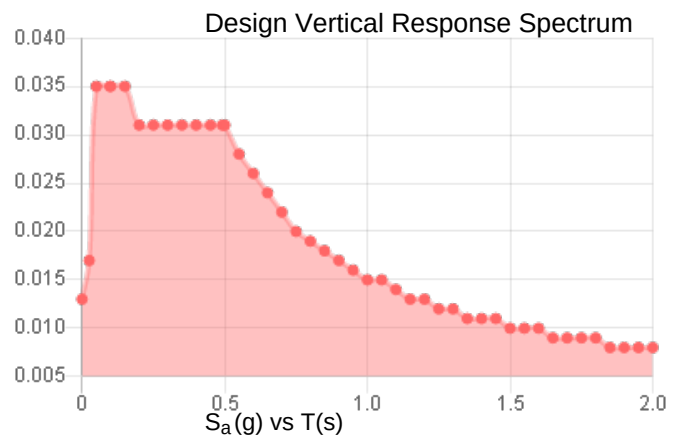
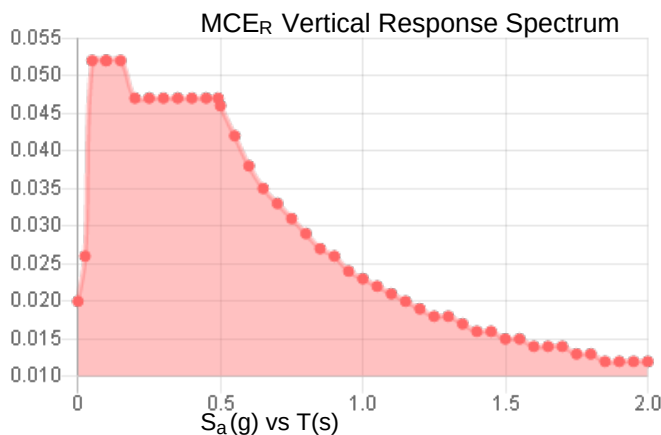
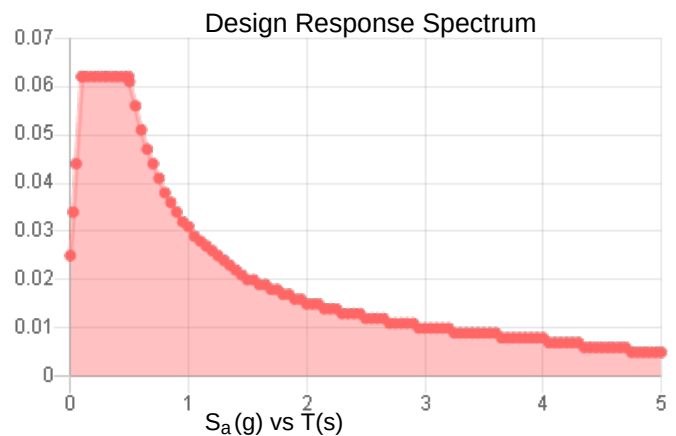
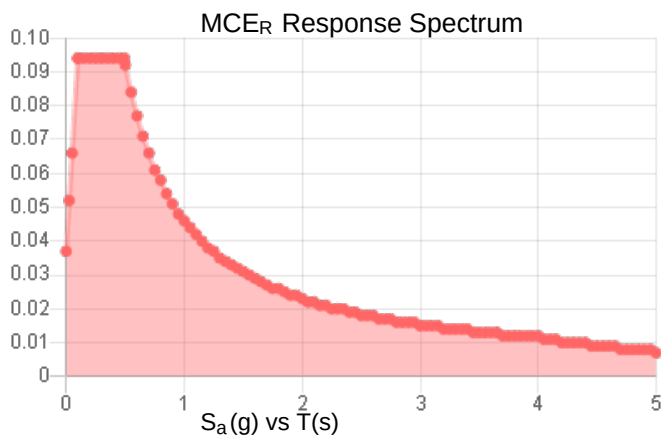
Site is not in a hurricane-prone region as defined in ASCE/SEI 7-16 Section 26.2.

**Site Soil Class:** D - Default (see Section 11.4.3)

**Results:**

|            |       |                    |       |
|------------|-------|--------------------|-------|
| $S_S$ :    | 0.058 | $S_{D1}$ :         | 0.031 |
| $S_1$ :    | 0.019 | $T_L$ :            | 4     |
| $F_a$ :    | 1.6   | PGA :              | 0.028 |
| $F_v$ :    | 2.4   | PGA <sub>M</sub> : | 0.045 |
| $S_{MS}$ : | 0.094 | $F_{PGA}$ :        | 1.6   |
| $S_{M1}$ : | 0.046 | $I_e$ :            | 1     |
| $S_{DS}$ : | 0.062 | $C_v$ :            | 0.7   |

**Seismic Design Category** A



**Data Accessed:**

Wed Jun 23 2021

**Date Source:**

USGS Seismic Design Maps based on ASCE/SEI 7-16 and ASCE/SEI 7-16 Table 1.5-2. Additional data for site-specific ground motion procedures in accordance with ASCE/SEI 7-16 Ch. 21 are available from USGS.

**Results:**

Ice Thickness: 1.00 in.  
Concurrent Temperature: -15 F  
Gust Speed: 50 mph

**Data Source:** Standard ASCE/SEI 7-16, Figs. 10-2 through 10-8

**Date Accessed:** Wed Jun 23 2021

Ice thicknesses on structures in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

Values provided are equivalent radial ice thicknesses due to freezing rain with concurrent 3-second gust speeds, for a 500-year mean recurrence interval, and temperatures concurrent with ice thicknesses due to freezing rain. Thicknesses for ice accretions caused by other sources shall be obtained from local meteorological studies. Ice thicknesses in exposed locations at elevations higher than the surrounding terrain and in valleys and gorges may exceed the mapped values.

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The ASCE 7 Hazard Tool is provided for your convenience, for informational purposes only, and is provided "as is" and without warranties of any kind. The location data included herein has been obtained from information developed, produced, and maintained by third party providers; or has been extrapolated from maps incorporated in the ASCE 7 standard. While ASCE has made every effort to use data obtained from reliable sources or methodologies, ASCE does not make any representations or warranties as to the accuracy, completeness, reliability, currency, or quality of any data provided herein. Any third-party links provided by this Tool should not be construed as an endorsement, affiliation, relationship, or sponsorship of such third-party content by or from ASCE.

ASCE does not intend, nor should anyone interpret, the results provided by this Tool to replace the sound judgment of a competent professional, having knowledge and experience in the appropriate field(s) of practice, nor to substitute for the standard of care required of such professionals in interpreting and applying the contents of this Tool or the ASCE 7 standard.

In using this Tool, you expressly assume all risks associated with your use. Under no circumstances shall ASCE or its officers, directors, employees, members, affiliates, or agents be liable to you or any other person for any direct, indirect, special, incidental, or consequential damages arising from or related to your use of, or reliance on, the Tool or any information obtained therein. To the fullest extent permitted by law, you agree to release and hold harmless ASCE from any and all liability of any nature arising out of or resulting from any use of data provided by the ASCE 7 Hazard Tool.

## JOINT POWERS AGREEMENT

**THIS JOINT POWERS AGREEMENT** (the “Agreement”) is entered into by and between the following political subdivisions: County of Cass, hereinafter referred to as “County”, Cities of Alice, Amenia, Argusville, Arthur, Ayr, Briarwood, Buffalo, Casselton, Davenport, Enderlin, Fargo, Frontier, Gardner, Grandin, Harwood, Horace, Hunter, Kindred, Leonard, Mapleton, North River, Oxbow, Page, Prairie Rose, Reile’s Acres, Tower City, and West Fargo, and respective Parks Boards, hereafter referred to as “City” and the Public School Districts of Central Cass, Enderlin, Fargo, Maple Valley, Mapleton, May-Port CG, Northern Cass, Hope- Page, and West Fargo, hereafter referred to as “District”.

1. **PURPOSE OF AGREEMENT:** The purpose of the Agreement is to provide the terms by which the County, City, and District shall coordinate the holding of their general elections in conjunction with the County’s Primary Election. It being understood that in addition to the coordination of their General Elections, the parties may, from time to time, agree to contract with the County for the administration of their Special Elections in a manner consistent with this Agreement and as may otherwise agree to by and between the entities holding such special elections. It is the intent of the parties in entering this Agreement to provide for the procedures to be followed relative to the scheduling and administration of such elections and to provide for the division of costs for election officials and any other monetary disbursements relative to such elections.
2. **AUTHORITY:** This Agreement is authorized by Article VII, Section 10 of the Constitution of the State of North Dakota (Joint Exercise of Power and Transfer of Powers), North Dakota Century Code (NDCC) chapters 54-40 (Joint Exercise of Government Powers), 40-49 (Park District Elections), 40-21 (City Elections), and 15.1-09 (School District Elections).
3. **PLAN:** The parties agree to the following implementation:
  - (a) Each entity shall be responsible for enforcement of the policies, laws, and ordinances relative to the distribution and review of petitions of candidates and for the filing of said petitions in their respective offices.
  - (b) The City and District will receive an election calendar from the Cass County Finance Office.
  - (c) The County will publish a sample ballot, notice of election and abstract of votes for the County, City, and District for the joint election in the official newspaper for Cass County. The City and District will each be responsible for any additional required legal publication.
  - (d) The City and District shall certify to the County the names of all eligible candidates for office immediately after the candidate filing deadline on the sixty-fourth day before the election in the order in which they are to be listed on the ballot. The County will enter all provided information and provide a copy to the City and District to proof and approve. The County will be responsible for the actual printing of ballots and will assume all costs for printing unless with the City or District’s information the ballot then becomes more than a two-sided ballot.
  - (e) The City has the authority under NDCC Section 16.1-04-01(1)(b) to alter the number and size of voting precincts within the City and, by this Agreement, transfers that authority to the County.

(f) The County shall be responsible for establishing and managing the polling locations for the joint elections, including setting the hours polls are to be open. Polling hours shall be consistent throughout the County. The City or District shall be responsible for costs associated with use of City or District owned facilities for polling purposes.

(g) The County shall be responsible for naming the election board, including inspectors, for the joint elections in accordance with NDCC Title 16.1.

(h) The County shall provide and maintain necessary poll books required by law.

(i) The canvassing board shall be the County Canvassing Board in accordance with NDCC Title 16.1.

(j) Within 5 days after the results of an election are declared by the canvassing board, the County shall certify to the City and District, the official results of the election. The City and/or the District shall be responsible for issuing a Certificate of Election to each person elected for a position with the respective governmental entity.

(k) The County shall administer absentee balloting in accordance with NDCC Title 16.1. Absentee voter applications shall be available from the County for joint elections; absentee ballots for joint elections shall be handled by the County.

#### **4. COSTS:**

(a) The County, City, and District shall share in the savings provided by holding joint elections.

(b) The County shall pay all costs associated with the Election and Canvassing Boards in joint elections.

(c) If the County is asked to administer a Special Election for the City or District, the Polling Locations, Election Boards, Poll Books, and Printing costs shall be the responsibility of the City or District.

(d) A City initiating a ward system where only citizens within the ward vote on commission/board candidates will be responsible for the additional costs of ballot splits.

(e) If a City or District requires that absentee or vote-by-mail applications be sent to all potential voters, the City or District shall be responsible for all related administrative costs including but not limited to staffing costs, mileage, postage, etc.

#### **5. RECOUNT:** In the event a recount is properly demanded or is required by law according to NDCC 16.1-16-01 for a City or District election which has been combined with the County according to the law and this Agreement, the County Auditor (Finance Director) shall conduct the recount according to NDCC 16.1-16-01 and certify the new results of the election to the City Auditor or School District Business Manager who shall be responsible for issuing new certificates of election if applicable.

(a) In the event a recount is properly demanded or is required by law according to NDCC 16.1-16-01 for a special City or District election which has not been combined with the County according to the law and this agreement, the City Auditor or School Business Manager, to the extent applicable, shall conduct the recount and perform all duties of the County Auditor.

(b) The expenses incurred in a recount of a City or District election, whether or not the election was combined with the County, must be paid by the City or District.

6. **DURATION:** This Agreement shall take effect on January 1, 2022 and continue until December 31, 2022. Thereafter, this Agreement automatically renews for an annual term commencing on the first day of January and ending on the 31<sup>st</sup> day of December, unless any of the parties notify the other parties in writing of its intention to withdraw, modify or amend this Agreement. That written notice must be provided on or before October 1<sup>st</sup> of the year of withdrawal. A written notice of intent to withdraw from this Agreement shall be effective on the 31<sup>st</sup> day of December of the year in which the notice is received.
7. **INSURANCE AND LIABILITY:** To the fullest extent permitted by law, actions by the parties pursuant to this Agreement are intended to be and shall be construed as a “cooperative activity” and it is the intent of the parties that they shall be deemed a “single governmental unit” for the purpose of liability. The parties shall maintain liability coverage with the North Dakota Insurance Reserve Fund with a minimum limit equal to the maximum liability limit in N.D.C.C. § 32-12.1-03.

Under no circumstances shall a party be required to pay on behalf of itself and other parties, any amounts in excess of the limits on liability established in North Dakota Century Code Chapter 32-12.1, applicable to any one (1) party. The limits of liability for some or all of the parties may not be added together to determine the maximum amount of liability for each party.

8. **LITIGATION AND DEFENSE:** The County shall defend the City and District and their officers, agents, employees, and volunteers against all third party claims or suits arising in whole or in part from any act or omission of the parties in connection with performance of this Agreement. Nothing in this Agreement shall constitute a waiver of the statutory limits of liability set forth in N.D.C.C. § 32-12.1-03. Nothing herein shall be construed to provide insurance coverage to an officer, employee, agent, or volunteer of any party for any act or omission for which the officer, employee, agent, or volunteer is guilty of malfeasance in office, willful neglect of duty or bad faith.

In the event a claim or suit is made against a party in connection with the performance of this Agreement, the party shall immediately notify the other parties of such claim or suit. The County shall investigate, handle, respond to, and provide defense for and defend against, any such claim or suit at its sole expense and shall bear all other costs and expenses related thereto, even if the County believes the claim or suit is groundless, false, or fraudulent. The County shall be entitled to reimbursement of defense cost incurred in defending the claim or suit on behalf of the City and/or District. The County shall first apply any and all available and/or applicable insurance proceeds against said claim or suit. In the event that such insurance proceeds are insufficient to satisfy the costs associated with such claim or suit, and only after the application of insurance proceeds, said costs shall then be paid by funds available to the County, subject to reimbursement by the City and/or District.

9. **AMENDMENTS:** Any modifications or amendments to this Agreement must be in writing signed by an authorized representative of each party.
10. **NOTICE:** All notices required under this Agreement will be deemed sufficiently given when delivered or deposited in the United States mail in certified form with postage fully prepaid and addressed as follows:

|                    |                                                                                                          |
|--------------------|----------------------------------------------------------------------------------------------------------|
| If to Cass County: | Cass County, North Dakota<br>Attn: County Administrator<br>211 9 <sup>th</sup> St. S.<br>Fargo, ND 58103 |
| If to Alice:       | City of Alice, North Dakota<br>Attn: City Auditor<br>517 Main Ave<br>Alice, ND 58031                     |
| If to Amenia:      | City of Amenia, North Dakota<br>Attn: City Auditor<br>203 Alley St.<br>Amenia, ND 58004                  |
| If to Argusville:  | City of Argusville, North Dakota<br>Attn: City Auditor<br>602 Lynn Dawn Dr.<br>Argusville, ND 58005      |
| If to Arthur:      | City of Arthur, North Dakota<br>Attn: City Administrator<br>PO Box 161<br>Arthur, ND 58006               |
| If to Ayr:         | City of Ayr, North Dakota<br>Attn: City Auditor<br>2941 141 Ave SE<br>Buffalo, ND 58011                  |
| If to Briarwood:   | City of Briarwood, North Dakota<br>Attn: City Auditor<br>7 Briarwood Pl.<br>Briarwood, ND 58104          |
| If to Buffalo:     | City of Buffalo, North Dakota<br>Attn: City Auditor<br>PO Box 126<br>Buffalo, ND 58011                   |
| If to Casselton:   | City of Casselton, North Dakota<br>Attn: City Auditor<br>PO Box 548<br>Casselton, ND 58012               |
| If to Davenport:   | City of Davenport, North Dakota<br>Attn: City Auditor<br>PO Box 217<br>Davenport, ND 58021               |



|                 |                                                                                                        |
|-----------------|--------------------------------------------------------------------------------------------------------|
| If to Enderlin: | City of Enderlin, North Dakota<br>Attn: City Auditor<br>PO Box 130<br>Enderlin, ND 58027               |
| If to Fargo:    | City of Fargo, North Dakota<br>Attn: City Administrator<br>225 4 <sup>th</sup> St N<br>Fargo, ND 58102 |
| If to Frontier: | City of Frontier, North Dakota<br>Attn: City Auditor<br>5202 32 <sup>nd</sup> St S<br>Fargo, ND 58104  |
| If to Gardner:  | City of Gardner, North Dakota<br>Attn: City Auditor<br>409 Front St<br>Gardner, ND 58036               |
| If to Grandin:  | City of Grandin, North Dakota<br>Attn: City Auditor<br>PO Box 234<br>Grandin, ND 58038                 |
| If to Harwood:  | City of Harwood, North Dakota<br>Attn: City Auditor<br>PO Box 65<br>Harwood, ND 58042                  |
| If to Horace:   | City of Horace, North Dakota<br>Attn: City Administrator<br>PO Box 99<br>Horace, ND 58047              |
| If to Hunter:   | City of Hunter, North Dakota<br>Attn: City Auditor<br>PO Box 56<br>Hunter, ND 58048                    |
| If to Kindred:  | City of Kindred, North Dakota<br>Attn: City Auditor<br>PO Box 158<br>Kindred, ND 58051                 |
| If to Leonard:  | City of Leonard, North Dakota<br>Attn: City Auditor<br>PO Box 307<br>Leonard, ND 58052                 |

|                                        |                                                                                                                     |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------|
| If to Mapleton:                        | City of Mapleton, North Dakota<br>Attn: City Auditor<br>PO Box 9<br>Mapleton, ND 58059                              |
| If to North River:                     | City of North River, North Dakota<br>Attn: City Auditor<br>PO Box 24<br>Galesburg, ND 58035                         |
| If to Oxbow:                           | City of Oxbow, North Dakota<br>Attn: City Auditor<br>PO Box 176<br>Kindred, ND 58051                                |
| If to Page:                            | City of Page, North Dakota<br>Attn: City Auditor<br>PO Box 62<br>Page, ND 58064                                     |
| If to Prairie Rose:                    | City of Prairie Rose, North Dakota<br>Attn: City Auditor<br>3514 41 <sup>st</sup> Ave S<br>Fargo, ND 58104          |
| If to Reile's Acres:                   | City of Reile's Acres, North Dakota<br>Attn: City Auditor<br>4635 35 <sup>th</sup> Ave N<br>Reile's Acres, ND 58102 |
| If to Tower City:                      | City of Tower City, North Dakota<br>Attn: City Auditor<br>PO Box 55<br>Tower City, ND 58071                         |
| If to West Fargo:                      | West Fargo, North Dakota<br>Attn: City Administrator<br>800 Fourth Ave E, Ste. 1<br>West Fargo, ND 58078            |
| If to Central Cass School District 17: | Central Cass School District<br>Attn: Superintendent<br>802 5 <sup>th</sup> St N<br>Casselton, ND 58012             |
| If to Enderlin Area School District:   | Enderlin School District<br>Attn: Superintendent<br>410 Bluff St<br>Enderlin, ND 58027                              |

|                                            |                                                                                                              |
|--------------------------------------------|--------------------------------------------------------------------------------------------------------------|
| If to Fargo Public Schools:                | Fargo Public Schools<br>Attn: Superintendent<br>415 4 <sup>th</sup> St N<br>Fargo, ND 58102                  |
| If to Maple Valley School District:        | Maple Valley School District<br>Attn: Superintendent<br>PO Box 168<br>Tower City, ND 58071                   |
| If to Mapleton Public Schools:             | Mapleton Public Schools<br>Attn: Superintendent<br>300 1 <sup>st</sup> St S<br>Mapleton, ND 58059            |
| If to May-Port CG School District:         | May-Port CG School District<br>Attn: Superintendent<br>900 Main St W<br>Mayville, ND 58257                   |
| If to Northern Cass School District 97:    | Northern Cass School district 97<br>Attn: Superintendent<br>16021 18 <sup>th</sup> St SE<br>Hunter, ND 58048 |
| If to Hope-Page Public School District 85: | Hope-Page Public School District 85<br>Attn: Superintendent<br>PO Box 26<br>Page, ND 58064                   |
| If to West Fargo Public Schools:           | West Fargo Public Schools<br>Attn: Superintendent<br>207 Main Ave W<br>West Fargo, ND 58078                  |

11. **GOVERNING LAW:** This Agreement shall be controlled by the laws of the State of North Dakota. Any action brought as a result of any claim, demand, or cause of action arising under the terms of this Agreement must be brought in an appropriate venue in the State of North Dakota.
12. **ENTIRE AGREEMENT:** This Agreement contains the entire understanding of the parties.
13. **BINDING EFFECT:** This Agreement will inure to the benefit of and will be binding upon the parties, and their respective successors and assigns.
14. **SEVERABILITY:** If any court of competent jurisdiction finds any provisions of this Agreement is invalid, illegal, or unenforceable, that portion will be deemed severed from this Agreement, and all remaining terms and provisions of this Agreement will remain binding and enforceable. The parties, however, agree that this Agreement will be reformed to replace any invalid, illegal, or unenforceable provision or portion of this Agreement with an alternative provision that is enforceable and bears as close a resemblance as possible to any provision determined to be invalid,

illegal, or unenforceable.

15. **COOPERATION:** The parties agree to cooperate fully, to execute any and all additional documents, and to take any and all additional actions that may be necessary or appropriate to give full force and effect to the basic terms and intent of this Agreement and to accomplish the purposes of this Agreement.
16. **ELECTRONIC SIGNATURES:** The parties acknowledge and agree that this Agreement may be executed by electronic signature, which shall be considered an original signature for all purposes and shall have the same force and effect as an original signature.

*(Remainder of page intentionally left blank.)*

*Signature Page for Cass County, North Dakota*

The governing body of Cass County, North Dakota, approved this Agreement on the 15th day of November, 2021.

**COUNTY:**

Cass County, North Dakota

By:  \_\_\_\_\_

Its: Commission chair man

**ATTEST:**

By:  \_\_\_\_\_

Its: Commission Assistant

***Signature Page for the City of Alice, North Dakota***

The governing body of the City of Alice, North Dakota, approved this Agreement on the \_\_ day of \_\_  
\_\_\_\_\_, 2021.

**CITY:**

City of Alice, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for City of Amenia, North Dakota***

The governing body of the City of Amenia, North Dakota, approved this Agreement on the \_\_\_ day of \_  
\_\_\_\_\_, 2021.

**CITY:**

City of Amenia, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Argusville, North Dakota***

The governing body of the City of Argusville, North Dakota, approved this Agreement on the \_\_\_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of Argusville, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_



***Signature Page for the City of Arthur, North Dakota***

The governing body of the City of Arthur, North Dakota, approved this Agreement on the \_\_ day of \_\_  
\_\_\_\_\_, 2021.

**CITY:**

City of Arthur, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Ayr, North Dakota***

The governing body of the City of Ayr, North Dakota, approved this Agreement on the \_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of Ayr, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Briarwood, North Dakota***

The governing body of the City of Briarwood, North Dakota, approved this Agreement on the \_\_\_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of Briarwood, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Buffalo, North Dakota***

The governing body of the City of Buffalo, North Dakota, approved this Agreement on the \_\_\_ day of \_  
\_\_\_\_\_, 2021.

**CITY:**

City of Buffalo, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Casselton, North Dakota***

The governing body of the City of Casselton, North Dakota, approved this Agreement on the \_\_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of Casselton, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Davenport, North Dakota***

The governing body of the City of Davenport, North Dakota, approved this Agreement on the \_\_\_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of Davenport, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Enderlin, North Dakota***

The governing body of the City of Enderlin, North Dakota, approved this Agreement on the \_\_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of Enderlin, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Fargo, North Dakota***

The governing body of the City of Fargo, North Dakota, approved this Agreement on the \_\_\_\_ day of \_\_\_\_  
\_\_\_\_\_, 2021.

**CITY:**

City of Fargo, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_



***Signature Page for the City of Frontier, North Dakota***

The governing body of the City of Frontier, North Dakota, approved this Agreement on the \_\_\_ day of \_  
\_\_\_\_\_, 2021.

**CITY:**

City of Frontier, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Gardner, North Dakota***

The governing body of the City of Gardner, North Dakota, approved this Agreement on the \_\_\_ day of \_  
\_\_\_\_\_, 2021.

**CITY:**

City of Gardner, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Grandin, North Dakota***

The governing body of the City of Grandin, North Dakota, approved this Agreement on the \_\_\_ day of \_  
\_\_\_\_\_, 2021.

**CITY:**

City of Grandin, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Harwood, North Dakota***

The governing body of the City of Harwood, North Dakota, approved this Agreement on the \_\_\_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of Harwood, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Horace, North Dakota***

The governing body of the City of Horace, North Dakota, approved this Agreement on the \_\_\_ day of \_\_  
\_\_\_\_\_, 2021.

**CITY:**

City of Horace, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Hunter, North Dakota***

The governing body of the City of Hunter, North Dakota, approved this Agreement on the \_\_\_ day of \_\_  
\_\_\_\_\_, 2021.

**CITY:**

City of Hunter, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Kindred, North Dakota***

The governing body of the City of Kindred, North Dakota, approved this Agreement on the \_\_\_ day of \_  
\_\_\_\_\_, 2021.

**CITY:**

City of Kindred, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Leonard, North Dakota***

The governing body of the City of Leonard, North Dakota, approved this Agreement on the \_\_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of Leonard, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_



***Signature Page for the City of Mapleton, North Dakota***

The governing body of the City of Mapleton, North Dakota, approved this Agreement on the \_\_\_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of Mapleton, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of North River, North Dakota***

The governing body of the City of North River, North Dakota, approved this Agreement on the \_\_\_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of North River, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Oxbow, North Dakota***

The governing body of the City of Oxbow, North Dakota, approved this Agreement on the \_\_ day of \_\_  
\_\_\_\_\_, 2021.

**CITY:**

City of Oxbow, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Page, North Dakota***

The governing body of the City of Page, North Dakota, approved this Agreement on the \_\_\_\_ day of \_\_\_\_  
\_\_\_\_\_, 2021.

**CITY:**

City of Page, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Prairie Rose, North Dakota***

The governing body of the City of Prairie Rose, North Dakota, approved this Agreement on the \_\_\_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of Prairie Rose, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Reile's Acres, North Dakota***

The governing body of the City of Reile's Acres, North Dakota, approved this Agreement on the \_\_\_\_ day of \_\_\_\_  
\_\_\_\_\_, 2021.

**CITY:**

City of Reile's Acres, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of Tower City, North Dakota***

The governing body of the City of Tower City, North Dakota, approved this Agreement on the \_\_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of Tower City, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for the City of West Fargo, North Dakota***

The governing body of the City of West Fargo, North Dakota, approved this Agreement on the \_\_ day of \_\_\_\_\_, 2021.

**CITY:**

City of West Fargo, North Dakota

By: \_\_\_\_\_

Its: \_\_\_\_\_

ATTEST:

By: \_\_\_\_\_

Its: \_\_\_\_\_



***Signature Page for Central Cass School District, North Dakota***

The governing body of Central Cass School District approved this Agreement on the \_\_\_ day of \_\_\_\_\_, 2021.

**DISTRICT:**

Central Cass School District

By: \_\_\_\_\_

Its: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for Enderlin Area School District, North Dakota***

The governing body of Enderlin Area School District approved this Agreement on the \_\_\_ day of \_\_\_\_\_, 2021.

**DISTRICT:**

Enderlin Area School District

By: \_\_\_\_\_

Its: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for Fargo Public Schools, North Dakota***

The governing body of Fargo Public Schools approved this Agreement on the \_\_ day of \_\_\_\_\_, 2021.

**DISTRICT:**

Fargo Public Schools

By: \_\_\_\_\_

Its: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for Maple Valley School District, North Dakota***

The governing body of Maple Valley School District approved this Agreement on the \_\_\_ day of \_\_\_\_\_, 2021.

**DISTRICT:**

Maple Valley School District

By: \_\_\_\_\_

Its: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for Mapleton Public Schools, North Dakota***

The governing body of Mapleton Public Schools approved this Agreement on the \_\_\_ day of \_\_\_\_\_, 2021.

**DISTRICT:**

Mapleton Public Schools

By: \_\_\_\_\_

Its: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for May-Port CG School District, North Dakota***

The governing body of May-Port CG School District approved this Agreement on the \_\_\_ day of \_\_\_\_\_, 2021.

**DISTRICT:**

May-Port CG School District

By: \_\_\_\_\_

Its: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for Northern Cass School District 97, North Dakota***

The governing body of Northern Cass School District 97 approved this Agreement on the \_\_\_ day of \_\_  
\_\_\_\_\_, 2021.

**DISTRICT:**

Northern Cass School District 97

By: \_\_\_\_\_

Its: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Its: \_\_\_\_\_

***Signature Page for Hope-Page Public School District 85, North Dakota***

The governing body of Hope-Page Public School District 85 approved this Agreement on the \_\_\_\_ day of \_\_\_\_\_, 2021.

**DISTRICT:**

Hope-Page Public School District 85

By: \_\_\_\_\_

Its: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Its: \_\_\_\_\_



***Signature Page for West Fargo Public Schools, North Dakota***

The governing body of West Fargo Public Schools approved this Agreement on the \_\_ day of \_\_\_\_\_, 2021.

**DISTRICT:**

West Fargo Public Schools

By: \_\_\_\_\_

Its: \_\_\_\_\_

**ATTEST:**

By: \_\_\_\_\_

Its: \_\_\_\_\_

## ACCESS AGREEMENT

THIS AGREEMENT is by and between the Southeast Cass Water Resource District, a North Dakota political subdivision, whose post office address is 1201 Main Avenue West, West Fargo, North Dakota 58078-1301 (the “District”); and the City of West Fargo, a North Dakota municipal corporation, whose post office address is 800 Fourth Avenue East, Suite 1, West Fargo, North Dakota 58078 (the “City”).

### RECITALS

A. The District owns, operates, and maintains the Sheyenne-Maple Flood Control District No. 1 Project, a flood protection project in portions of Cass County, North Dakota (the “Diversion”), including portions within the City’s municipal boundaries.

B. The City is currently engaged in a project to decommission the City’s wastewater lagoon system.

C. The District owns the following real property in Cass County, North Dakota, for purposes of operation and maintenance of the Diversion:

Cass County Tax Parcel No. 02-3000-01465-001

The property described above is the “License Property.” A map of the License Property is attached as **Exhibit A**.

D. The City has requested temporary access on and over certain portions of the License Property and various modifications of the License Property for purposes of the Project.

E. The District is willing to grant the City temporary access across portions of the License Property, subject to the terms and conditions contained in this Agreement.

NOW, THEREFORE, in consideration of the mutual covenants contained in this Agreement, and other good and valuable consideration, the receipt and sufficiency of which the parties acknowledge, the parties agree as follows:

### AGREEMENT

1. **The Project**. The City’s project will include the decommissioning and restoration of Cells 9 and 10 of the City’s wastewater lagoon system; more specifically, the project will include the removal of an irrigation structure and pipe near the northwest corner of Lagoon Cell #10; removal of a crossover pipe and gate valve between the northeast corner of Lagoon Cell #10 and the northwest corner of Lagoon Cell #9; removal of a storm pipe and installation of a manhole between the southeast corner of Lagoon Cell #10 and the southwest corner of Lagoon Cell #9 for the purpose of future drain tile discharge, outside of the License Property; and the replacement or modification of an outlet pipe located near the southwest corner of Lagoon Cell #9. The project is more specifically illustrated in the plans attached as **Exhibit B** (the “Project”).

2. **Use of the License Property.** The District grants and conveys to the City a non-exclusive, revocable license as described in this Agreement for construction, operation, inspection, maintenance, alteration, improvement, repair, replacement, reconstruction, and removal related to the Project, along with the access rights described in this Agreement upon, over, and across the License Property. The rights granted to the City by the District under this Agreement constitute a license, revocable by the District for cause or for protection of the Diversion, the License Property, or the District's other property under the terms of this Agreement, and the license does not create for or on behalf of the City any interest or estate of any kind in the License Property, either by virtue of this Agreement or by the City's entry upon or use of the License Property.

3. **Access Rights.** The City's access rights are limited to access, ingress, and egress rights upon, over, and across the License Property for purposes of the Project. The City may not use the License Property or any of the District's facilities or rights-of-way for any other purpose, and the City's use, access, ingress, and egress rights regarding the License Property will not disrupt or interfere with the Diversion or the District's use of the License Property. The City's access rights are revocable by the District in accordance with the terms of this Agreement.

4. **Assumption of Risk.** The City explicitly accepts any and all risk regarding the entry upon the License Property, or any of the District's other property or facilities under this Agreement, by the City or any of its officers, agents, representatives, employees, contractors, or subcontractors. The District will not be liable or responsible for any damages or injuries caused to or by any of the City's officers, agents, representatives, employees, contractors, or subcontractors resulting from, or in any way arising out of, any of those parties' entry upon or use of the License Property.

5. **The District's Priority Use.** The parties understand and agree the Diversion is a public facility that provides flood protection benefits and other important public benefits to residents of Cass County, including the City, and further agree the District's uses of the Diversion and the License Property for purposes of flood protection take priority over any other use of the License Property, including the City's use of the License Property for purposes of the Project under the terms of this Agreement. The parties further understand and agree the District, the Diversion, and the License Property are subject to certain laws, rules, regulations, requirements, and directives under the jurisdiction of various federal and state agencies, and the City's use of the Diversion and the License Property for purposes of the Project is subject to any applicable laws, rules, regulations, requirements, or directives from or regarding any applicable federal or state agencies; the District does not have any control over, and does not make any representations or warranties regarding, the United States Army Corps of Engineers, the Federal Emergency Management Agency, the State of North Dakota, or any other applicable federal or state agencies, or the City's use of, or inability to use, the License Property for purposes of the Project. The District will not unreasonably interfere with the Project or the City's rights under this Agreement. However, the District's priority use of the Diversion and the License Property for flood protection purposes may require and include disruptions or interference with the Project and the City's use of the License Property. The District has not made any warranties, express or implied, that the License Property is now, or will be in the future, suitable for the Project, and the District has not made any other representations, warranties, or promises regarding the License Property. The District will use reasonable care to avoid any disruptions or damages to the Project or related appurtenances;

however, the District will not be liable or responsible for any damages resulting from any construction, cleaning, inspection, reconstruction, modification, operation, maintenance, repair, or improvement of the Diversion or the License Property by the District, its officers, employees, agents, representatives, contractors, consultants, subcontractors, licensees, or other invitees. The District may, in the District's sole discretion, impose restrictions or limitations on the City's access rights as necessary for flood protection purposes or otherwise as necessary to protect the integrity of the Diversion and the License Property.

6. **Improvements to the License Property.** The City's rights under this Agreement are subject to the following:

a. With the exception of the installation of the Project components and other improvements specifically described and permitted in this Agreement, the City will not construct any improvements in, upon, under, over, or across any portion of the Diversion or the License Property; the City will not place any fixtures, equipment, or other personal property on any portion of the Diversion or the License Property; the City will not construct or install, nor allow construction or installation of, any utility facilities, lines, structures, or associated appurtenances on, over, in, under, through, or across the Diversion or the License Property; the City will not encumber any portion of the Diversion or the License Property; and the City will not otherwise alter any portion of the Diversion or the License Property without prior consent from the District.

b. The City will, at its own cost, cease any activity and remove any structure or obstruction that interferes with the Diversion or the District's use of the Diversion or the License Property.

7. **Duty to Repair and Remedies.** The City will repair the Diversion and the License Property and will repair or replace any of the District's other structures, facilities, right of way, or any other property owned by the District damaged as a result of the Project; as a result of the City's construction, operation, inspection, maintenance, alteration, improvement, repair, replacement, reconstruction, or removal of any of the Project components; or as a result of any other entry upon or use, access, ingress, or egress upon or over the Diversion or the License Property by the City or any of its officers, employees, agents, representatives, contractors, consultants, subcontractors, licensees, or other invitees. With the exception of the installation of the Project components and other improvements specifically described and permitted in this Agreement, the City will, at the City's sole cost, otherwise repair and return the Diversion and the License Property as nearly as practicable to their original condition following the Project or following any disturbance or damages. If the City fails to repair or replace within a reasonable time following request or demand from the District, or if the City otherwise fails to perform any of the City's obligations under this Agreement within a reasonable time following request or demand from the District, the District may perform the City's obligations and the City will reimburse the District for all of the District's costs and expenses. The District's remedies provided in this Agreement are cumulative and not exclusive and are in addition to any and all other remedies available to the District under North Dakota law. The City will reimburse the District for all of the District's costs and expenses, including reasonable attorneys' fees, incurred in

enforcing, collecting, or attempting to collect under this Agreement, or incurred in litigating the terms or validity of this Agreement.

8. **Term.** The City's rights under this Agreement will terminate upon the completion of the Project. The District may also terminate this Agreement if the District concludes termination is necessary to protect the integrity of the Diversion or the License Property; as necessary to comply with any laws, rules, regulations, requirements, or directives of any applicable federal or state agency with regulatory jurisdiction over the Diversion or the License Property; or in the event of any default by the City not remedied within a reasonable time. Upon any termination or expiration, the City will repair and return the Diversion and the License Property as nearly as practicable to their original condition, at the City's sole cost. The City will remain responsible and liable for any of the City's obligations or liabilities that arose prior to any termination or expiration.

9. **Compliance with Laws.** The City, at its own cost, is solely responsible for promptly complying with all present and future laws, ordinances, rules, and regulations, and obtaining all necessary licenses, permits, registrations, and/or approvals, from all applicable federal, state, county, and municipal governments and any other applicable governmental entities or political subdivisions, and their appropriate departments, commissions, boards, and officers, regarding the Project, or the City's other permissible use, access, ingress, and egress rights upon, over, or across any of the License Property.

10. **Forbearance.** The failure or delay of the District to insist on the timely performance of any of the terms of this Agreement, or the waiver of any particular breach of any of the terms of this Agreement, at any time, will not be construed as a continuing waiver of those terms or any subsequent breach, and all terms will continue and remain in full force and effect as if no forbearance or waiver had occurred.

11. **Governing Law.** This Agreement will be construed and enforced in accordance with North Dakota law.

12. **Interpretation.** This Agreement will be construed as if prepared by both parties.

13. **Severability.** If any court of competent jurisdiction finds any provision or part of this Agreement is invalid, illegal, or unenforceable, that portion will be deemed severed from this Agreement, and all remaining terms and provisions of this Agreement will remain binding and enforceable; the parties will reconvene negotiations to arrive, in good faith, at an agreement as to matters remaining undetermined as a result of any finding by a court of competent jurisdiction that any provision or part of this Agreement is invalid, illegal, or unenforceable.

14. **Entire Agreement.** This Agreement, together with any amendments, constitutes the entire agreement between the parties regarding the matters described in this Agreement, and this Agreement supersedes all other previous oral or written agreements between the parties.

15. **Assignment.** Neither party may transfer or assign this Agreement, nor any rights or obligations under this Agreement, without the express written consent of the other party.

16. **Binding Effect.** The covenants, terms, conditions, provisions, and undertakings in this Agreement, or in any amendment, will be binding upon the parties' heirs, successors, and assigns.

17. **Modifications.** Any modifications or amendments of this Agreement must be in writing and signed by the District and the City.

18. **Headings.** Headings in this Agreement are for convenience only and will not be used to interpret or construe its provisions.

19. **Effective Date.** This Agreement will become effective upon the execution by the last party to sign.

(Signatures appear on the following pages.)

SOUTHEAST CASS WATER  
RESOURCE DISTRICT

---

Dan Jacobson, Chair

ATTEST:

---

Carol Harbeke Lewis  
Secretary-Treasurer

STATE OF NORTH DAKOTA     )  
                                          ) ss.  
COUNTY OF CASS             )

On this \_\_\_\_ day of \_\_\_\_\_, 2021, before me, a Notary Public in and for said County and State, personally appeared Dan Jacobson and Carol Harbeke Lewis, to me known to be the Chair and Secretary-Treasurer, respectively, of the Southeast Cass Water Resource District, and who executed the foregoing instrument, and acknowledged to me that they executed the same on behalf of the Southeast Cass Water Resource District.

---

Notary Public, Cass County, ND

(SEAL)

CITY OF WEST FARGO

---

Bernie Dardis, President of the  
Board of City Commissioners

ATTEST:

---

Tina Fisk, City Administrator

STATE OF NORTH DAKOTA     )  
                                          ) ss.  
COUNTY OF CASS             )

On this \_\_\_\_ day of \_\_\_\_\_, 2021, before me, a Notary Public in and for said County and State, personally appeared Bernie Dardis and Tina Fisk, to me known to be the President of the Board of City Commissioners and City Administrator, respectively, of the City of West Fargo, and who executed the foregoing instrument, and acknowledged to me that they executed the same on behalf of the City of West Fargo.

---

Notary Public, Cass County, ND

(SEAL)



**EXHIBIT A**

**Map of the License Property**

**EXHIBIT B**

**Project Plans**

AGENDA ITEM DESCRIPTION  
CITY COMMISSION  
WEST FARGO, NORTH DAKOTA

1. CONTACT PERSON: Lisa Sankey
2. PHONE NUMBER: 515-5370 DATE: November 15, 2021
3. AGENDA TITLE:  
First Reading and Public Hearing for rezoning from an R-1: Once & Two Family Dwelling District to a C: Light Commercial District at 120 1st Street.
4. PLEASE **BRIEFLY** DESCRIBE YOUR REQUEST:  
Rezone an existing structure (former dental office) from R-1: One & Two Family Dwellings to C: Light Commercial to allow for a body art studio and Conditional Use Permit to allow for apartment above a commercial establishment.
5. SITE ADDRESS OR LEGAL DESCRIPTION (if applicable):  
120 1st Street (Lot 9, Block 7 of Sukuts Estates Subdivision), City of West Fargo, North Dakota.
6. ACTION BEING REQUESTED FROM CITY COMMISSION:  
Hold First Reading and Public Hearing on the Rezoning.

## STAFF REPORT

| A21-40 REZONING & CONDITIONAL USE PERMIT                                       |                            |
|--------------------------------------------------------------------------------|----------------------------|
| 120 1 <sup>st</sup> Street                                                     |                            |
| Lot 9, Block 7 of Sukuts Estates Subdivision, City of West Fargo, North Dakota |                            |
| Applicant: Nathan & Jenifer Mastrud<br>Owner: Richard & Nancy Callender        | Staff Contact: Lisa Sankey |
| Planning & Zoning Commission Public Hearing:                                   | 11-09-2021 – Approval      |
| City Commission Public Hearing & 1 <sup>st</sup> Reading:                      | 12-06-2021                 |
| 2 <sup>nd</sup> Reading and Conditional Use Permit Approval:                   |                            |

**PURPOSE:**

Rezone from R-1: One & Two Family Dwellings to C: Light Commercial to allow for a body art studio and Conditional Use Permit to allow for apartment above a commercial establishment.

**STATEMENTS OF FACT:**

|                                      |                                                                                     |
|--------------------------------------|-------------------------------------------------------------------------------------|
| Land Use Classification:             | G-4A Core-Retrofit Growth Area                                                      |
| Existing Land Use:                   | Former Dental Clinic with Living Quarters                                           |
| Current Zoning District(s):          | R-1: One & Two Family Dwellings                                                     |
| Zoning Overlay District(s):          | n/a                                                                                 |
| Proposed Zoning District(s):         | C: Light Commercial                                                                 |
| Total area size:                     | 7,000 square feet                                                                   |
| Adjacent Zoning Districts:           | North – C: Light Commercial<br>South, East & West – R-1: One & Two Family Dwellings |
| Adjacent street(s):                  | 1 <sup>st</sup> Street (Collector Street); 2 <sup>nd</sup> Ave W (Local); Alley     |
| Adjacent Bike/Pedestrian Facilities: | Sidewalks                                                                           |
| Available Parks/Trail Facilities:    | Herb Tintes Park within .3 miles                                                    |
| Land Dedication Requirements:        | n/a                                                                                 |

**DISCUSSION AND OBSERVATIONS:**

- The applicant has submitted an application for rezoning an existing structure to C: Light Commercial and a conditional use permit to allow an apartment above a commercial establishment.
- In 2019 the dental clinic, which had been at this location since 1950 relocated to a different site. Medical and Dental Clinics are considered a conditionally permitted use in the R-1: One & Two Family Dwelling District
- The applicant is proposing to rezone the property to operate a body art studio with hours of operation of 10 am to 6 pm Monday through Saturday by appointment only with no more than 5 artists.
- The applicant is also proposing to continue to utilize the living quarters on the second floor. With the proposed zoning change, a conditional use permit would be required to allow an apartment above a commercial establishment.
- Parking for the business is required to be one space per 250 square feet of gross floor area, which would be six spaces and two for the residential use. Four parking spaces are provided within the

## STAFF REPORT

garages, with additional off-street parking provided on a parking slab on the north side of the property and in front of the garages.

**NOTICES:**

Sent to: Property owners within 350' and applicable agencies and departments

## Comments Received:

- A call was received asking for more information with no concerns.
- An email was received in support of the request.
- A property owner to the west asked if there was adequate parking for the proposed use.

**CRITERIA FOR GRANTING CONDITIONAL USE PERMIT:**

With reference to the criteria for granting conditional uses, the following is noted:

1. Ingress and egress to property and proposed structures thereon with particular reference to automotive and pedestrian safety and convenience, traffic flow and control, and access in case of fire or catastrophe.
  - No concerns noted.
2. Off-street parking and loading areas where required, with particular attention to the items in (1) above and the economic, noise, glare or odor effects of the special exception on adjoining properties and properties generally in the district.
  - No concerns noted
3. Refuse and service areas, with particular reference to the items in (1) and (2) above.
  - No concerns noted
4. Utilities, with reference of locations, availability, and compatibility.
  - No concerns noted
5. Screening and buffering with reference to type, dimensions, and character.
  - No concerns noted
6. Signs, if any, and proposed exterior lighting with reference to glare, traffic safety, economic effect, and compatibility and harmony with properties in the district.
  - No concerns noted.
7. Required yards and other open space.
  - No concerns noted.
8. Soil conditions, as they relate to on-site sewage disposal, water supply, basement excavating, road construction and related land use.
  - No concerns noted.
9. General compatibility with adjacent properties and other property in the district.
  - The proposed development is located between commercial zoning on the north and was previously a dental clinic.

**CONSISTENCY WITH COMPREHENSIVE PLAN AND OTHER APPLICABLE CITY PLANS AND ORDINANCES:**

- The comprehensive plan encourages investing in older neighborhoods closer to the downtown area and an increased mix of uses through the rehabilitation of buildings and infrastructure being a priority.
- The Core - Retrofit Growth Sectors are areas that are mostly developed but still contain

STAFF REPORT

underutilized parcels. They were developed in a conventional, auto-oriented suburban pattern. New development, redevelopment, or the reuse of existing land and buildings should be encouraged to better meet the local goal of achieving more walkable and bikeable corridors and a better-connected village core. Additional growth and development within West Fargo is most desirable within these areas due to the presence of existing infrastructure and proximity of services. The plan envisions that most mixed-use development in the next decades will occur in this growth sector.

**RECOMMENDATIONS:**

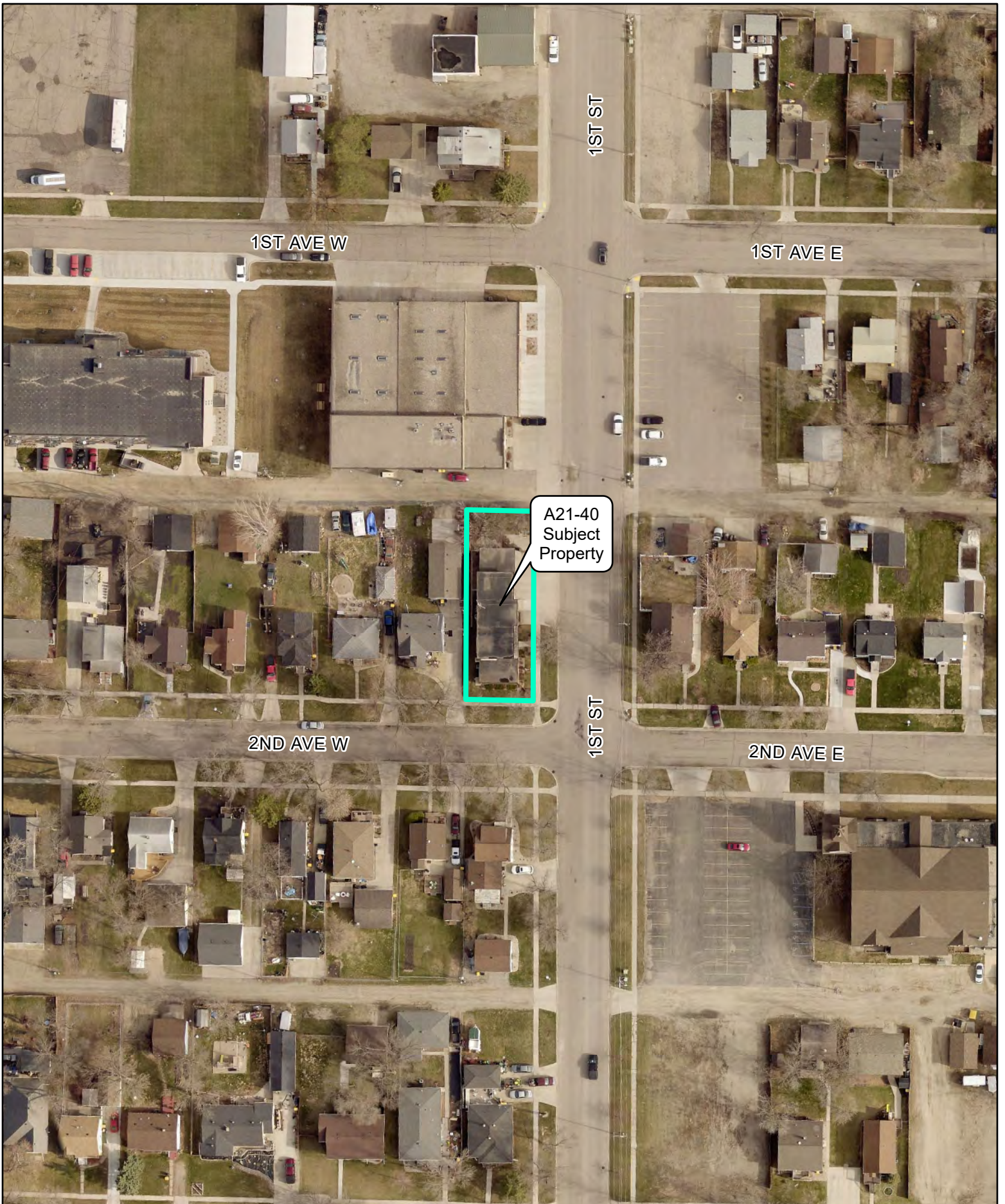
It is recommended that the City approve the proposed application on the basis that it is consistent with City plans and ordinances with recommended conditions of approval as follows:

1. A signed Conditional Use Permit Agreement is received.

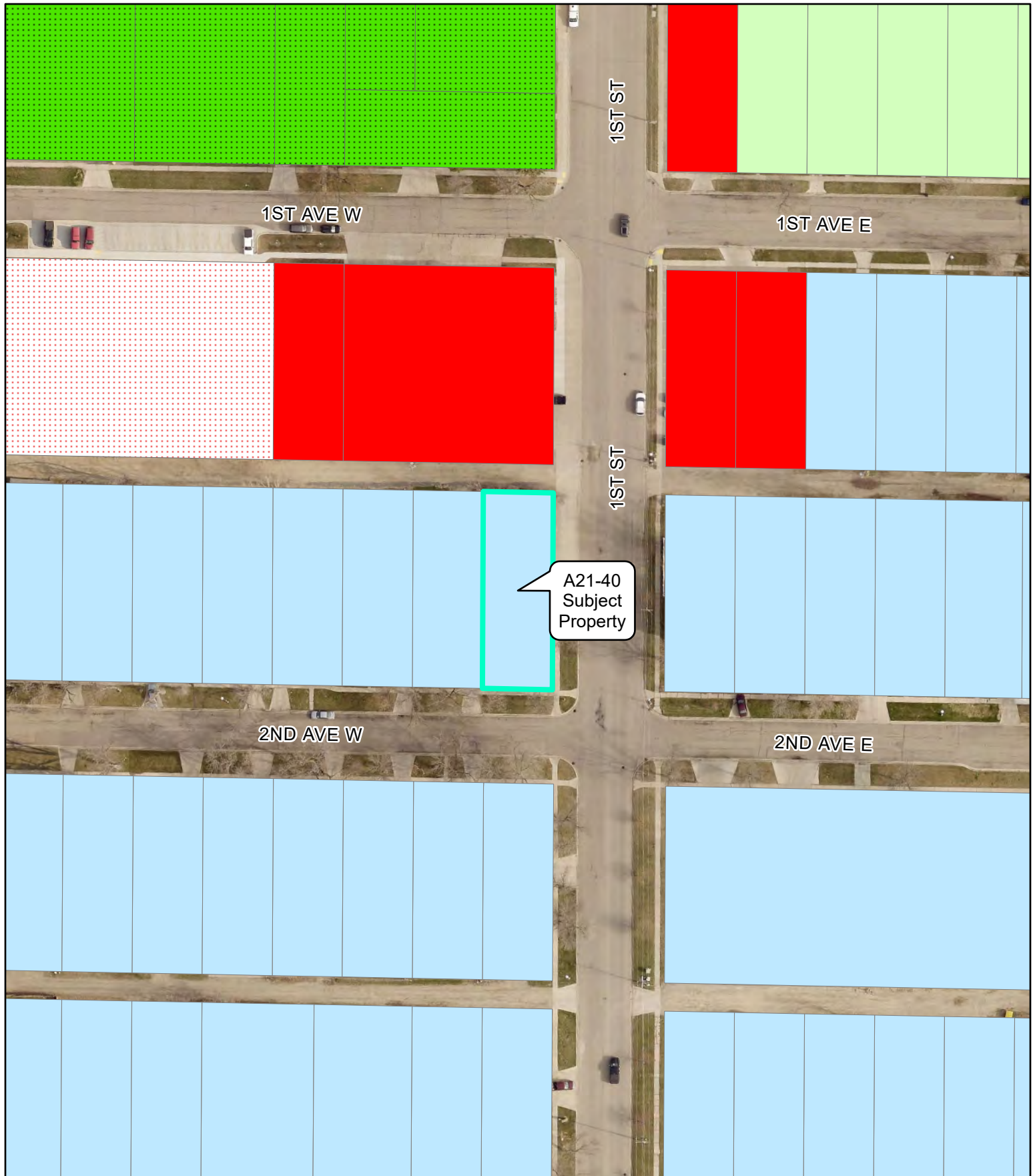
**PLANNING AND ZONING RECOMMENDATION:**

At their November 9, 2021 meeting the Planning and Zoning Commission recommended approval of the Rezoning and Conditional Use Permit subject to the condition listed above.









### West Fargo Zoning

- A: Agricultural
- C: Light Commercial
- C-OP: Commercial Office Park
- DMU: Downtown Mixed Use
- EMU: Entertainment Mixed Use
- HC: Heavy Commercial

- LI: Light Industrial
- M: Heavy Industrial
- P: Public
- PUD: Planned Unit Development
- R-L1A: Large Lot Single Family Dwelling
- R-1A: Single Family Dwelling
- R-1: One and Two Family Dwelling

- R-1SM: Mixed One and Two Family Dwelling
- R-2: Limited Multiple Dwelling
- R-3: Multiple Dwelling
- R-4: Mobile Home
- R-5: Manufactured Home Subdivision
- R-1E: Rural Estate
- R-R: Rural Residential





Comments

07/15/1997

General Remodeling

BL19970133

41,000

IMPORTED HISTORICAL

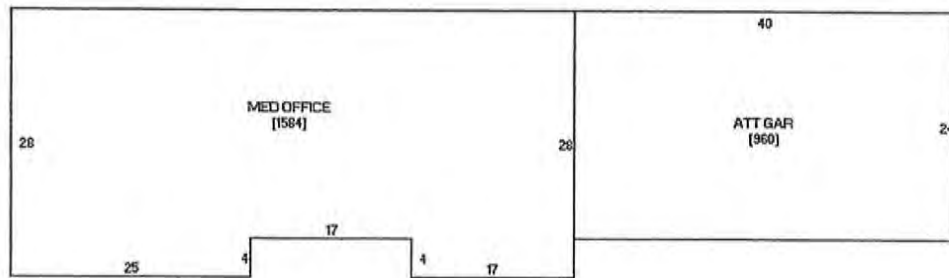
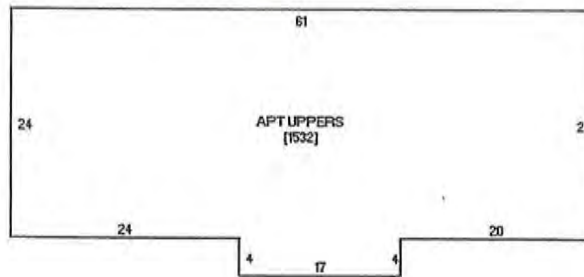
Building Permit Information is for assessment purposes only and may NOT represent valid permits or satisfactory completion of work. For more information please contact the West Fargo Building Department at 701-515-5380 or visit their [website](#).

5' (ft)

Click [here](#) for Abbreviation Key

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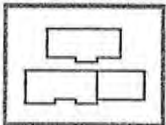
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Sketch of Pin 02-2100-01040-000

1 / 1



Full View

GIS Map Information

Note:

We will not be changing the foot print of the existing structure.

September 21<sup>st</sup> 2021

**From: Richard and Nancy Callender**

| Callender Nygard Dentistry | 120 1<sup>st</sup> Street | West Fargo | North Dakota | 58078

**To: West Fargo Zoning and Planning Commission**

| 800 Fourth Avenue East Suite 1 | West Fargo | North Dakota | 58078

Dear Members of the West Fargo Zoning and Planning Commission:

This letter is intended to serve, as notice, that we understand and support the potential buyers, Nathan and Jenifer Mastrud, of our property located at 120 1<sup>st</sup> Street West Fargo, in seeking the request to rezone Lot 9 Block 7 Sukut Estates.

The buyers are requesting a change from the current R-1 zoning of the Callender Professional Building to *Light Commercial* on the main floor, which served as a dental clinic for the last 25 plus years. They also request to maintain the *Conditional Use Permit* to allow residential living spaces on the 2<sup>nd</sup> floor of the address listed above.

If you should happen to have any questions for us, please reach out and we would be happy to answer any questions you may have.

Sincerely,

X Richard Callender

Richard Callender /Phone Number: 701-866-9705

X Nancy Callender

Nancy Callender/Phone Number: 701-861-8409

**From:** [Justin Loomis](#)  
**To:** [{All-City Planning}](#)  
**Subject:** RE: proposed rezoning and conditional use permit  
**Date:** Friday, October 29, 2021 9:28:09 PM

---

We, at 126 2nd Ave E, West Fargo, ND 58078, support the rezoning from R-1: One & Two Family Dwellings to C: light commercial, etc for 120 1st Street.

Thank you,

Justin & Lori Loomis

**CAUTION:** This email originated from outside of the organization. Do not click links or open attachments unless you recognize the sender and know the content is safe.

AGENDA ITEM DESCRIPTION  
CITY COMMISSION  
WEST FARGO, NORTH DAKOTA

1. CONTACT PERSON: Malachi Petersen
2. PHONE NUMBER: 515-5377      DATE: November 19, 2021
3. AGENDA TITLE:  
First Reading - Zoning Ordinance Amendments to Sections 4-200 Definitions, 4-440, Supplementary District Regulations, and 4-442.6 Accessory Building and Use Provisions Regarding Swimming Pools.
4. PLEASE **BRIEFLY** DESCRIBE YOUR REQUEST:  
Staff proposes Zoning Ordinance Amendments to various Chapter 4 ordinances regarding swimming pool requirements for pool permitting and to add definitions for permanent and temporary pools. The amendments define the types of barriers that can be used for pools as well as clarify acceptable height for locking mechanisms for gates and other barrier openings.
5. SITE ADDRESS OR LEGAL DESCRIPTION (if applicable):  
N/A.
6. ACTION BEING REQUESTED FROM CITY COMMISSION:  
Hold First Reading on the Zoning Ordinance Amendment.

## STAFF REPORT

**A21-43****ZONING ORDINANCE AMENDMENTS**

Zoning Ordinance Amendment 4-442.6 Accessory Building and Use Provisions regarding Swimming Pools.

Applicant: City of West Fargo

Staff Contact: Malachi Petersen

Planning and Zoning Commission Public Hearing:

11/9/2021

City Commission Public Hearing & 1st Reading:

12/6/2021

2<sup>nd</sup> Reading:

**PURPOSE:**

Amendments to Chapter 4 ordinances regarding swimming pools to clarify requirements for pool permitting and to change required fence height for private, permanent pools from six to five feet.

**DISCUSSION AND OBSERVATIONS:**

- City staff wish to once again issue permits for privately owned, permanent swimming pools. Permits for pools were previously done away with by a former Building Inspections Administrator. Prior to restarting the permitting process, staff wish to clarify requirements for pools.
- The proposed amendment states that a fence of at least five (5) feet will be required for all yards with a permanent swimming pool. Currently a home owner only needs some sort of barrier to prevent small children from gaining access to the pool, however, barrier is not clearly defined by the ordinance which has resulted in a patchwork of various barriers for pools across the city.
- The proposed amendment will change the height for required fences from six (6) feet to five (5) feet. Staff feels that five (5) feet is an appropriate height to keep unsupervised children out of yards with pools while allowing pool owners some latitude in the design and upkeep of their fences.
- Any permanent pool built after January 1, 2022 will need to be permitted by the West Fargo Building Inspections Department. Appropriate informational messaging will be done prior to the ordinance going into effect.

**NOTICES:**

Sent to: Notice in the newspaper and to City Departments

Comments Received:

- None to date.

**CONSISTENCY WITH COMPREHENSIVE PLAN AND OTHER APPLICABLE CITY PLANS AND ORDINANCES:**

- The proposed amendments do not make major substantive changes to the existing ordinances and are consistent with the Comprehensive Plan.

**RECOMMENDATIONS:**

Staff is recommending approval of the proposed amendment.

STAFF REPORT

**PLANNING AND ZONING RECOMMENDATION:**

At their November 9, 2021 meeting the Planning and Zoning Commission recommended approval of the Zoning Ordinance amendments as recommended by staff.

## CHAPTER 4-200.

### DEFINITIONS

For the purpose of this ordinance, certain terms or words used herein shall be interpreted as follows:

The word "person" includes a firm, association, organization, partnership, trust, company, or corporation as well as an individual.

The present tense includes the future tense, the singular number includes the plural, and the plural number includes the singular.

The word "shall" is mandatory, the word "may" is permissive.

The words "used" or "occupied" include the words "intended," "designed," or "arranged to be used or occupied."

The word "lot" includes the words "plot" or "parcel."

ACCESSORY USE OR STRUCTURE: A use structure on the same lot with, and of a nature customarily incidental and subordinate to, the principal use or structure, to include privately-owned, fenced swimming pools, and satellite dishes.

AUTO BODY WORK: Major automotive repair including, but not limited to, the straightening of frame, sanding, puttying and painting activities, and other activities which involve changes to the frame or exterior of a vehicle, except for automobile (van) conversion.

AUTOMOBILE (VAN) CONVERSION: Where changes are made to the exterior or interior of an automobile or van for the purpose of sale. Such changes may include cutting holes for windows or redoing the interior; however, such changes would not include activities as defined in "Auto Body Work."

BEHAVIORAL HEALTH CARE FACILITY: A building or portion of a building, whether private profit or non-profit, or institutional, principally engaged in providing services for inpatient and outpatient services for treatment of victims of drug addition, psychiatric, psychological, or other behavioral health condition where care may be provided on a short-term or long-term basis whose operators are licensed by the State of North Dakota or by Chapter 10-13 of the Revised Ordinances of 1990 of the City of West Fargo, but not to include hospitals.

Source: Ord. 1049, Sec. 5 (2015)

BUILDABLE AREA: The portion of a lot remaining after required yards have been provided.

CHILD CARE CENTER: Any facility which is licensed as a child care center by the Department of Human Services to provide early childhood services to 13 or more children.

Source: Ord. 571, Sec. 1 (1999); Ord. 1049, Sec. 5 (2015).

CHILD CARE HOME: Any provider occupied single family dwelling (home) which is licensed as a "group child care home" or "group child care facility" by the Department of Human Services to provide early childhood services on a regular basis, and which facility has between eight (8) and twelve (12) children present, excluding the children of the childcare provider, as determined by the Department of Human Services.

Source: Ord. 1049, Sec. 5 (2015)

COMMERCIAL AGRICULTURE: The use of land for the growing and/or production of field crops, livestock, and livestock products for the production of income including but not limited to the following:

- a. field crops, including: barley, soy beans, corn, hay, oats, potatoes, rye, wheat, sunflowers, and sugar beets.
- b. livestock, including: dairy and beef cattle, goats, horses, sheep, hogs, poultry, game birds, and other animals including dogs, ponies, and rabbits.
- c. livestock products, including: milk, butter, cheese, eggs, meat, fur, and honey.

CONDITIONAL USE: A use which is not appropriate generally or without restriction throughout a zoning district, but which, if controlled as to number, area, location, or relation to the neighborhood, would promote the public health, safety, welfare, morals, order, comfort, convenience, appearance, prosperity, or general welfare. Such uses are allowed in a zoning district as a conditional use if specific provision for such uses is made in the zoning district regulations.

CONDOMINIUM: Individual ownership of a unit in a multiple dwelling structure.

CONVENIENCE ESTABLISHMENTS: Small establishments designed and intended to serve the daily or frequent trade or service needs of immediately surrounding medium to high density population. Such establishments include groceries, coin-operated laundry and dry-cleaning agencies, tailoring and dressmaking shops, beauty shops, barber shops, and the like. Specifically excluded are filling stations and repair garages, drive-in eating and drinking establishments, and liquor establishments.

DWELLING, MANUFACTURED HOME: A factory built structure which is to be used as a place for human habitation, which is not constructed or equipped with a permanent hitch or other device allowing it to be moved other than to a permanent site, which does not have permanently attached to its body or frame any wheels or axles, and which bears a label certifying that it was built in compliance with the Manufactured Home Construction and Safety Standards Act of 1974 (24 CFR 3280) which became effective June 15,



1976, promulgated by the United States Department of Housing and Urban Development.

Source: Ord. 527, Sec. 1 (1997)

DWELLING, MOBILE HOME: A factory built structure, transportable in one or more sections, which in the traveling mode is eight body feet (8') or more in width or forty body feet (40') or more in length, or when placed on site, is three hundred twenty (320) or more square feet, and which is built on a permanent chassis and designed to be used as a year-round dwelling with or without permanent foundation when connected to the required utilities, and includes the plumbing, heating, air conditioning and electrical systems contained therein and which bears a label certifying that it was built in compliance with the Manufactured Home Construction and Safety Standards Act of 1974 (24 CFR 3280), which became effective June 15, 1976, promulgated by the United States Department of Housing and Urban Development.

Source: Ord. 527, Sec. 1 (1997)

DWELLING, MULTIPLE: A residential building designed for or occupied by three or more families, with the number of families in residence not exceeding the number of dwelling units provided. Condominiums and three or more unit townhouses are considered Multiple Dwellings for the purposes of this ordinance.

Source: Ord. 1049, Sec. 5 (2015)

DWELLING, SINGLE FAMILY (ONE-FAMILY): A structure containing only one dwelling unit designed to be located on a permanent foundation as required by state and/or local requirements and, if site built, constructed in accordance with the provisions of the applicable State and City Codes governing construction or, if manufactured off site, constructed in accordance with either the City code governing construction or the HUD Manufactured Home Construction and Safety Standards Act of 1974 (24 CFR 3280) which became effective June 15, 1976. All single-family dwellings shall be considered and taxed as real property, as provided by law. Each single-family dwelling shall have a minimum overall front width of twenty-two feet (22'), except in the Manufactured Housing District, minimum overall depth of twenty-two feet (22'), except in the Manufactured Housing District, and a minimum main floor living space square footage of 900 square feet for a one-story structure for all districts in which a single-family structure is allowed. The design, location and appearance of the single-family structure must be compatible with existing dwellings in the area. The roof on all single-family dwellings shall be pitched with a minimum vertical rise of four inches (4") for each twelve inches (12") of horizontal run except in the Manufactured Housing District and shall consist of shingles or other nonreflective roof material customarily used for conventional dwellings and be approved by the Building Administrator. The exterior material on all single-family dwellings shall be of a color, material and scale customarily used on existing dwellings within the general area and shall extend to the ground, except that when a solid concrete or masonry perimeter

foundation is used, the exterior covering material need not extend below the top of the foundation. The exterior material of the dwelling shall be approved by the Building Administrator.

Source: Ord. 527, Sec. 1 (1997)

DWELLING, TWIN HOME: A single-family dwelling attached to one other single-family dwelling by a common vertical wall, and each dwelling located on a separate lot.

Source: Ord. 1049, Sec. 5 (2015)

DWELLING, TWO-FAMILY: A detached residential building containing two dwelling units, designed for occupancy by not more than two families.

DWELLING UNIT: One room, or rooms connected together, constituting a separate, independent housekeeping establishment for owner occupancy, or rental or lease on a weekly, monthly, or longer basis, and physically separated from any other rooms or dwelling units which may be in the same structure, and containing independent cooking and sleeping facilities.

ESSENTIAL SERVICES: The erection, construction, alteration, or maintenance by public utilities or municipal departments or commissions of underground or overhead telephone, gas, electrical, steam, communication, or water transmission, distribution, collection, supply or disposal systems, including poles, wires, mains, drains, sewers, pipes, conduits, cables, fire alarm boxes, police call boxes, traffic signals, hydrants, and other similar equipment and accessories in connection therewith for the furnishing of adequate service by such public utilities or municipal departments or commissions to the residents of West Fargo.

EXTRATERRITORIAL ZONING JURISDICTION: Unincorporated lands outside the city limits of West Fargo over which the City has the zoning authority.

FAMILY: One or more persons related by blood or marriage or a group of not more than 5 persons who need not be related by blood or marriage living together in a dwelling units.

FAMILY CHILD CARE HOME: An occupied private residence in which early childhood services are provided for no more than seven children at any one time, excluding the children of the childcare provider, as determined by the Department of Human Services.

Source: Ord. 571, Sec. 1 (1999); Ord. 1049, Sec. 5 (2015).

FARM ANIMALS: Animals generally raised on a farm which are either pastured or kept in pens, including but not limited to beef or dairy animals, horses, mules, sheep, goats, swine, llamas, ostrich and poultry. All animals except poultry are counted individually, whereas poultry are counted in groups of five as one animal unit.

Source: Ord. 748, Sec. 9 (2005)

FEEDLOT: A confined area or structure used for feeding, breeding, or holding livestock for eventual sale in which animal waste may accumulate but not including barns, pens, or other structures used in a dairy farm operation.

FLOOR AREA, GROSS: The total area of all floors of a building as measured to the outside surfaces of exterior walls and including halls, stairways, elevator shafts, attached garages, porches, and balconies.

GRADE: The average elevation of the finished ground at the exterior walls of the main building.

GROUP HOME: Any community residential facility, foster home, family care facility, or other similar home for developmentally disabled persons.

HEIGHT, BUILDING. The vertical distance from the grade to the highest point of the coping of a flat roof or to the deck line of a mansard roof, or to a point midway between elevation of the eaves and elevation of the ridge, for gable, hip and gambrel roof.

Source: Ord. 1049, Sec. 5 (2015)

HOME OCCUPATION: An accessory use of a dwelling unit for gainful employment involving the manufacture, provision, or sale of goods and/or services, excluding child care home as provided for in this ordinance.

Source: Ord. 1049, Sec. 5 (2015)

JUNK YARD: Any area used for the storage, keeping or abandonment of junk, including scrap metals, or other scrap materials or goods, or used for the dismantling, demolition or abandonment of automobiles or other vehicles or machinery or parts thereof.

KENNEL: Any place in or at which any number of dogs are kept for the purpose of sale or in connection with boarding, care, or breeding, for which any fee is charged.

LANDFILL: A site where garbage, junk, building materials, demolition materials, trash, rubbish, or hazardous waste is placed in the ground for disposal or for fill purposes. A landfill shall not include dumping of materials covered by a permit under Chapter 15-0311 of the Revised Ordinances of 1990 of the City of West Fargo.

Source: Ord. 455, Sec. 1 (1993)

LOADING SPACE: A space or berth on the sale lot with a building, or contiguous to a group of buildings, for the temporary parking of a commercial vehicle while loading or unloading merchandise or materials and which abuts upon a street, alley or other appropriate means of access.

LOT: A parcel of land of at least sufficient size to meet minimum zoning requirements for use, coverage, and area, and to provide such yards and other open spaces as are herein required. Such lot shall have frontage on an improved public street, or on an approved private street, and may consist of:

- a. A single lot of record.
- b. A portion of a lot of record.
- c. A combination of complete lots of record, of complete lots of record and portions of lots of record, or of portions of lots of record.
- d. A parcel described by metes and bounds, provided that in no case of division or combination shall any residual lot or parcel be created which does not meet the requirements of this Ordinance.

LOT CORNER: A lot abutting upon two or more intercepting or intersecting streets, where the interior angle of the intersection or interception does not exceed one hundred thirty-five (135) degrees.

LOT COVERAGE: The amount of land covered or permitted to be covered by principal buildings, accessory buildings, and required parking spaces. When including other impervious surface areas such as driveways, parking areas which are not required or other areas, the total lot coverage may not exceed seventy (70) percent for single family and two-family lots, or seventy-five (75) percent for townhomes and multiple dwelling lots. Lot coverage percentages shall apply to front yards independently and to the entire lot in aggregate.

Source: Ord. 748, Sec. 9 (2005)

LOT DEPTH: The mean horizontal distance between the front lot line and the rear lot line, or the distance between the midpoint of the front lot line and the midpoint of the rear lot line.

LOT FRONTAGE: The front of a lot shall be construed to be the portion nearest the street. For the purposes of determining yard requirements on corner lots and through lots, all sides of a lot adjacent to streets shall be considered frontage and shall be provided as indicated under YARDS in this section.

LOT, DOUBLE FRONTAGE: A lot having a frontage of two nonintersecting streets, as distinguished from a corner lot.

LOT, INTERIOR: A lot other than a corner lot.

LOT OF RECORD: A lot which is part of a subdivision recorded in the Office of the Cass County Register of Deeds, or a lot or parcel described by metes and bounds, the description of which has been so recorded, prior to the effective date of this Ordinance.

LOT WIDTH: The distance as measured by a straight line, between side lot lines at the points of intersection with the building line.

NONCONFORMITIES: Lots, structures, uses of land and structures, and characteristics of uses, which are prohibited under the terms of this ordinance, but were lawful at the date of this Ordinance's enactment.

PARKING SPACE, OFF-STREET: A space adequate for parking an automobile with room for opening doors on both sides, together with properly related access to a public street or alley and maneuvering room.

PRIVATE NONCOMMERCIAL RECREATIONAL OR CULTURAL FACILITY: A facility catering exclusively to members and their guests, or premises and buildings for recreational or athletic purposes which are not conducted primarily for gain; provided that any vending stands, merchandising, or commercial activities are conducted only as required for the membership of such club.

PROVISIONAL PERMITTED USES: A use which is generally held as appropriate and would promote the public health, safety, welfare, morals, order, comfort, convenience, appearance, prosperity, or general welfare throughout a zoning district when certain provisions as stated are met to minimize the use's affects on neighboring properties.

Source: Ord. 783, Sec. 1 (2006)

RETIREMENT COMMUNITIES OR ELDERLY HOUSING PROJECTS: A multiple residential structure or structures designed exclusively for use by elderly or retired persons. To fulfill this requirement at least one occupant of each unit must be retired or at least Fifty-five (55) years of age.

SALVAGE YARD: A place where waste, discarded or salvaged materials are brought, sold, exchanged, baled, packed, disassembled or handled; including auto wrecking yards, house wrecking yards, used material yards; but not including pawn shops, antique shops, purchase or storage of used furniture and household equipment, or the placing of used cars in operable condition.

SETBACK: The required distance between every structure and the front lot line, as prescribed in the district regulations of this Ordinance.

SIGNS: See Section 4-460 of this Ordinance for all definitions relating to signs.

STORY: That portion of a building included between the upper surface of any floor and the upper surface of the floor next above, except that the topmost story shall be that portion of a building included between the upper surface of the topmost floor and the ceiling or roof above. If the finished floor level directly above a basement, cellar or unused under-floor space is more than six (6)

feet above grade as defined herein for more than fifty percent (50%) of the total perimeter or is more than twelve (12) feet above grade as defined herein at any point, such basement, cellar or unused under-floor space shall be considered as a story.

STREET LINE: The right-of-way line of a street.

STRUCTURE: Anything constructed or erected with a fixed location on the ground, or attached to something having a fixed location on the ground.

PERMANENT SWIMMING POOL: Any structure, basin, or tank either above or below the ground designed to be used for swimming or wading which has a capacity of ~~one thousand (1,000)~~ five thousand (5,000) gallons or more or which has a depth of over twenty-four (24) inches.

TEMPORARY SWIMMING POOL: Any structure, basin, or tank either above or below the ground designed to be used for swimming or wading which has a capacity of less than five thousand (5,000) gallons or which has a depth of less than twenty-four (24) inches.

Source: Ord. 501, Sec. 4 (1996).

TEMPORARY USE: The use of land for a fixed period of time with the intent to discontinue such use upon the expiration of permitted time period.

Source: Ord. 916, Sec. 13 (2012)

TEMPORARY STRUCTURE: A structure without any foundation or footings and does not require a temporary building permit. Such building is constructed with the understanding that it will be removed when the permitted time has expired.

Source: Ord. 916, Sec. 13 (2012)

TRAVEL TRAILER: A vehicular, portable structure built on a chassis, designed to be used as a temporary dwelling for travel and recreational purposes, having a body width not exceeding eight feet.

TOWNHOUSE: A single-family dwelling unit occupying its own lot but attached to one or more other units by a common wall or walls.

VARIANCE: A relaxation of the terms of the zoning ordinance where such variance will not be contrary to the public interest and where, owing to conditions peculiar to the property and not the result of actions of the applicant, a literal enforcement of the ordinance would result in unnecessary and undue hardship. As used in this Ordinance, a variance is authorized only for height, area, and size of structure or size of yards and open spaces; establishment or expansion of a use otherwise prohibited shall not be allowed by variance, nor shall a variance be granted because of the presence of nonconformities in the zoning district or uses in an adjoining zoning district.

YARD: An open space, other than a court, on the same lot with

a building, unoccupied and unobstructed by any portion of a structure from 30 inches above the general ground level of the graded lot upward. In measuring a yard for the purpose of determining the width of a side yard, the depth of a front yard, or the depth of a rear yard, the minimum horizontal distance between the lot line and the main building shall be used.

YARD, FRONT: A yard extending across the front of a lot between the side lot lines and extending from the front lot line to the front of the principal building or any projections thereof. The Front Yard shall be facing a public street. In the case of corner lots where two or more sides of a lot front on a street, the property owner shall determine which side shall be the front for the purpose of establishing setback requirements. In any required front yard, no fence or wall shall be permitted which materially impeded vision across such yard above the height of 30 inches, and no hedge or other vegetation shall be permitted which materially impedes vision across such yard between the heights or 30 inches and 10 feet.

DEPTH OF REQUIRED FRONT YARDS SHALL BE MEASURED: At right angles to a straight line joining the foremost points of the side lot lines. The foremost point of the side lot line, in the case of rounded property corners at street intersections, shall be assumed to be the point at which the side and front lot lines would have met without such rounding. Front and rear yard lines shall be parallel.

YARD, REAR: A yard extending across the rear of a lot, measured between the side lot lines, and being the minimum horizontal distance between the rear lot line and the rear of the principal building including any projections. On interior lots the rear yard shall in all cases be at the opposite end of the lot from the front yard. In the case of through lots and corner lots, there will be no rear yards, but only front and side yards.

YARD, SIDE: A yard extending from the front yard to the rear yard and being the space between the side lot line and the side of the main building including any projections.

YARD, SPECIAL: A yard behind any required yard adjacent to a public street, required to perform the same functions as a side or rear yard, but adjacent to a lot line so placed or oriented that neither the term "side yard" nor the term "rear yard" clearly applies. In such cases, the administrative official shall require a yard with minimum dimensions as generally required for a side yard or a rear yard in the district, determining which shall apply by the relation of the portion of the lot on which the yard is to be located to the adjoining lot or lots, with due regard to the orientation and location of structures and buildable areas thereon.

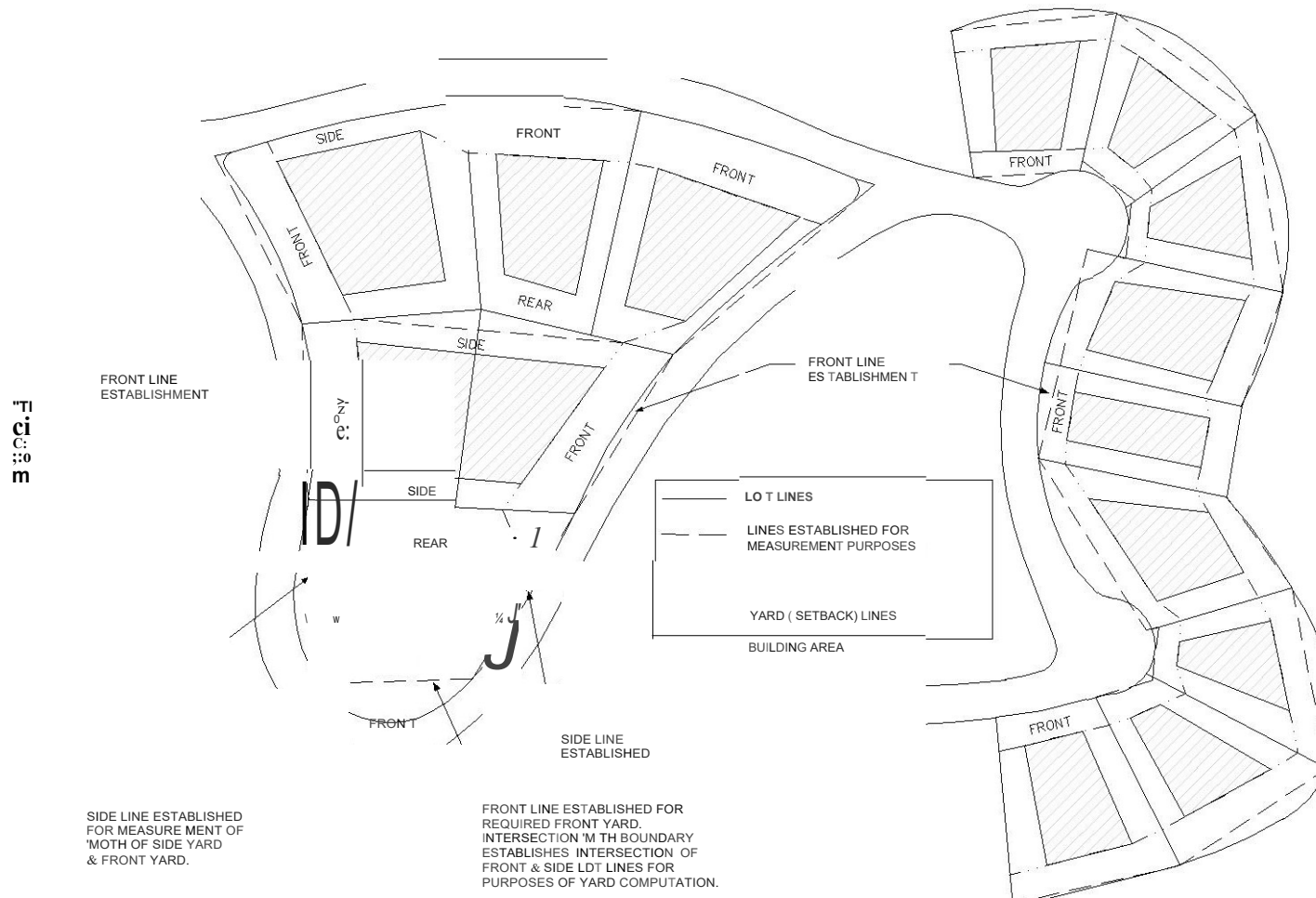
The diagram (Figure 1) on the following page illustrates location and methods of measuring yards on rectangular and non-rectangular lots.

Source: Ord. 435, Sec. 1 (1992).

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## NON-RECTANGULAR LOTS



4-440. SUPPLEMENTARY DISTRICT REGULATIONS.

Subsections:

- 4-441. General Fencing and Screening Requirements.
  - 4-442. Accessory Building and Use Provisions.
  - 4-443.
  - 4-444. Erection of More Than One Principal Structure on a Lot.
  - 4-445. Structures to Have Access.
  - 4-446. Currently Licensed Motorized Vehicle and Equipment Parking in Residential District.
  - 4-447. Parking and/or Storage of Certain Vehicles and Materials.
  - 4-448. Provisions of Home Occupations.
  - 4-449. Wireless Telecommunications.
  - 4-449-A. Landscaping Standard.
  - 4-449-B. Wind Energy Systems Standards. (Source: Ord, 916, Sec. 69 (2012))
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4-441. GENERAL FENCING AND SCREENING REQUIREMENTS.

1. DEFINITION OF FENCE. An artificially constructed structure of any material or combination of material erected to enclose or screen areas of land.
2. GENERAL FENCING AND SCREENING REQUIREMENTS FOR RESIDENTIAL AREAS. In any residential district, fences, hedges, and plantings may be permitted in the buildable area and in any required yard, or along the edge of any yard, provided that no fence or hedge along the sides or front edge of any required front yard shall be over two and one-half (2½) feet in height, except on through lots or double frontage lots where one of the front yards is intended to serve as the rear yard and is consistent with the other lots on the block, a fence or hedge may be up to six (6) feet in height. All fencing and screening shall meet visibility requirements for intersections by not impeding vision between a height of two and one-half (2½) feet and ten (10) feet within thirty (30) feet from the intersecting curb lines, or within twenty (20) feet from the intersecting property lines if there is no curb. Coordinated fencing schemes for the block are strongly encouraged, and if possible developed during the subdivision process. No fence or hedge within any buildable area or along any side or rear lot line shall be over six (6) feet in height.

Open fences such as a split rail or chain link without slats, which permit direct vision through at least 50% of the fence surface area shall be allowed a height of four (4) feet along the sides or front edge of any front yard.

Source: Ord. 916, Sec. 42 (2012)

2. REQUIRED FENCING AND SCREENING. Where any business, industrial users, or multiple-family buildings of four (4) or more units (i.e., structure, parking or storage) abuts property zoned for residential use, that business, industry, or multiple-family building shall provide screening along the boundary of the residential property. Screening shall also be provided where a business, industry, or multiple-family building of four (4) or more units is across the street from a residential zone, but not on that side of a business, industry, or multiple-family building considered to be the front yard. Provided, however, that the provisions of this section will not apply where a multiple-family building abuts a property also zoned for multiple-family use. All fencing and screening specifically required by this section shall meet visibility requirements for intersections and other requirements as stated herein, and shall consist of either a fence or green belt planting strip. A required screening fence shall be constructed of masonry, brick, wood or metal. Such fence shall provide a solid screening effect six (6) feet in height for multiple-family uses and at least six (6) feet in height for business and industrial uses. A green belt planting strip shall consist of evergreen trees and/or deciduous trees and plants and shall be of sufficient width and density to provide an effective visual screen. This planting strip shall be designed to provide substantial visual screening to a minimum height of six (6) feet. Earth mounding and berms may be used but shall not be used to achieve more than three (3) feet of the required screen, unless otherwise provided for by the City (i.e., PUD requirements).
4. CONSTRUCTION STANDARDS. No fence, hedge, or plantings shall be constructed or maintained with electrified barbed wire, or other spiked materials which may pose injurious to public health and safety. Posts and other supporting structures used in the construction of fences shall be faced inward toward the property being fenced.
5. PRIVATE RECREATIONAL FENCES. Private recreational fences shall conform to the provisions attached to residential fences. Permanent swimming pool fences shall be six (6) feet in height.
6. PUBLIC FENCES. Fences used in connection with public facilities and public recreational uses shall have a maximum height of ten (10) feet in any yard and be of the open fence variety. Residential construction standards shall apply to all public fences.
7. NON-RESIDENTIAL FENCES. Fences in light commercial areas shall conform to the provisions of residential fences. Fences in industrial or agricultural districts shall conform to the provisions attached to residential fences

except where the Building Administrator determines it would be in the public welfare to add to fence height or to add security materials onto the fence. In such cases, fences shall not exceed ten (10) feet in height.

8. TEMPORARY FENCES. Temporary fences needed to enclose sites, such as construction sites, do not require fencing permits.

SOURCE: Ord. 530, Sec. 6 (1997).

4-441.1. BUILDING CONSTRUCTION STANDARDS. Principal and accessory buildings constructed within the planning and jurisdictional limits of the City shall be according to the following standards:

1. No visible galvanized or unfinished steel, galvalum or unfinished aluminum buildings (walls or roofs), except those specifically intended to have a corrosive designed finish such as corten steel, nor any corrugated materials shall be permitted in any zoning district, except in association with farming activities, or if located in an industrial zone not identified within Corridor Overlay, Interstate Corridor Overlay, or Redevelopment Corridor Overlay districts and approved for use by the Planning and Zoning Commission.
2. Buildings in all zoning districts shall maintain a high standard of architectural and aesthetic compatibility with surrounding properties to insure that they will not adversely impact the property values of the abutting properties or adversely impact the public health, safety, and general welfare.
3. Exterior building finishes shall consist of materials comparable in grade and quality to the following:
  - a. Brick.
  - b. Natural Stone.
  - c. Decorative concrete block, except for single and two-family residential uses.
  - d. Cast in place concrete or precast concrete panels, except for single and two-family residential uses.
  - e. Wood, provided the surfaces are finished for exterior use and wood of proven exterior durability is used, such as cedar, redwood, cypress.
  - f. Curtain wall panels of steel, fiberglass and aluminum (nonstructural, no-load bearing), provided

such panels are factory fabricated and finished with a durable nonfade surface and their fasteners are of a corrosion resistant design, except for single and two-family residential uses.

- g. Glass curtain wall panels, except for single and two-family residential uses.
- h. Stucco.
- i. Horizontal vinyl and steel.
- j. Other materials as approved by the City Commission and maintained by the City Building Official.

Source: Ord. 675, Sec. 2 (2003); Ord. 916, Sec. 43 (2012).

4-442. ACCESSORY BUILDING AND USE PROVISIONS. Accessory buildings and uses, except as otherwise permitted in this Ordinance, shall be subject to the following regulations:

- 1. An accessory building or use which is structurally attached to a main building, shall be subject to, and must conform to, all regulations of this Ordinance applicable to the main building.
- 2. No detached accessory building or use in any residential district shall exceed one story or 15 feet in height.
- 3. No detached accessory building or use shall be erected in any required yard, except a rear yard, nor shall it be located closer than three (3) feet to any side or rear lot line, subject to the following exceptions:
  - a. Where the rear lot line is coterminous with any alley right-of-way, the accessory building or use shall not be closer than one (1) foot to such a rear lot line except when a garage is entered from an alley at right angles, it shall not be nearer than ten (10) feet to the rear lot line.
  - b. On corner lots, an accessory building or use, including driveways on the street side, shall maintain the same side yard setback required for the main building, except for garages accessing a public street, which shall maintain a setback of 18 feet for lots of 50 feet or less and 20 feet for lots greater in width than 50 feet.
  - c. In no instance shall an accessory building or use be located within a dedicated easement right-of-way.

- d. On through lots or double frontage lots where one of the front yards is intended to serve as the rear yard and is consistent with the other lots on the block, detached accessory buildings may be erected within twelve (12) feet of the intended rear lot line and three (3) feet of the side lot line.
  - e. Accessory buildings for townhouses may be constructed up to the interior lot line following the principal building scheme.
- 4. No accessory building shall be constructed upon a lot until the construction of the main building has been actually commenced.
  - 5. No accessory building in a residential district shall exceed 1,000 square feet, except in the Rural Residential District where accessory buildings up to 1,600 square feet are allowed. Accessory buildings greater than 1,000 square feet in the Rural Estate District and 1,600 square feet in the Rural Residential District are allowed as a conditional use.
  - 6. All swimming pools as defined by this ordinance shall be regulated as follows:
    - a. All permanent swimming pools shall be provided with safeguards to prevent children from gaining uncontrolled access. This can be accomplished with fencing, screening or other enclosure of sufficient density as to curtail access. Hard and soft pool covers are not considered to be adequate barriers. All barriers must be six feet (6') in height. Fences shall be of a noncorrosive material and shall be constructed so as to be not easily climbable. All barrier openings or points of entry into the pool enclosure shall be equipped with gates or doors. All gates or doors to permanent swimming pools shall be equipped with self-closing and self-latching devices placed at a ~~sufficient~~ height of at least fifty-four (54) inches from finished grade so as to be inaccessible to all small children. All barrier supports shall be decay or corrosion resistant and shall be set in concrete bases or other suitable protection. The opening between the bottom of the barrier and the ground or other surfaces shall not be more than four inches (4"). A permit for permanent pools is required to be reviewed and approved prior to construction by the West Fargo Building Inspections Department and West Fargo Planning & Zoning Department.
    - b. Permanent swimming pools with platforms and railings that are six (6) feet in height above the ground and temporary pools are not required to be enclosed as provided in paragraph (a) above; however, all ladders and stairways providing access to such swimming pools shall be removed from the swimming pool or shall be adequately fenced and fitted with gates or folded up and locked to prevent entry when the swimming pool is

not in use.

Source: Ord. 501, Sec. 11 (1996); Ord. 916, Sec. 44, (2012); Ord. 1137,  
Sec. 3 (2019)

AGENDA ITEM DESCRIPTION  
CITY COMMISSION  
WEST FARGO, NORTH DAKOTA

1. CONTACT PERSON: Malachi Petersen

2. PHONE NUMBER: 515-5377      DATE: November 23, 2021

3. AGENDA TITLE:

Appeal of Planning & Zoning Recommendation Regarding a Plat and Conditional Use  
Permit for a Non-Farm, Single-Family Dwelling in an Agriculturally Zoned District.

4. PLEASE **BRIEFLY** DESCRIBE YOUR REQUEST:

The applicant proposed constructing a non-farm, single-family dwelling in the city's  
Extraterritorial Area. Planning and Zoning Commission recommended to deny the  
application at their November 9<sup>th</sup> meeting. The applicant has requested review by the  
City Commission of the application.

5. SITE ADDRESS OR LEGAL DESCRIPTION (if applicable):

S ½ of Section 26, T139N, R50W, Cass County, North Dakota

---

6. ACTION BEING REQUESTED FROM CITY COMMISSION:

Approve or deny the application.

---



## STAFF REPORT

| A21-42 Subdivision/Conditional Use Permit                              |                                 |
|------------------------------------------------------------------------|---------------------------------|
| Gensler Subdivision                                                    |                                 |
| S ½ of Section 26, T139N, R50W, Cass County, North Dakota              |                                 |
| Applicants: Cathy Selberg<br>Owner: Gensler Family Limited Partnership | Staff Contact: Malachi Petersen |
| Planning & Zoning Commission Public Hearing:                           | 11/09/2021 - Denied             |
| City Commission Appeal:                                                | 12/06/2021                      |

**PURPOSE:**

Plat and Conditional Use Permit to allow for a single-family dwelling in an agriculturally zoned district.

**STATEMENTS OF FACT:**

|                                      |                                        |
|--------------------------------------|----------------------------------------|
| Land Use Classification:             | C-1: Deferred Development Sector (ETJ) |
| Existing Land Use:                   | Vacant                                 |
| Current Zoning District(s):          | A: Agricultural                        |
| Zoning Overlay District(s):          | NA                                     |
| Total area size:                     | 9.18 acres                             |
| Adjacent Zoning Districts:           | A: Agricultural                        |
| Adjacent street(s):                  | 40 <sup>th</sup> Avenue W (Arterial)   |
| Adjacent Bike/Pedestrian Facilities: | None                                   |
| Available Parks/Trail Facilities:    | None                                   |

**DISCUSSION AND OBSERVATIONS:**

- The property is located in the City's extraterritorial (ET) area about half a mile west of West Fargo City Limits.
- The proposed use of a non-farm single family dwelling is considered a conditional use within the Agricultural District subject to the property being platted.
- Conditions for approval for lot size of less than 40 acres if the surrounding ¼, ¼ section or legal lot of record is deed restricted to prevent development until the area is annexed and city services are extended to the area.
- The property is about 9 acres. The surrounding 31 acres of land will need to be deed restricted to prevent further development.
- The City currently has no utilities in this area, nor does it provide any services. Current and future owners will need to provide utilities at this location, including but not limited to water and septic.
- The property is located west of the current alignment of the proposed FM Diversion.
- A conditional use permit agreement is required to be signed prior to issuance of a building permit and may include conditions deemed appropriate by the Commission.
- Public land dedication is required pursuant to 4-0407 of City Ordinances. Given the majority of the area is proposed to remain undeveloped, staff offers for consideration the ability to defer the public land dedication or fee-in-lieu to which time when the property is either re-subdivided or is further developed upon. It would be staff's recommendation that this deferral be part of an agreement recorded against the subdivision.

## STAFF REPORT

- The area is within a Special Flood Hazard Area (SFHA). According to the Flood Hazard Layer FIRM the majority of the property the applicant intends to build on is located in Zone A and has an undefined Base Flood Elevation. City of West Fargo Floodplain Development Regulations will require the applicant to construct any proposed buildings at 2.5' above BFE. Any development will be required to meet all applicable Federal, State, and Local regulations. Attached is the FIRM map for this location, along with the preliminary flood map for reference.

**CRITERIA FOR GRANTING CONDITIONAL USE PERMIT:**

With reference to the criteria for granting conditional uses, the following is noted:

1. Ingress and egress to property and proposed structures thereon with particular reference to automotive and pedestrian safety and convenience, traffic flow and control, and access in case of fire or catastrophe.
  - Applicant has revised their site plan and proposed plat to include an access easement as requested by the County Engineer.
2. Off-street parking and loading areas where required, with particular attention to the items in (1) above and the economic, noise, glare or odor effects of the special exception on adjoining properties and properties generally in the district.
  - No concerns noted
3. Refuse and service areas, with particular reference to the items in (1) and (2) above.
  - 4-448.8 would prohibit exterior storage of equipment or materials used in the occupation.
4. Utilities, with reference of locations, availability, and compatibility.
  - No concerns noted
5. Screening and buffering with reference to type, dimensions, and character.
  - No concerns noted
6. Signs, if any, and proposed exterior lighting with reference to glare, traffic safety, economic effect, and compatibility and harmony with properties in the district.
  - No concerns noted
7. Required yards and other open space.
  - No concerns noted.
8. Soil conditions, as they relate to on-site sewage disposal, water supply, basement excavating, road construction and related land use.
  - No concerns noted.
9. General compatibility with adjacent properties and other property in the district.
  - The land adjacent to this area is tilled farm land.

**NOTICES:**

|          |                                                                                                                                      |
|----------|--------------------------------------------------------------------------------------------------------------------------------------|
| Sent to: | Property owners within 350', Mapleton Township officials, Cass County Planning, Cass County Engineer and the Cass County Sanitarian. |
|----------|--------------------------------------------------------------------------------------------------------------------------------------|

**Comments Received:**

- The Cass County Engineer has conditionally approved an access permit for the property provided that an access easement is added to the proposed plat. Applicant has submitted a revised site plan and plat in relation to the requirement.

## STAFF REPORT

**CONSISTENCY WITH COMPREHENSIVE PLAN AND OTHER APPLICABLE CITY PLANS AND ORDINANCES:**

- The Deferred Development Sector includes spaces west of the proposed Fargo-Moorhead Area Diversion Project, as well as land located in the northern section of the extraterritorial areas. At the time of the approval of West Fargo 2.0 it had not been determined what effects the project might have upon properties along the diversion and therefore it was recommended that planning and development not take place in the sector until the diversion is operational and revised flood plain maps have been made available.

**RECOMMENDATIONS:**

If the City approves the proposed application staff recommends conditions of approval as follows:

1. A deferral of public land dedication or fee-in-lieu effective at which time when the property is either re-subdivided or is further developed upon be part of an agreement recorded against the subdivision.
2. Any building permits should follow the preliminary flood map which will require percent allowable fill on any development.
3. The applicant is to meet all Federal, State, and Local requirements for improvements to the site and structures.
4. A signed deed restriction as approved by City Attorney, City Planner, and City Commission be received.
5. A signed Conditional Use Permit Agreement is received.
6. A drainage plan is received and approved by the City Engineer.
7. An Attorney Title Opinion to the City of West Fargo is received.
8. Signed Final Plat is received with any necessary easements.
9. A certificate is received showing taxes are current.

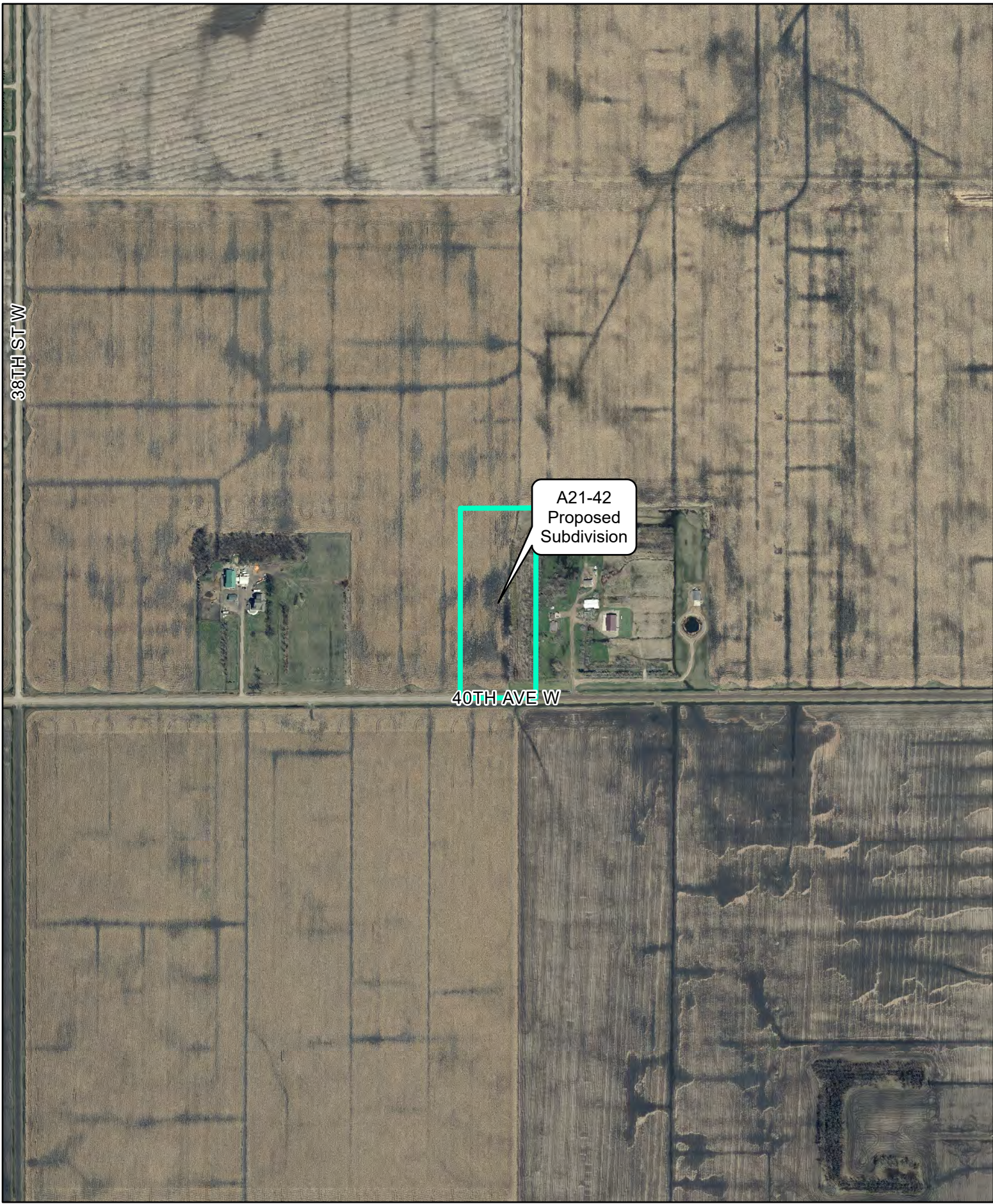
**PLANNING AND ZONING RECOMMENDATION:**

At their November 9, 2021 meeting the Planning and Zoning Commission denied the request.

**ADDITIONAL INFORMATION:**

After receiving comments from Planning & Zoning Commissioners relating to concerns on flood access, staff contacted the Cass County Engineer who noted that while the property would not have access on 40<sup>th</sup> Ave during a flood it would still have access via Cass County Highway 15 and north to 32<sup>nd</sup> Ave. Attached are comments from the County Engineer which also show imagery from the 2011 flood showing the property.







38TH ST W

40TH AVE W

A21-42  
Proposed  
Subdivision



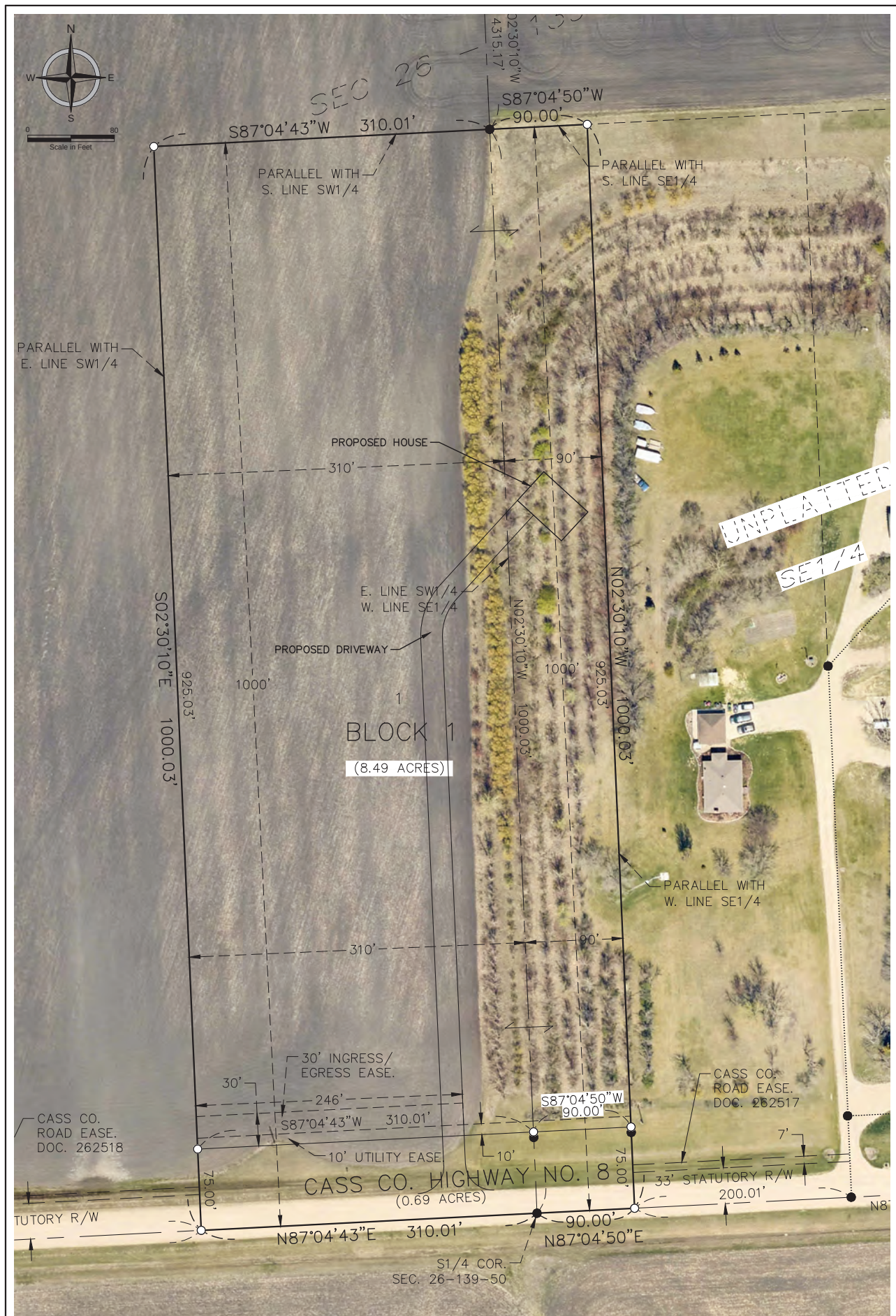
### West Fargo Zoning

- A: Agricultural
- C: Light Commercial
- C-OP: Commercial Office Park
- DMU: Downtown Mixed Use
- EMU: Entertainment Mixed Use
- HC: Heavy Commercial

- LI: Light Industrial
- M: Heavy Industrial
- P: Public
- PUD: Planned Unit Development
- R-L1A: Large Lot Single Family Dwelling
- R-1A: Single Family Dwelling
- R-1: One and Two Family Dwelling

- R-1SM: Mixed One and Two Family Dwelling
- R-2: Limited Multiple Dwelling
- R-3: Multiple Dwelling
- R-4: Mobile Home
- R-5: Manufactured Home Subdivision
- R-1E: Rural Estate
- R-R: Rural Residential





PROPOSED PRELIMINARY SITE PLAN  
GENSLER SUBDIVISION  
WEST FARGO, NORTH DAKOTA

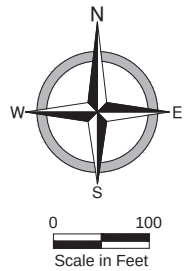
PROJECT No. 21247  
DATE: 11.03.21  
REVISED: SWH  
DRAFTER: ACT  
REVIEWER:





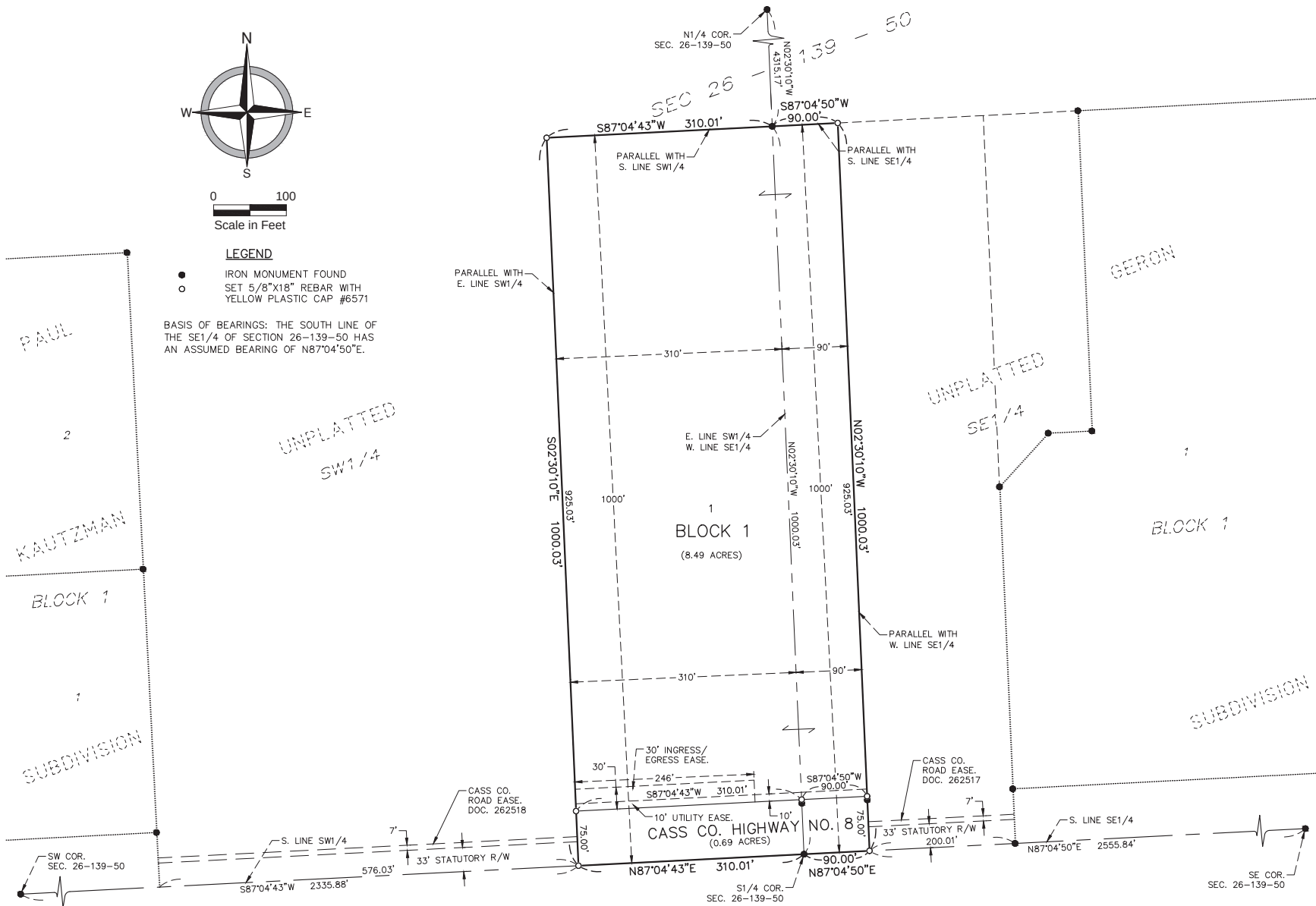
PLAT OF  
GENSLER SUBDIVISION

IN THE EXTRATERRITORIAL JURISDICTION OF THE CITY OF WEST FARGO, A PLAT OF PART OF THE  
SOUTH HALF OF SECTION 26, TOWNSHIP 139 NORTH, RANGE 50 WEST, CASS COUNTY, NORTH DAKOTA



**LEGEND**  
● IRON MONUMENT FOUND  
○ SET 5/8"x18" REBAR WITH YELLOW PLASTIC CAP #6571

BASIS OF BEARINGS: THE SOUTH LINE OF THE SE1/4 OF SECTION 26-139-50 HAS AN ASSUMED BEARING OF N87°04'50"E.



**CERTIFICATE**

STEVEN W. HOLM, BEING DULY SWORN, DEPOSES AND SAYS THAT HE IS THE REGISTERED LAND SURVEYOR WHO PREPARED AND MADE THE ATTACHED PLAT OF "GENSLER SUBDIVISION" IN THE EXTRATERRITORIAL JURISDICTION OF THE CITY OF WEST FARGO, A PLAT OF PART OF THE SOUTH HALF OF SECTION 26, TOWNSHIP 139 NORTH, RANGE 50 WEST, CASS COUNTY, NORTH DAKOTA; THAT SAID PLAT IS A TRUE AND CORRECT REPRESENTATION OF THE SURVEY THEREOF; THAT ALL DISTANCES ARE CORRECTLY SHOWN ON SAID PLAT; THAT MONUMENTS HAVE BEEN PLACED IN THE GROUND AS INDICATED FOR THE GUIDANCE OF FUTURE SURVEYS AND THAT SAID ADDITION IS DESCRIBED AS FOLLOWS, TO WIT:

THAT PART OF THE SOUTH HALF OF SECTION 26, TOWNSHIP 139 NORTH, RANGE 50 WEST OF THE FIFTH PRINCIPAL MERIDIAN, CASS COUNTY, NORTH DAKOTA, DESCRIBED AS FOLLOWS:

THE SOUTH 1000.00 FEET OF THE EAST 310.00 FEET OF THE SOUTHWEST QUARTER OF SAID SECTION 26 AS MEASURED AT A RIGHT ANGLE TO AND PARALLEL WITH THE SOUTH AND EAST LINES OF SAID SOUTHWEST QUARTER.

AND

THE SOUTH 1000.00 FEET OF THE WEST 90.00 FEET OF THE SOUTHEAST QUARTER OF SAID SECTION 26 AS MEASURED AT A RIGHT ANGLE TO AND PARALLEL WITH THE SOUTH AND WEST LINES OF SAID SOUTHEAST QUARTER.

SAID TRACT CONTAINS 9.18 ACRES, MORE OR LESS, AND IS SUBJECT TO ALL EASEMENTS, RESTRICTIONS, RESERVATIONS AND RIGHTS OF WAY OF RECORD, IF ANY.

**EASEMENTS OF RECORD**

1. NORTHWESTERN BELL TELEPHONE COMPANY, BOOK V-5 OF MISC. PAGE 23
2. CASS RURAL WATER USERS INC., BOOK C-7 OF MISC., PAGE 464
3. NORTHWESTERN BELL TELEPHONE COMPANY, BOOK I-8 OF MISC., PAGE 127
4. NORTHWESTERN BELL TELEPHONE COMPANY, BOOK P-8 OF MISC., PAGE 113
5. CASS RURAL WATER USERS INC., DOC. 913138

STEVEN W. HOLM  
REGISTERED LAND SURVEYOR  
REG. NO. LS-6571

STATE OF NORTH DAKOTA)  
COUNTY OF CASS )

ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, PERSONALLY APPEARED STEVEN W. HOLM, REGISTERED LAND SURVEYOR, KNOWN TO ME TO BE THE PERSON DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME AS HIS FREE ACT AND DEED.

NOTARY PUBLIC, CASS COUNTY, NORTH DAKOTA



**DEDICATION**

WE, THE UNDERSIGNED, DO HEREBY CERTIFY THAT WE ARE THE OWNERS OF THE LAND DESCRIBED IN THE PLAT OF "GENSLER SUBDIVISION" IN THE EXTRATERRITORIAL JURISDICTION OF THE CITY OF WEST FARGO, A PLAT OF PART OF THE SOUTH HALF OF SECTION 26, TOWNSHIP 139 NORTH, RANGE 50 WEST, CASS COUNTY, NORTH DAKOTA; THAT WE HAVE CAUSED IT TO BE PLATTED INTO LOTS AND BLOCKS AS SHOWN BY SAID PLAT AND CERTIFICATE OF STEVEN W. HOLM, REGISTERED LAND SURVEYOR, AND THAT THE DESCRIPTION AS SHOWN IN THE CERTIFICATE OF THE REGISTERED LAND SURVEYOR IS CORRECT. WE HEREBY DEDICATE ALL HIGHWAYS, UTILITY AND INGRESS/EGRESS EASEMENTS SHOWN ON SAID PLAT TO THE USE OF THE PUBLIC.

OWNER: GENSLER FAMILY LIMITED PARTNERSHIP

HOWARD C. GENSLER, GENERAL PARTNER

STATE OF NORTH DAKOTA)  
COUNTY OF CASS )

ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, PERSONALLY APPEARED HOWARD C. GENSLER, GENERAL PARTNER, KNOWN TO ME TO BE THE PERSON DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME IN THE NAME OF GENSLER FAMILY LIMITED PARTNERSHIP.

NOTARY PUBLIC, CASS COUNTY, NORTH DAKOTA

**WEST FARGO PLANNING COMMISSION APPROVAL**

THIS PLAT IN THE EXTRATERRITORIAL JURISDICTION OF THE CITY OF WEST FARGO IS HEREBY APPROVED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021.

JOSEPH F. KOLB, CHAIRMAN

STATE OF NORTH DAKOTA)  
COUNTY OF CASS )

ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, PERSONALLY APPEARED JOSEPH F. KOLB, CHAIRMAN OF THE WEST FARGO PLANNING COMMISSION, KNOWN TO ME TO BE THE PERSON DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME IN THE NAME OF THE WEST FARGO PLANNING COMMISSION.

NOTARY PUBLIC, CASS COUNTY, NORTH DAKOTA

**WEST FARGO CITY COMMISSION APPROVAL**

THIS PLAT IN THE EXTRATERRITORIAL JURISDICTION OF THE CITY OF WEST FARGO IS HEREBY APPROVED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021.

BERNIE L. DARDIS, PRESIDENT OF  
THE WEST FARGO CITY COMMISSION

TINA FISK, CITY AUDITOR

STATE OF NORTH DAKOTA)  
COUNTY OF CASS )

ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, PERSONALLY APPEARED BERNIE L. DARDIS, PRESIDENT OF THE WEST FARGO CITY COMMISSION, AND TINA FISK, CITY AUDITOR, KNOWN TO ME TO BE THE PERSONS DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT THEY EXECUTED THE SAME IN THE NAME OF THE CITY OF WEST FARGO.

NOTARY PUBLIC, CASS COUNTY, NORTH DAKOTA

**WEST FARGO CITY ATTORNEY APPROVAL**

I HEREBY CERTIFY THAT PROPER EVIDENCE OF TITLE HAS BEEN EXAMINED BY ME AND I APPROVE THE PLAT AS TO FORM AND EXECUTION THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021.

JOHN T. SHOCKLEY, CITY ATTORNEY

STATE OF NORTH DAKOTA)  
COUNTY OF CASS )

ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, PERSONALLY APPEARED JOHN T. SHOCKLEY, CITY ATTORNEY, KNOWN TO ME TO BE THE PERSON DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME AS THE CITY ATTORNEY.

NOTARY PUBLIC, CASS COUNTY, NORTH DAKOTA

**CITY ENGINEER'S APPROVAL**

THIS PLAT IN THE EXTRATERRITORIAL JURISDICTION OF THE CITY OF WEST FARGO IS HEREBY APPROVED THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021.



DUSTIN T. SCOTT, CITY ENGINEER

STATE OF NORTH DAKOTA)  
COUNTY OF CASS )

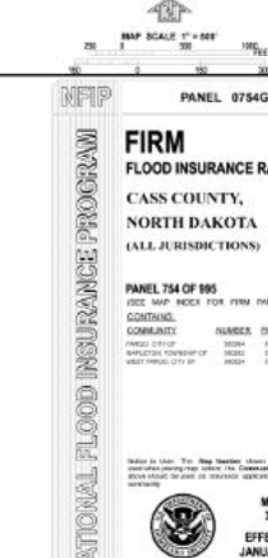
ON THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2021, BEFORE ME, A NOTARY PUBLIC IN AND FOR SAID COUNTY AND STATE, PERSONALLY APPEARED DUSTIN T. SCOTT, CITY ENGINEER, KNOWN TO ME TO BE THE PERSON DESCRIBED IN AND WHO EXECUTED THE FOREGOING INSTRUMENT AND ACKNOWLEDGED TO ME THAT HE EXECUTED THE SAME AS HIS FREE ACT AND DEED.

NOTARY PUBLIC, CASS COUNTY, NORTH DAKOTA



SHEET 1 OF 1  
PROJ. NO. 21247

---





# National Flood Hazard Layer FIRMette



96°57'53"W 46°49'22"N



0 250 500 1,000 1,500 2,000 Feet 1:6,000 96°57'15"W 46°48'58"N  
Basemap: USGS National Map: Orthoimagery: Data refreshed October, 2020

## Legend

SEE FIS REPORT FOR DETAILED LEGEND AND INDEX MAP FOR FIRM PANEL LAYOUT

- |                                    |                                                                                       |                                                                                                                                                                          |
|------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>SPECIAL FLOOD HAZARD AREAS</b>  |    | Without Base Flood Elevation (BFE)<br><i>Zone A, V, A99</i>                                                                                                              |
|                                    |    | With BFE or Depth <i>Zone AE, AO, AH, VE, AR</i>                                                                                                                         |
|                                    |    | Regulatory Floodway                                                                                                                                                      |
| <b>OTHER AREAS OF FLOOD HAZARD</b> |    | 0.2% Annual Chance Flood Hazard, Areas of 1% annual chance flood with average depth less than one foot or with drainage areas of less than one square mile <i>Zone X</i> |
|                                    |    | Future Conditions 1% Annual Chance Flood Hazard <i>Zone X</i>                                                                                                            |
|                                    |    | Area with Reduced Flood Risk due to Levee. See Notes. <i>Zone X</i>                                                                                                      |
|                                    |    | Area with Flood Risk due to Levee <i>Zone D</i>                                                                                                                          |
| <b>OTHER AREAS</b>                 |    | NO SCREEN Area of Minimal Flood Hazard <i>Zone X</i>                                                                                                                     |
|                                    |    | Effective LOMRs                                                                                                                                                          |
| <b>GENERAL STRUCTURES</b>          |    | Area of Undetermined Flood Hazard <i>Zone D</i>                                                                                                                          |
|                                    |    | Channel, Culvert, or Storm Sewer                                                                                                                                         |
|                                    |    | Levee, Dike, or Floodwall                                                                                                                                                |
| <b>OTHER FEATURES</b>              |    | 20.2 Cross Sections with 1% Annual Chance Water Surface Elevation                                                                                                        |
|                                    |    | 17.5 Cross Sections with 1% Annual Chance Water Surface Elevation                                                                                                        |
|                                    |    | Coastal Transect                                                                                                                                                         |
|                                    |    | Base Flood Elevation Line (BFE)                                                                                                                                          |
|                                    |    | Limit of Study                                                                                                                                                           |
|                                    |    | Jurisdiction Boundary                                                                                                                                                    |
| <b>MAP PANELS</b>                  |    | Coastal Transect Baseline                                                                                                                                                |
|                                    |    | Profile Baseline                                                                                                                                                         |
|                                    |   | Hydrographic Feature                                                                                                                                                     |
|                                    |   | Digital Data Available                                                                                                                                                   |
|                                    |  | No Digital Data Available                                                                                                                                                |
|                                    |  | Unmapped                                                                                                                                                                 |
|                                    |  | The pin displayed on the map is an approximate point selected by the user and does not represent an authoritative property location.                                     |

This map complies with FEMA's standards for the use of digital flood maps if it is not void as described below. The basemap shown complies with FEMA's basemap accuracy standards.

The flood hazard information is derived directly from the authoritative NFHL web services provided by FEMA. This map was exported on **11/3/2021 at 5:53 PM** and does not reflect changes or amendments subsequent to this date and time. The NFHL and effective information may change or become superseded by new data over time.

This map image is void if the one or more of the following map elements do not appear: basemap imagery, flood zone labels, legend, scale bar, map creation date, community identifiers, FIRM panel number, and FIRM effective date. Map images for unmapped and unmodernized areas cannot be used for regulatory purposes.

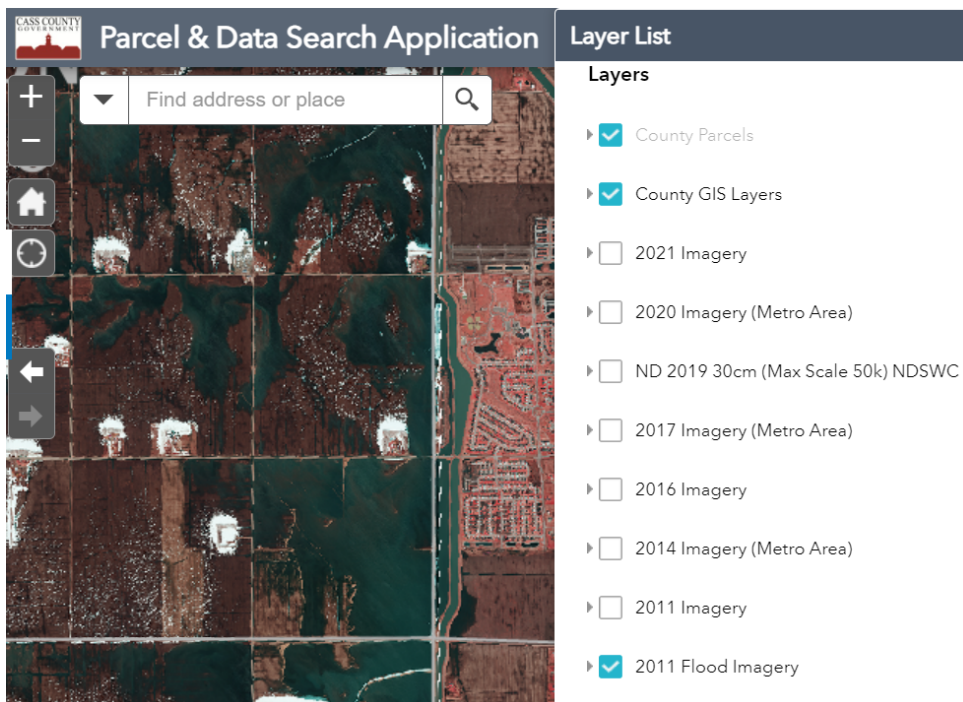
## Malachi D. Petersen

---

**From:** Benson, Jason <BensonJ@casscountynd.gov>  
**Sent:** Tuesday, November 23, 2021 9:13 AM  
**To:** Malachi D. Petersen  
**Subject:** RE: Steve Selberg's area and flood access

Here you go. You can also find this imagery on our County GIS hub at the link below. Then just click on the layer list and select the 2011 Flood Imagery.

[Mobile Parcel & Data Search Application | Cass County Hub \(arcgis.com\)](#)





Jason Benson, P.E.  
County Engineer  
Cass County Highway Department  
1201 Main Ave West  
West Fargo, ND 58078  
701-298-2372

-----Original Message-----

From: Malachi D. Petersen <Malachi.Petersen@westfargond.gov>  
Sent: Tuesday, November 23, 2021 9:02 AM  
To: Benson, Jason <BensonJ@casscountynd.gov>  
Subject: RE: Steve Selberg's area and flood access

CAUTION: EXTERNAL EMAIL

Jason,

Can you resend the link to the photo you were referring to? For some reason my computer can't open the image.

Thanks!

- Malachi

-----Original Message-----

From: Benson, Jason <BensonJ@casscountynd.gov>  
Sent: Monday, November 15, 2021 4:56 PM  
To: Malachi D. Petersen <Malachi.Petersen@westfargond.gov>  
Subject: RE: Steve Selberg's area and flood access

No problem. The aerial image I showed was from the 2011 flood. We have the 2011 flood aerial in our GIS and it's a great resource when looking a past flood issues.

Jason Benson, P.E.  
County Engineer  
Cass County Highway Department  
1201 Main Ave West  
West Fargo, ND 58078  
701-298-2372

-----Original Message-----

From: Malachi D. Petersen <Malachi.Petersen@westfargond.gov>  
Sent: Monday, November 15, 2021 4:21 PM  
To: Benson, Jason <BensonJ@casscountynd.gov>  
Subject: Re: Steve Selberg's area and flood access

CAUTION: EXTERNAL EMAIL

Thanks Jason!

---

From: Benson, Jason <BensonJ@casscountynd.gov>  
Sent: Monday, November 15, 2021 10:09:21 AM  
To: Malachi D. Petersen  
Subject: RE: Steve Selberg's area and flood access

Malachi,

It appears that he would not currently have access on 40th Ave during a flood as 40th Ave overtops just west of the Sheyenne Diversion. However, he does have access out to Cass Hwy 15 and north to 32nd Ave and into West Fargo. The attached image shows his parcel in pink, the light blue on 40th where the water overtops, and the road segments in green where the roads don't overtop.

[cid:image001.png@01D7DA08.DA07B250]

Jason Benson, P.E.  
County Engineer  
Cass County Highway Department  
1201 Main Ave West  
West Fargo, ND 58078  
701-298-2372

From: Malachi D. Petersen <Malachi.Petersen@westfargond.gov>  
Sent: Friday, November 12, 2021 11:13 AM

To: Benson, Jason <BensonJ@casscountynd.gov>

Subject: Steve Selberg's area and flood access

CAUTION: EXTERNAL EMAIL

Jason,

Steve Selberg's application for a CUP to construct his house was denied by the Planning & Zoning Commission on Tuesday night. He is appealing the decision and will be going to the City Commission meeting on Dec. 6. The main hangup for the Planning & Zoning Commission aside from the fact that it falls outside of the proposed FM Diversion seemed to be whether or not he had access to the property / emergency services had access to the property in the event of a 100-year flood event. I was wondering what your assessment was regarding flood access? Is this a concern for the County?

Please let me know your thoughts etc.

Thanks!

- Malachi

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AGENDA ITEM DESCRIPTION  
CITY COMMISSION  
WEST FARGO, NORTH DAKOTA

1. CONTACT PERSON: Malachi Petersen

2. PHONE NUMBER: 515-5377      DATE: November 23, 2021

3. AGENDA TITLE:

Final Approval – Conditional Use Permit for a 160' Telecommunications Tower  
Located in an Agriculturally Zoned District.

4. PLEASE **BRIEFLY** DESCRIBE YOUR REQUEST:

The applicant has proposed constructing a 155' monopole with 5' lightning rod  
telecommunications tower in the city's Extraterritorial Area. Planning and Zoning  
Commission recommended approval of the application at their October 12<sup>th</sup> meeting.

5. SITE ADDRESS OR LEGAL DESCRIPTION (if applicable):

36-139-50 NE ¼ A 160.00, Cass County, North Dakota

6. ACTION BEING REQUESTED FROM CITY COMMISSION:

Approve the application with recommendations as outlined in the staff report.

## STAFF REPORT

| A21-35                                                                          |  | CONDITIONAL USE PERMIT          |
|---------------------------------------------------------------------------------|--|---------------------------------|
| 4331 81 St S, Mapleton ND                                                       |  |                                 |
| 36-139-50 NE ¼ A 160.00, Cass County, North Dakota                              |  |                                 |
| Applicant: SBA Towers X LLC<br>Owner: Cass County Joint Water Resource District |  | Staff Contact: Malachi Petersen |
| Planning & Zoning Commission Introduction:                                      |  |                                 |
| Public Hearing:                                                                 |  | 10-12-2021                      |
| City Commission:                                                                |  | 12-06-2021                      |

**PURPOSE:**

Developing a wireless telecommunications tower within an A: Agricultural Zoning District located in the West Fargo Extraterritorial Zoning Jurisdiction.

**STATEMENTS OF FACT:**

|                                      |                                                                     |
|--------------------------------------|---------------------------------------------------------------------|
| Land Use Classification:             | C1: Deferred Development Sector (ETJ)                               |
| Existing Land Use:                   | None                                                                |
| Current Zoning District(s):          | A: Agricultural                                                     |
| Zoning Overlay District(s):          | CO: Corridor Overlay District                                       |
| Total area size:                     | 160 acres                                                           |
| Adjacent Zoning Districts:           | R-1E: Rural Estate (North), A: Agriculture (South, East, West)      |
| Adjacent street(s):                  | 40 <sup>th</sup> Ave W (Arterial) and 15 <sup>th</sup> St W (local) |
| Adjacent Bike/Pedestrian Facilities: | None                                                                |
| Available Parks/Trail Facilities:    | None                                                                |

**DISCUSSION AND OBSERVATIONS:**

- The applicant is requesting to build a new, 155' monopole telecommunications tower located on property leased from the Cass County Joint Water Resource District. The proposed tower will replace the existing tower located across the road that will be removed during the Fargo-Moorhead Flood Diversion Project.
- The A: Agricultural zoning district allows for wireless telecommunication towers as a conditional use.
- The applicant has provided a site plan which shows the proposed tower being placed on lease space of 100 x 100 feet in the northeast corner section of the property.
- Telecommunications towers in non-residential districts are limited to 150' in height unless otherwise approved by the Planning and Zoning Commission and City Commission. The applicant has indicated that the structure is proposed to be 155' in height to replace the existing tower that is 155' stating that the extra height is needed so that carrier service is not hindered.
- The applicant has signed an affidavit agreeing to meet reasonable terms and conditions for shared use / colocation with other carriers.
- The applicant has submitted documentation required by the Federal Aviation Administration and the Federal Communications Commission showing the proposed structure would not affect flight operations of the West Fargo Municipal Airport.

## STAFF REPORT

- The proposed tower will be within the Corridor Overlay District in place along 40<sup>th</sup> Ave W.
- A conditional use permit agreement is required to be signed prior to issuance of a building permit and may include conditions deemed appropriate by the Commission.

**CRITERIA FOR GRANTING CONDITIONAL USE PERMIT:**

With reference to the criteria for granting conditional uses, the following is noted:

1. Ingress and egress to property and proposed structures thereon with particular reference to automotive and pedestrian safety and convenience, traffic flow and control, and access in case of fire or catastrophe.
  - The property has adequate access and the improvements will not affect the current access.
2. Off-street parking and loading areas where required, with particular attention to the items in (1) above and the economic, noise, glare or odor effects of the special exception on adjoining properties and properties generally in the district.
  - No concerns noted
3. Refuse and service areas, with particular reference to the items in (1) and (2) above.
  - No concerns noted.
4. Utilities, with reference of locations, availability, and compatibility.
  - No concerns noted
5. Screening and buffering with reference to type, dimensions, and character.
  - Discretion is encouraged by the City Commission. Staff believes that the applicant should explore any measure to screen or setback the tower from adjacent properties and roadway.
6. Signs, if any, and proposed exterior lighting with reference to glare, traffic safety, economic effect, and compatibility and harmony with properties in the district.
  - No signs other than
7. Required yards and other open space.
  - The proposed tower would have a setback of about 160 feet from the centerline of 40<sup>th</sup> Ave W and 250 feet from the side property line. Telecommunications towers are only required to be set back from the public right-of-way a minimum distance equal to one half of the height of the tower including all antennas and attachments.
8. Soil conditions, as they relate to on-site sewage disposal, water supply, basement excavating, road construction and related land use.
  - No concerns noted.
9. General compatibility with adjacent properties and other property in the district.
  - No concerns noted.

**NOTICES:**

Sent to: Property owners within 350'.

Comments Received:

- None



STAFF REPORT

**CONSISTENCY WITH COMPREHENSIVE PLAN AND OTHER APPLICABLE CITY PLANS AND ORDINANCES:**

- West Fargo 2.0 does not prohibit or encourage the construction of telecommunications towers within West Fargo. The area where the tower will be constructed is in close proximity to the proposed Fargo-Moorhead Flood Diversion. Staff does not expect the area to further develop.

**RECOMMENDATIONS:**

It is recommended that the City approve the proposed application on the basis that it is consistent with City plans and ordinances with recommended conditions of approval as follows:

1. Discretion of placement of tower by Planning Commission and City Commission.
2. A Signed Conditional Use Permit Agreement is received.

**PLANNING AND ZONING RECOMMENDATION:**

At their October 12, 2021 meeting the Planning and Zoning Commission recommended approval of the application with the above staff recommendations.

**ADDITIONAL INFORMATION:**

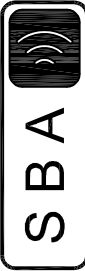
Qualtek Wireless, on behalf of SBA Communications, has submitted revised site plans which move the location of the tower further to the west so that it is more closely abutting the proposed Fargo-Moorhead Flood Diversion. These revised site plans are attached.











SBA TOWERS K LLC  
A DELAWARE LIMITED LIABILITY COMPANY  
9500 W. 15TH AVE. SUITE 100  
BOCA RATON, FL 33483  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
WWW.DESIGN1EP.COM

| REVISIONS |                   |          |     |
|-----------|-------------------|----------|-----|
| NO.       | DESCRIPTION       | DATE     | BY  |
| 1         | PHOTO SIMULATIONS | 09-07-21 | MJS |
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SITE I.D.  
ND23293-S

FARGO EAGLE  
RUN RELO

81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

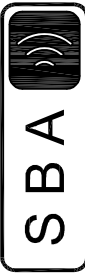
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| DATE:       | 09/07/21 |
| PROJECT #:  | -        |

SHEET TITLE  
PHOTO SIMULATIONS  
AERIAL KEY

SHEET NUMBER

PS-0





SBA TOWERS K, LLC.  
A DELAWARE LIMITED LIABILITY COMPANY  
9905 PINECREST DRIVE  
BOCA RATON, FL 33488  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
WWW.DESIGN1EP.COM

| REVISIONS |                   |          |     |
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SITE I.D.  
ND23293-S

FARGO EAGLE  
RUN RELO

81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

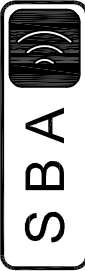
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| DATE:       | 09/07/21 |
| PROJECT #:  | -        |

SHEET TITLE  
PHOTO SIMULATIONS  
EXISTING PHOTO

SHEET NUMBER

PS-1A





SBA TOWERS II, LLC.  
A DELAWARE LIMITED LIABILITY COMPANY  
39605 PINECREST BLVD., SUITE 200  
BOCA RATON, FL 33483  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
WWW.DESIGN1EP.COM

| REVISIONS |                   |          |     |
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SITE I.D.  
ND23293-S

FARGO EAGLE  
RUN RELO

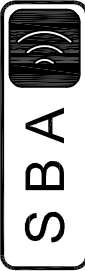
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MAPLETON TOWNSHIP, ND  
58078-0000

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| DATE:       | 09/07/21 |
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SHEET TITLE  
PHOTO SIMULATIONS  
PROPOSED IMAGE

SHEET NUMBER  
**PS-1B**





SBA TOWERS IX LLC  
A DELAWARE LIMITED LIABILITY COMPANY  
9905 POWERS BLVD  
BOCA RATON, FL 33488  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
WWW.DESIGN1EP.COM

| REVISIONS |                   |          |     |
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| 1         | PHOTO SIMULATIONS | 09-07-21 | MJS |
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SITE I.D.  
ND23293-S

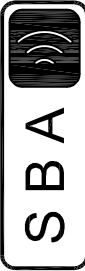
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RUN RELO

81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

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SHEET TITLE  
PHOTO SIMULATIONS  
EXISTING PHOTO

SHEET NUMBER  
**PS-2A**



SBA TOWERS IX LLC  
A DELAWARE LIMITED LIABILITY COMPANY  
9905 ROCKS CIRCLE  
BOCA RATON, FL 33488  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
WWW.DESIGN1EP.COM

| REVISIONS |                   |          |     |
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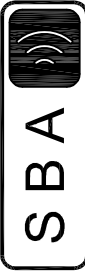
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MAPLETON TOWNSHIP, ND  
58078-0000

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| PROJECT #:  | -        |

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PHOTO SIMULATIONS  
PROPOSED IMAGE

SHEET NUMBER  
**PS-2B**





SBA TOWERS K, LLC.  
A DELAWARE LIMITED LIABILITY COMPANY  
9900 BOCA RATON BLVD., SUITE 100  
BOCA RATON, FL 33483  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
WWW.DESIGN1EP.COM

| REVISIONS |                   |          |     |
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SITE I.D.  
ND23293-S

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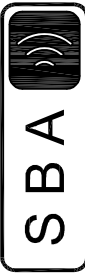
81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

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| PROJECT #:  | -        |

SHEET TITLE  
PHOTO SIMULATIONS  
EXISTING PHOTO

SHEET NUMBER  
**PS-3A**





SBA TOWERS K,LLC.  
A DELAWARE LIMITED LIABILITY COMPANY  
9500 BOCA RATON BLVD.  
BOCA RATON, FL 33483  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
WWW.DESIGN1EP.COM

| REVISIONS |                   |          |     |
|-----------|-------------------|----------|-----|
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| v.1       | PHOTO SIMULATIONS | 09-07-21 | MJS |
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SITE I.D.  
ND23293-S

FARGO EAGLE  
RUN RELO

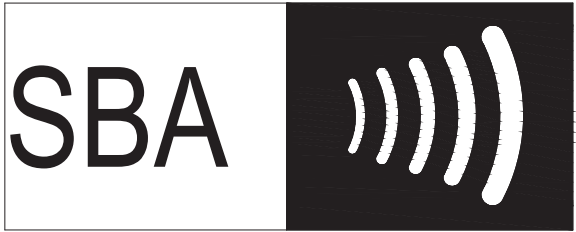
81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

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| DRAWN BY:   | MJS      |
| CHECKED BY: | JP/TJR   |
| DATE:       | 09/07/21 |
| PROJECT #:  | -        |

SHEET TITLE  
PHOTO SIMULATIONS  
PROPOSED IMAGE

SHEET NUMBER  
**PS-3B**





SBA TOWERS IX LLC,  
A DELAWARE LIMITED LIABILITY COMPANY  
8051 CONGRESS AVENUE  
BOCA RATON, FL 33487  
PHONE: 1-800-487-7483

SITE NAME  
**FARGO EAGLE RUN RELO**

SITE I.D.  
**ND23293-S**

E911 ADDRESS  
**40TH AVENUE WEST  
WEST FARGO, ND 58078**

PROJECT TYPE  
**PROPOSED 155' MONOPOLE**

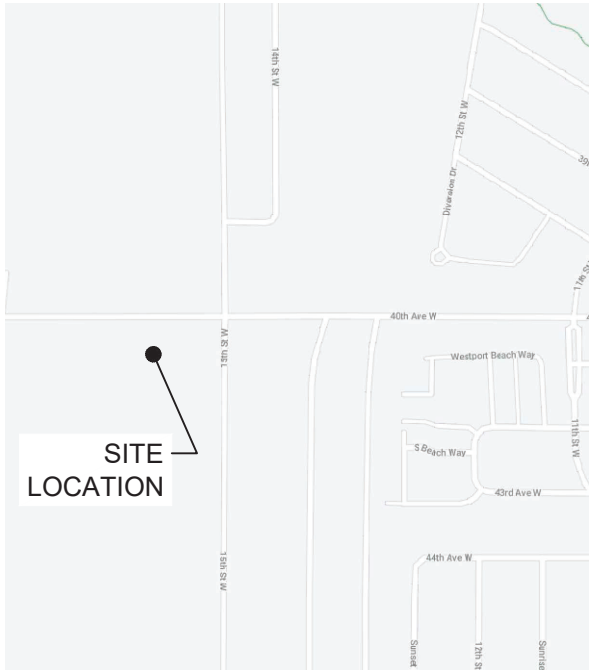
**CONSULTING TEAM**

ARCHITECTURAL - ENGINEERING FIRM:  
DESIGN 1 ARCHITECTS LLC  
9973 VALLEY VIEW ROAD  
EDEN PRAIRIE, MN 55344  
CONTACT: BOB DAVIS  
PHONE: (952) 903-9299

SURVEYING FIRM:  
WIDSETH  
610 FILLMORE SRTEET - PO BOX 1028  
ALEXANDRIA, MN 56308-1028  
CONTACT: BRYAN BALCOME  
PHONE: (320) 762-8149

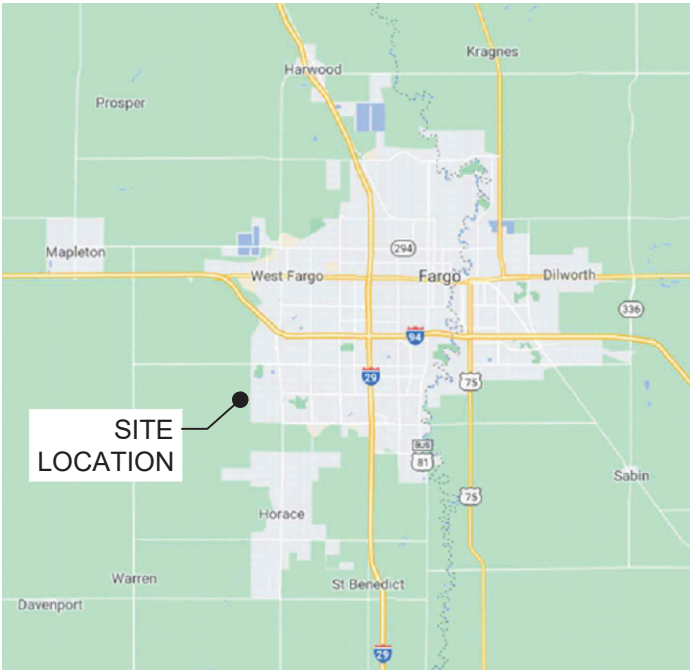
**VICINITY MAP**

N.T.S.



**REGIONAL MAP**

N.T.S.



**PROJECT INFORMATION**

SITE NUMBER: ND23293-S  
SITE NAME: EAGLE RUN RELO  
SITE ADDRESS: 40TH AVENUE WEST  
WEST FARGO, ND 58078  
COUNTY: CASS  
LAND OWNER: SE CASS WATER DISTRICT  
444 SHEYENNE ST, SUITE 301  
WEST FARGO, ND 58078  
APPLICANT: SBA TOWERS IX, LLC  
8051 CONGRESS AVENUE  
BOCA RATON, FL 33487  
CONTACT PERSON: ANNE HATHAWAY  
(561) 322-7921  
LATITUDE: 46° 49' 6.951" N (FROM 1A)  
LONGITUDE: 96° 55' 40.948" W (FROM 1A)  
LAT/LONG TYPE: DEGREES MINUTES AND SECONDS  
GROUND ELEVATION: 905.7' AMSL (PROPOSED)  
CURRENT ZONING: CITY OF WEST FARGO  
PARCEL No.: 53-0000-09177-000

**SHEET INDEX**

| SHEET                                | DESCRIPTION                          | REV. |
|--------------------------------------|--------------------------------------|------|
| T-1                                  | TITLE SHEET                          | -    |
| C-0                                  | SITE PLAN                            | -    |
| C-1                                  | ENGINEERING SITE PLAN                | -    |
| C-2                                  | SITE DETAILS AND SPECIFICATIONS      | -    |
| C-2A                                 | SITE DETAILS                         | -    |
| C-3                                  | FENCE DETAILS                        | -    |
| C-4                                  | FENCE DETAILS                        | -    |
| ANT-1                                | SITE ELEVATION                       | -    |
| E-1                                  | UTILITY ROUTING PLAN                 | -    |
| E-2                                  | SITE UTILITY PLAN                    | -    |
| E-3                                  | SITE GROUNDING PLAN                  | -    |
| E-4                                  | UTILITY DETAILS                      | -    |
| E-5                                  | SINGLE LINE DIAGRAM & PANEL SCHEDULE | -    |
| E-6                                  | ELECTRICAL AND GROUNDING DETAILS     | -    |
| GN-1                                 | GENERAL NOTES                        | -    |
| FULL SCALE PRINT IS ON 22"x34" MEDIA |                                      |      |
| SURVEY ATTACHMENTS                   |                                      |      |
| --                                   | SITE SURVEY (2 SHEETS)               | -    |



CALL 48 HOURS  
BEFORE YOU DIG  
(800-795-0555 OR 811)

**DRIVING DIRECTIONS**

FROM INTERSECTION OF I-94 & I-29:  
DIRECTIONS: HEAD WEST ON I-94 (FOR 3.2 MILES). TAKE EXIT 346A TO MERGE ONTO SHEYENNE ST S (2.4 MILES). TURN RIGHT ONT 40TH AVE W (1.1 MILES). SITE WILL BE LOCATED ON THE SOUTH/LEFT SIDE OF THE ROAD.

**HANDICAPPED REQUIREMENTS**

HANDICAPPED REQUIREMENTS :  
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION  
HANDICAPPED ACCESS REQUIREMENTS NOT REQUIRED

PLUMBING REQUIREMENTS :  
FACILITY HAS NO PLUMBING

**UTILITY CONTACT INFORMATION**

POWER COMPANY:  
CASS COUNTY ELECTRICAL  
4100 32ND AVE SW, FARGO, ND 58104  
CONTACT: BLAKE HOOVER  
PHONE: (701) 356-4467

FIBER COMPANY: T.B.D.  
LUMEN TECHNOLOGIES  
3902 13THA AVE S, FARGO, ND 58103  
CONTACT: DAVID MILLS  
PHONE: (701) 355-2258



SBA TOWERS IX LLC,  
A DELAWARE LIMITED LIABILITY COMPANY  
8051 CONGRESS AVENUE  
BOCA RATON, FL 33487  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
WWW.DESIGN1EP.COM

| REVISIONS |                                      | DATE     | BY |
|-----------|--------------------------------------|----------|----|
| NO.       | DESCRIPTION                          |          |    |
| A         | ISSUED FOR REVIEW                    | 07/30/21 | JP |
| B         | ISSUED FOR REVIEW                    | 08/02/21 | JP |
| C         | ISSUED FOR REVISED COMPOUND LOCATION | 11/17/21 | JP |
| D         | ISSUED FOR REVISED SURVEY            | 11/23/21 | JP |
|           |                                      |          |    |
|           |                                      |          |    |

SITE I.D.  
**ND23293-S**

**FARGO EAGLE  
RUN RELO**

81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

DRAWN BY: JP

CHECKED BY: TJR

DATE: 11/23/21

SHEET TITLE  
**TITLE SHEET**

SHEET NUMBER

**T-1**

| LANDSCAPE KEY                                                                     |      |                 |                |                  |                       |
|-----------------------------------------------------------------------------------|------|-----------------|----------------|------------------|-----------------------|
| SYMBOL                                                                            | QTY. | COMMON NAME     | BOTANICAL NAME | MATURE SIZE      | PLANTING SIZE         |
|  | 22   | COLORADO SPRUCE | PICEA PUNGENS  | H: 50'<br>W: 20' | 22 EACH<br>AT 8' TALL |

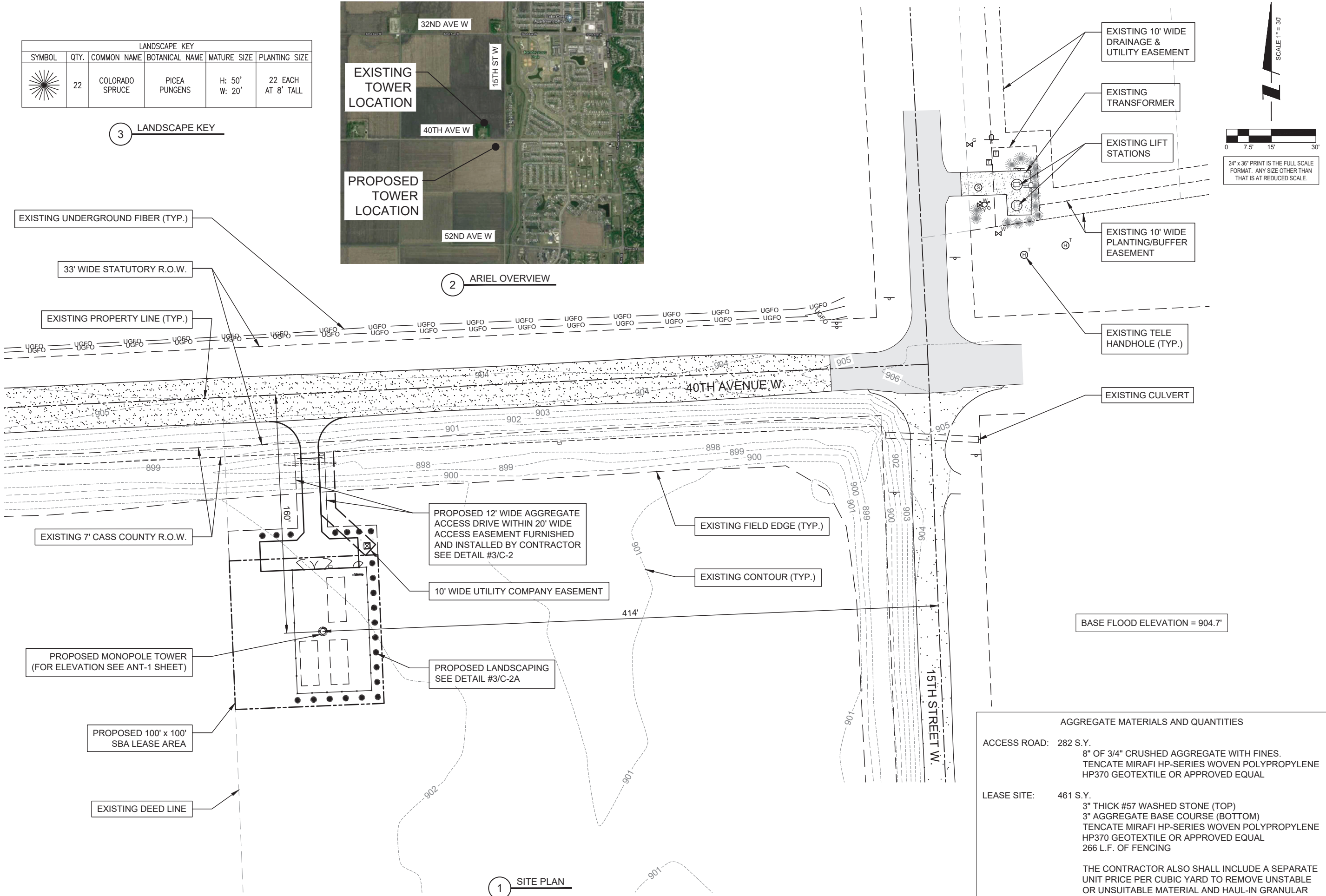
3

LANDSCAPE KEY



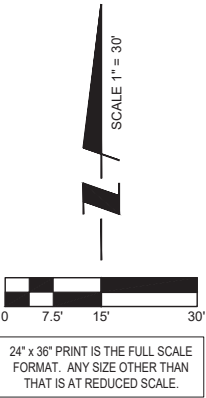
2

ARIEL OVERVIEW



1

SITE PLAN



SBA TOWERS IX LLC,  
A DELAWARE LIMITED LIABILITY COMPANY  
5900 BOCA RATON BLVD., SUITE 100  
BOCA RATON, FL 33487  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
WWW.DESIGN1EP.COM

| REVISIONS |                                      |          |    |
|-----------|--------------------------------------|----------|----|
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| A         | ISSUED FOR REVIEW                    | 07/30/21 | JP |
| B         | ISSUED FOR REVIEW                    | 08/02/21 | JP |
| C         | ISSUED FOR REVISED COMPOUND LOCATION | 11/17/21 | JP |
| D         | ISSUED FOR REVISED SURVEY            | 11/23/21 | JP |
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|           |                                      |          |    |

SITE I.D.  
ND23293-S

FARGO EAGLE  
RUN RELO

81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

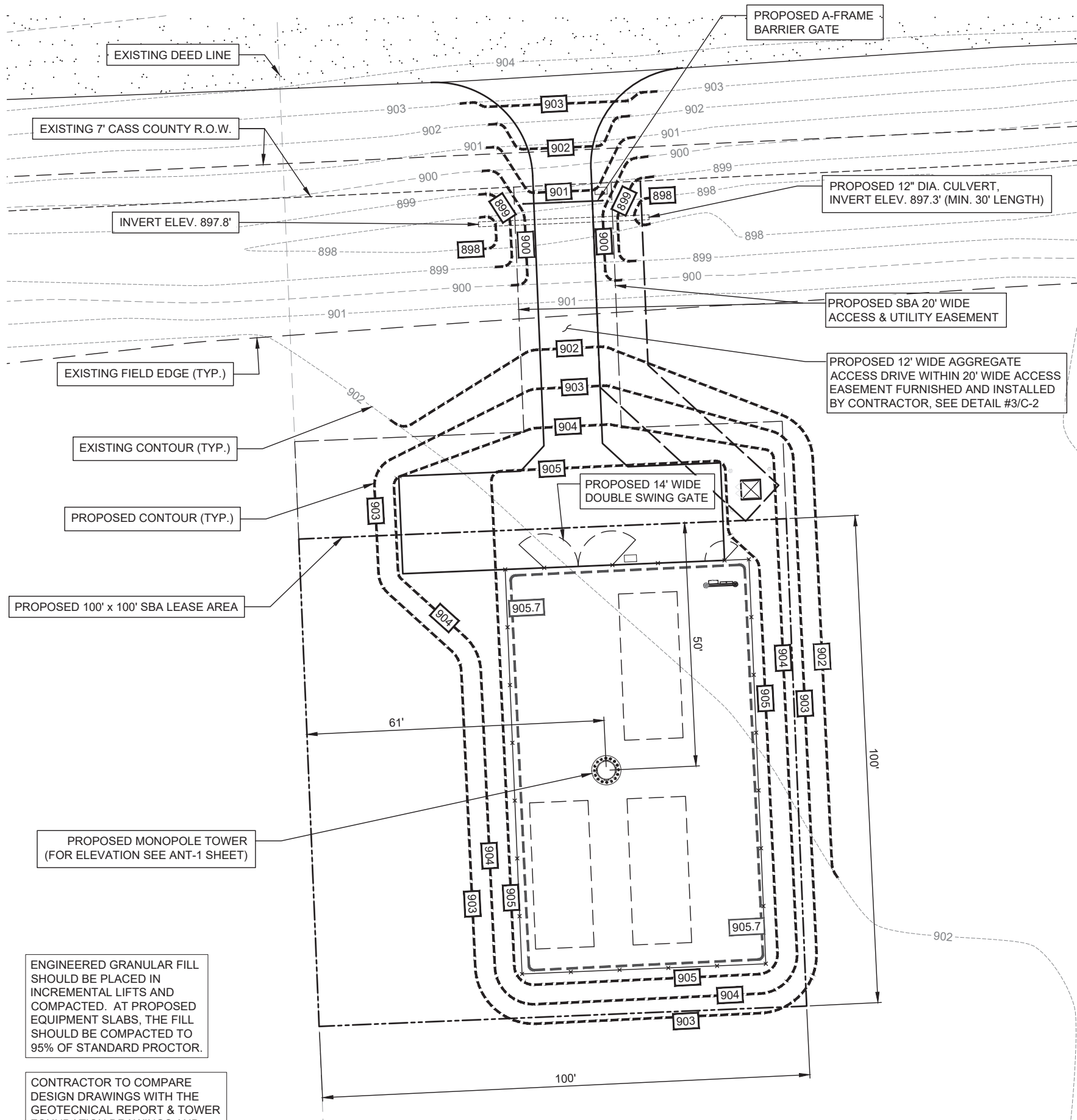
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| CHECKED BY: | TJR      |
| DATE:       | 11/23/21 |

SHEET TITLE  
SITE PLAN

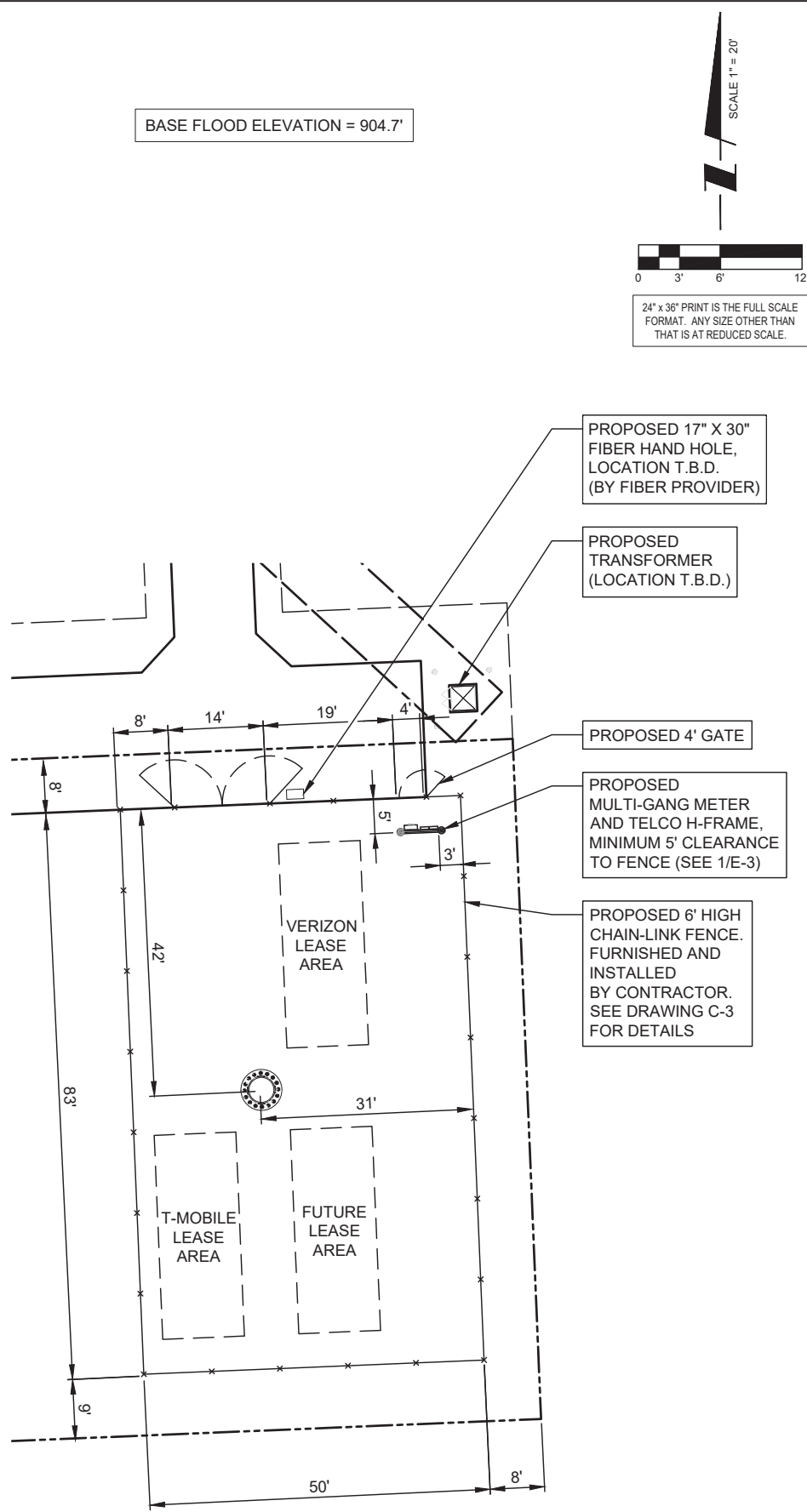
SHEET NUMBER

C-0

| AGGREGATE MATERIALS AND QUANTITIES                                                                                                                                              |                                                                                                                                                                                               |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| ACCESS ROAD:                                                                                                                                                                    | 282 S.Y.<br>8" OF 3/4" CRUSHED AGGREGATE WITH FINES.<br>TENCATE MIRAFI HP-SERIES WOVEN POLYPROPYLENE<br>HP370 GEOTEXTILE OR APPROVED EQUAL                                                    |
| LEASE SITE:                                                                                                                                                                     | 461 S.Y.<br>3" THICK #57 WASHED STONE (TOP)<br>3" AGGREGATE BASE COURSE (BOTTOM)<br>TENCATE MIRAFI HP-SERIES WOVEN POLYPROPYLENE<br>HP370 GEOTEXTILE OR APPROVED EQUAL<br>266 L.F. OF FENCING |
| THE CONTRACTOR ALSO SHALL INCLUDE A SEPARATE UNIT PRICE PER CUBIC YARD TO REMOVE UNSTABLE OR UNSUITABLE MATERIAL AND HAUL-IN GRANULAR BACKFILL UNDER ACCESS DRIVE AND/OR APRON. |                                                                                                                                                                                               |



1 COMPOUND PLAN



2 SITE DIMENSION PLAN



SBA TOWERS IX LLC.  
A DELAWARE LIMITED LIABILITY COMPANY  
9500 ROCKHILL AVENUE, SUITE 100  
BOCA RATON, FL 33487  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
WWW.DESIGN1EP.COM

| REVISIONS |  | NO. | DESCRIPTION                          | DATE     | BY |
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|           |  | A   | ISSUED FOR REVIEW                    | 07/30/21 | JP |
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|           |  | D   | ISSUED FOR REVISED SURVEY            | 11/23/21 | JP |
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SITE I.D.  
ND23293-S

FARGO EAGLE  
RUN RELO

81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

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|-------------|----------|
| DRAWN BY:   | JP       |
| CHECKED BY: | TJR      |
| DATE:       | 11/23/21 |

SHEET TITLE  
COMPOUND PLAN

SHEET NUMBER

C-1



GENERAL NOTES AND CONDITIONS

- ALL EARTHWORK, GRADING AND PAVING SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT STATE DEPARTMENT OF TRANSPORTATION STANDARDS FOR ROAD AND BRIDGE CONSTRUCTION.
- THE CONTRACTOR SHALL KEEP CAREFUL MEASUREMENTS AND RECORDS OF ALL CONSTRUCTION AND SHALL FURNISH THE ENGINEER AND THE MUNICIPALITY WITH RECORD DRAWINGS UPON COMPLETION OF HIS WORK. ONE SET OF MYLAR-REPRODUCIBLE RECORD DRAWINGS AND COPIES MUST BE FURNISHED TO THE OWNER BY THE CONTRACTOR.
- ALL WORK PERFORMED BY THE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF FINAL ACCEPTANCE. THIS GUARANTEE SHALL INCLUDE ALL DEFECTS IN MATERIALS AND WORKMANSHIP.
- ALL DIRT WILL BE DISPOSED OF OFFSITE BY THE CONTRACTOR.
- ALL STRUCTURES, INLETS, PIPES, SWALES AND ROADS MUST BE KEPT CLEAN AND FREE OF DIRT AND DEBRIS AT ALL TIMES.
- THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE SIGNS, BARRICADES, FENCING, TRAFFIC CONTROL DEVICES AND MEASURES, AND ALL OTHER MEASURES THAT ARE NECESSARY TO PROTECT THE SAFETY OF THE SITE AT ALL TIMES.
- THE CONTRACTOR, BY AGREEING TO PERFORM THE WORK, AGREES TO INDEMNIFY AND HOLD HARMLESS THE OWNER, THE ENGINEER, THE VILLAGE, AND ALL AGENTS AND ASSIGNS OF THOSE PARTIES, FROM ALL SUITS AND CLAIMS ARISING OUT OF THE PERFORMANCE OF SAID WORK, AND FURTHER AGREES TO DEFEND OR OTHERWISE PAY ALL LEGAL FEES ARISING OUT OF THE DEFENSE OF SAID PARTIES.
- WORK MUST COMMENCE AND BE COMPLETED BY THE TIME INDICATED IN THE PROJECT SPECIFICATIONS.
- EXISTING UTILITIES, IF ANY, ARE SHOWN AS A GUIDE ONLY. THE CONTRACTOR SHALL VERIFY THE LOCATION OF EXISTING UTILITIES PRIOR TO EXCAVATING ANYWHERE ON THE SITE.
- ALL ADDENDA, IF ANY, MUST BE ACKNOWLEDGED WITH THE BID.

EARTHWORK, GRADING, AND PAVING

- ALL PROPOSED PAVEMENT AREAS SHALL BE STRIPPED OF ALL TOPSOIL AND UNSUITABLE MATERIAL AND EXCAVATED OR FILLED TO WITHIN 0.10 FEET OF DESIGN SUBGRADE.
- THE SUBGRADE SHALL BE FREE OF ALL UNSUITABLE MATERIAL AND SHALL BE COMPACTED TO A MINIMUM 95 PER CENT OF MODIFIED PROCTOR DENSITY.
- THE QUANTITIES CONTAINED IN THESE DOCUMENTS ARE APPROXIMATE AND ESTIMATED, AND ARE PRESENTED AS A GUIDE TO THE CONTRACTOR IN DETERMINING ALL QUANTITIES AND TO BECOME FAMILIAR WITH THE SITE AND SOIL CONDITIONS.
- THE EARTHWORK CONTRACTOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AT THE CONCLUSION OF EACH WORKING DAY.
- THE PAVING CONTRACTOR IS RESPONSIBLE FOR THE FINAL SUBGRADE PREPARATION, THE PAVEMENT BASE, BINDER, AND SURFACE, AND ALL FINAL CLEAN-UP AND RELATED WORK ASSOCIATED WITH THE PAVING OPERATION.
- UPON COMPLETION OF THE PAVING, THE CONTRACTOR WILL ENSURE THAT POSITIVE DRAINAGE EXISTS ADJACENT TO ALL CONSTRUCTED IMPROVMENTS.

SOIL EROSION AND SEDIMENT CONTROL

- REASONABLE CARE MUST BE TAKEN TO MINIMIZE SOIL EROSION. REFER TO PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL PREPARED BY THE U.S. SOIL AND CONSERVATION SERVICE.
- ALL INLETS, STRUCTURES, PIPES, SWALES, AND ROADS SHALL BE KEPT CLEAN AND FREE OF DIRT AND SILT.
- STOCKPILES SHALL HAVE A BERM OR TRENCH AROUND THE CIRCUMFERENCE TO CONTROL SILT IF NEEDED. IF THE STOCKPILE IS TO REMAIN FOR MORE THAN NINE MONTHS, IT MUST HAVE SUFFICIENT VEGETATION TO CONTROL BOTH WATER AND WIND EROSION.
- STRAW BALES FIRMLY ANCHORED SHALL BE PLACED AROUND ALL INLETS, CATCHBASINS, AND SWALES THAT RECEIVE SILTY RUNOFF DURING THE COURSE OF CONSTRUCTION.
- SILT FENCE TO BE CONSTRUCTED ALONG THE DOWN SLOPE OF THE CONSTRUCTION AREA.
- MAINTAIN SOIL EROSION CONTROL DEVICES THROUGH THE DURATION OF THIS PROJECT.
- REPLACE SOIL EROSION CONTROL DEVICES WITH SOD AND TOPSOIL AT THE COMPLETION OF THE PROJECT.
- ALL ADJACENT ROADWAYS SHALL BE KEPT CLEAN AT ALL TIMES.
- ADDITIONAL SOIL EROSION CONTROL MEASURES SHALL BE UNDERTAKEN IF DEEMED NECESSARY BY THE ENGINEERING INSPECTOR DURING THE COURSE OF CONSTRUCTION.



| CAUTION                         | NOTICE                    |
|---------------------------------|---------------------------|
| HARD HATS REQUIRED IN THIS AREA | AUTHORIZED PERSONNEL ONLY |
| WARNING                         | CAUTION                   |
| FALL PROTECTION REQUIRED        | MEN WORKING ABOVE         |

FCC #:  
NEAREST HOSPITAL: \_\_\_\_\_  
EMERGENCY #: \_\_\_\_\_

24"x18" SF C-X  
PLASTIC (TEMP)



SITE I.D.#: \_\_\_\_\_  
FCC #: \_\_\_\_\_  
EMERGENCY (888) 950-SITE (7483)  
LEASING (800)487-SITE (7483)

18"x24" SF C-X  
PLASTIC (TEMP)

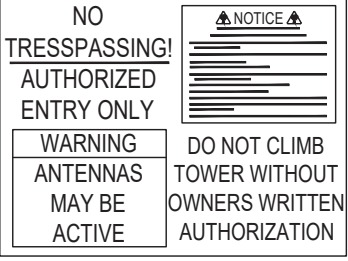
TEMP SITE SIGNAGE  
G.C. TO POST THE TEMP SIGN  
PRIOR TO SITE CONSTRUCTION



18"x12" .040  
ALUMINUM



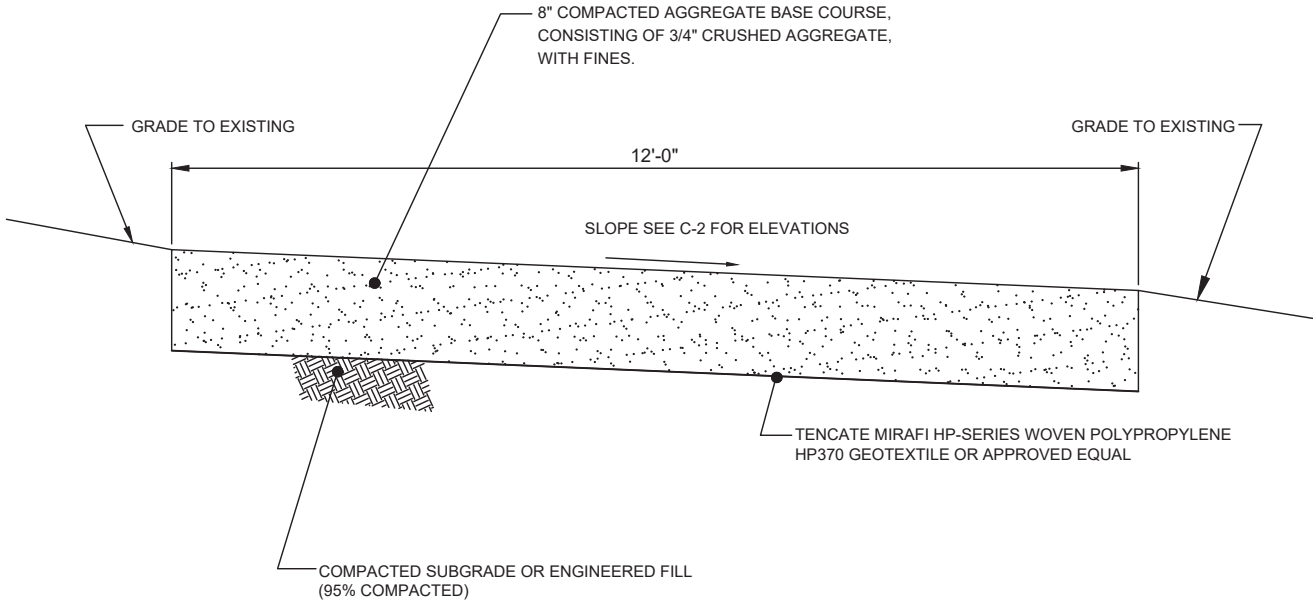
18"x12" .040  
ALUMINUM



18"x24" .040  
ALUMINUM

PERMANENT FENCE  
SIGNAGE LAYOUT

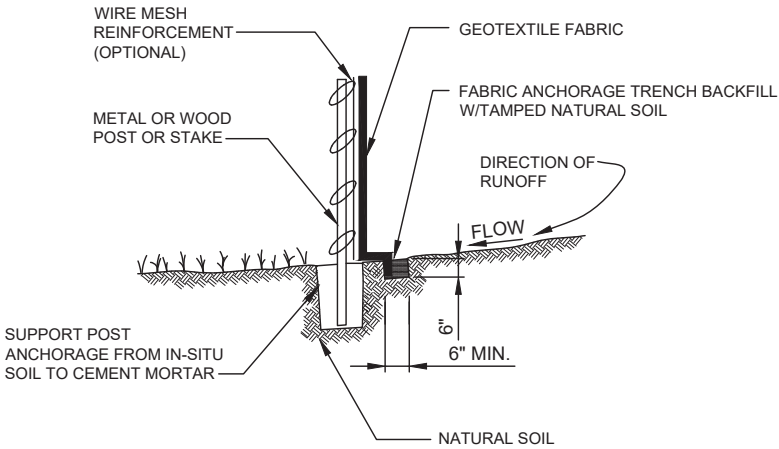
1 SIGN DETAIL  
N.T.S.



3 AGGREGATE ROAD SECTION  
N.T.S.

SITE I.D.#:  
FCC#:  
LEASING (800)487-SITE (7483)  
EMERGENCY (888) 950-SITE (7483)  
WWW.SBASITE.COM

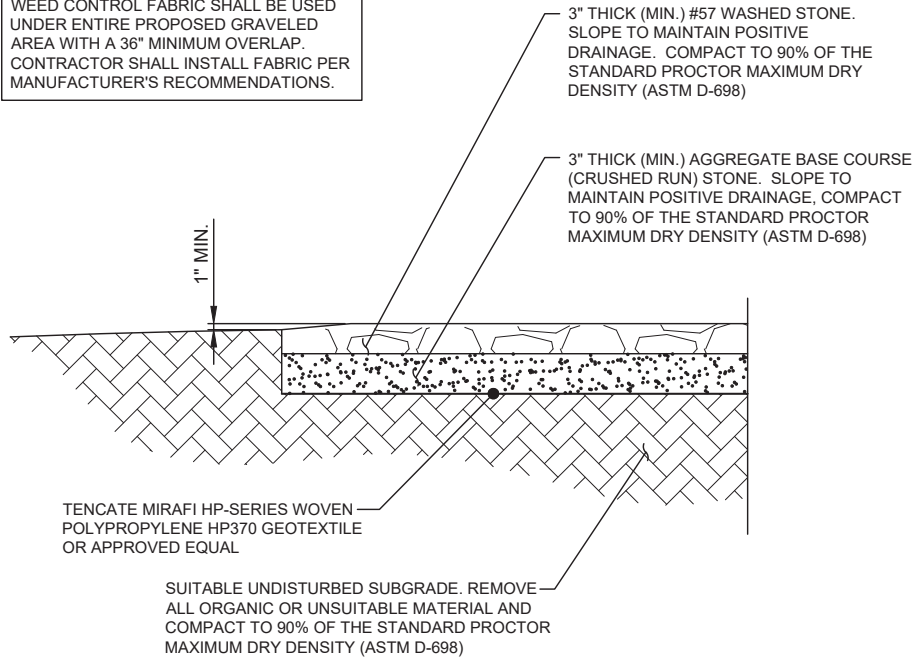
12"x24"x.063  
ALUMINUM



NOTE:  
DEPENDING UPON CONFIGURATION, ATTACH  
FABRIC TO WIRE MESH W/HOG RINGS, STEEL  
POSTS W/ TIE WIRES, WOOD POSTS W/ NAILS.

2 EROSION CONTROL SILT FENCE DETAIL  
N.T.S.

NOTE:  
WEED CONTROL FABRIC SHALL BE USED  
UNDER ENTIRE PROPOSED GRAVELED  
AREA WITH A 36" MINIMUM OVERLAP.  
CONTRACTOR SHALL INSTALL FABRIC PER  
MANUFACTURER'S RECOMMENDATIONS.



4 COMPOUND FINISH DETAIL  
N.T.S.



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SITE I.D.  
ND23293-S

FARGO EAGLE  
RUN RELO

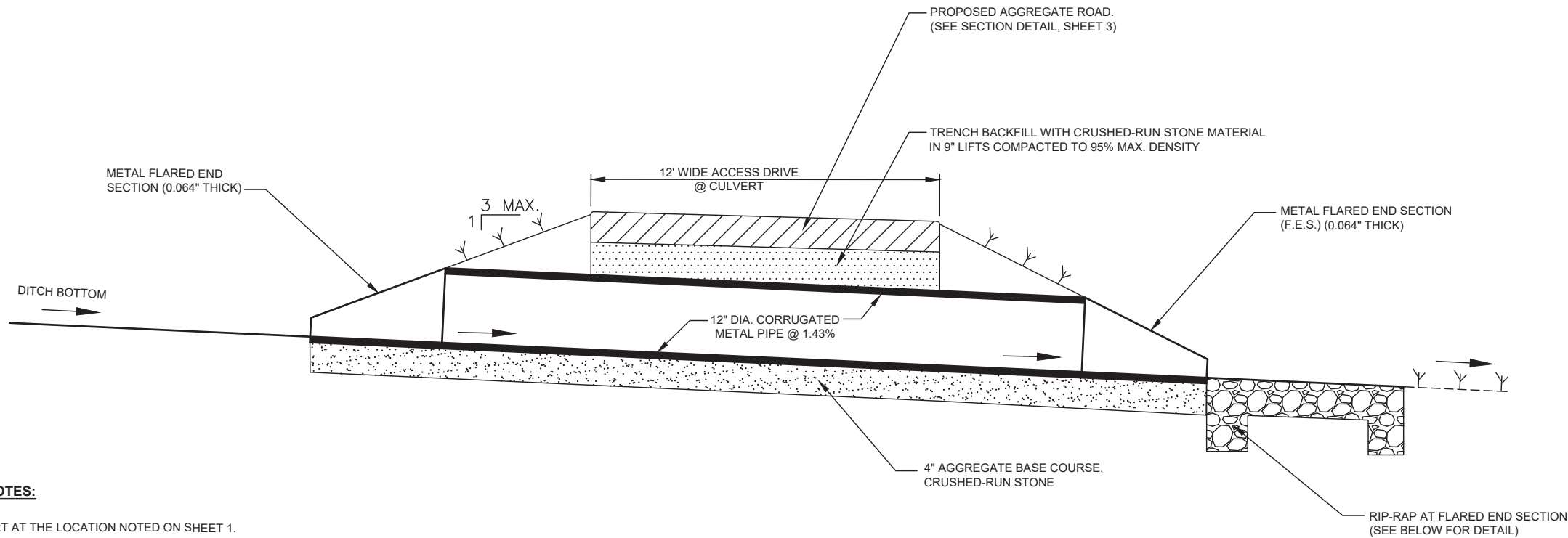
81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

|             |          |
|-------------|----------|
| DRAWN BY:   | JP       |
| CHECKED BY: | TJR      |
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SHEET TITLE  
SITE DETAILS  
& SPECIFICATIONS

SHEET NUMBER

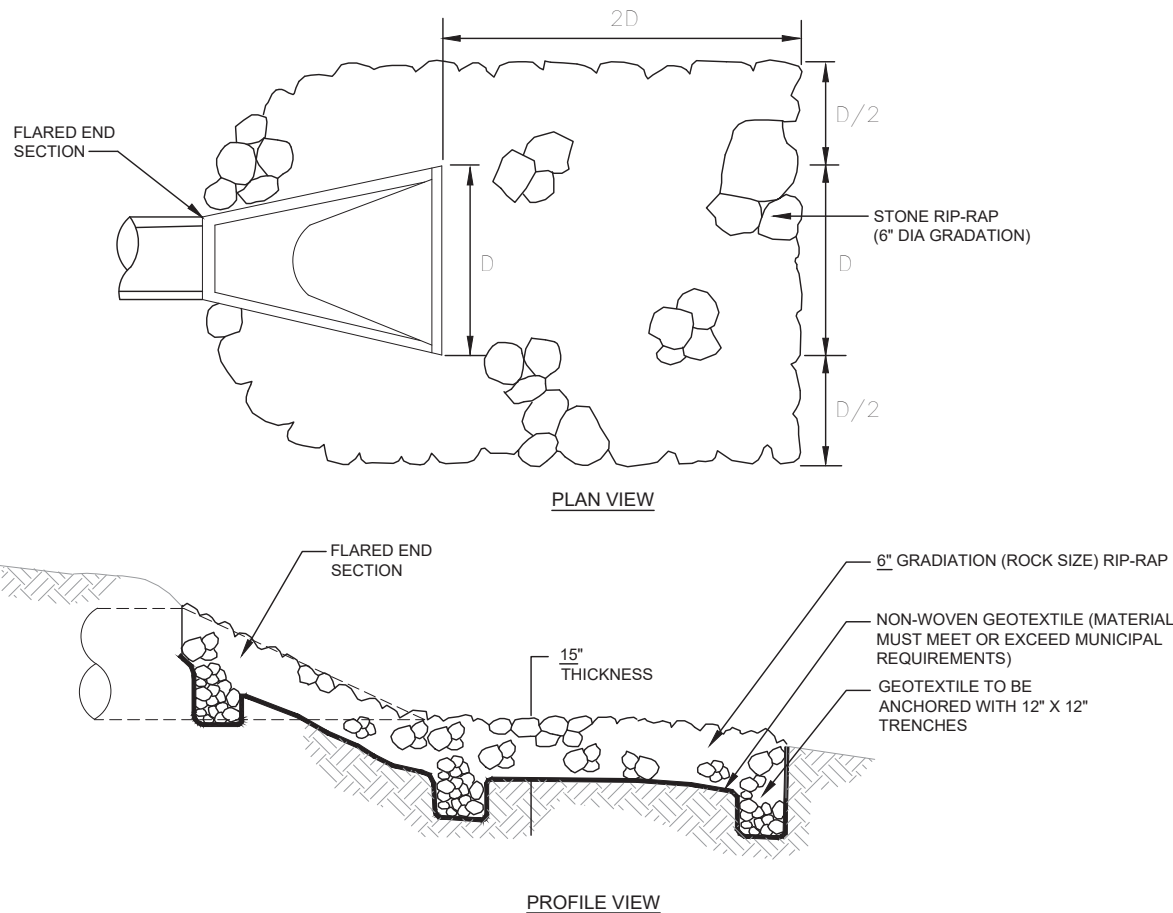
C-2



# **CONSTRUCTION NOTES:**

- 1.) INSTALL CULVERT AT THE LOCATION NOTED ON SHEET 1.
- 2.) CULVERT LENGTHS PROVIDED ON THE GRADING PLAN ARE MEASURED FROM THE END OF THE F.E.S. TO THE END OF THE F.E.S.

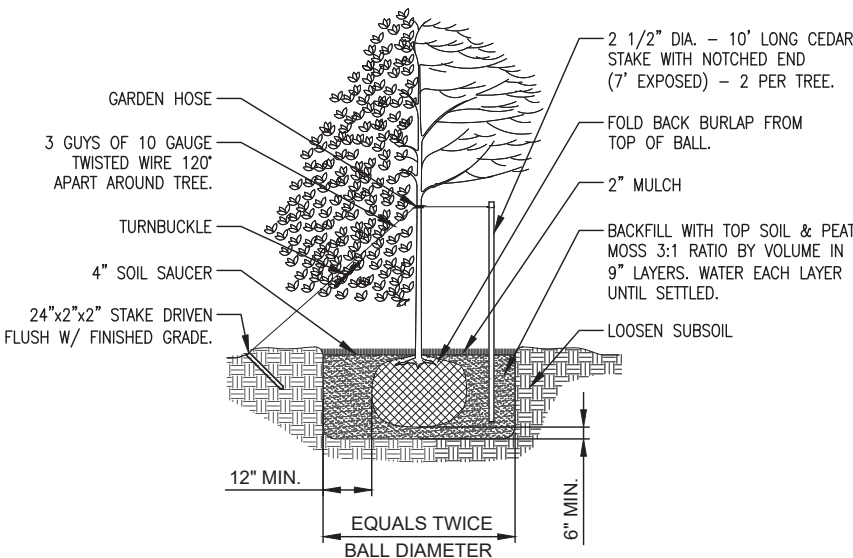
**1 ACCESS DRIVE CULVERT DETAIL**  
N.T.S.



NOTE:  
REMOVE TOPSOIL PRIOR  
TO PLACING STONE

**2 RIP-RAP AT FLARED END SECTION**  
N.T.S.

NOTE:  
TREES & SHRUBS - GROUND LINE TO BE  
THE SAME AS EXISTED AT THE NURSERY.



**3 PLANTING DETAIL**  
N.T.S.

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**SITE I.D.**  
**ND23293-S**

**FARGO EAGLE**  
**RUN RELO**

81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

DRAWN BY: JP

CHECKED BY: TJR

DATE: 11/23/21

SHEET TITLE  
**SITE DETAILS**

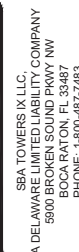
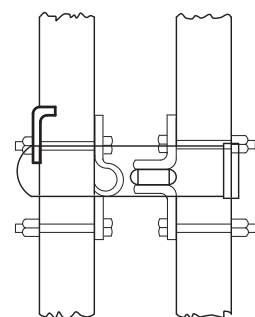
SHEET NUMBER  
**C-2A**







1. DRILL 3/8" HOLES IN THE GATE LEAF USING THE GATE DIMENSIONS PROVIDED.
2. SLIDE THE CARRIAGE BOLTS IN THE SLOTS ON THE BACK OF PART "B" AND PUSH THE BOLTS THROUGH THE HOLES DRILLED IN THE GATE FIGURE. PUT THE NUT AND THE LOCKNUT ON AND TIGHTEN AND CUT THE EXCESS BOLT OFF. DO THE SAME WITH PART "A".
3. ADD THE NUMBER OF SLEEVES NEEDED FOR THE NUMBER OF LOCKS AND SLIDE THE LOCKING BAR INTO PLACE THROUGH BOTH PART "A" AND PART "B". NOW INSTALL THE LOCKS.
4. IF THE GATE HAS NO CENTER BAR IN THE GATE LEAF YOU MAY NEED TO MOUNT THE STYMILOCK VERTICALLY USING THE SAME DIMENSIONS GIVEN ON THE GATE FACE.
5. VERTICAL APPLICATION MAY ALSO BE USED ON SLIDING GATES WITH MULTIPLE LOCKS.



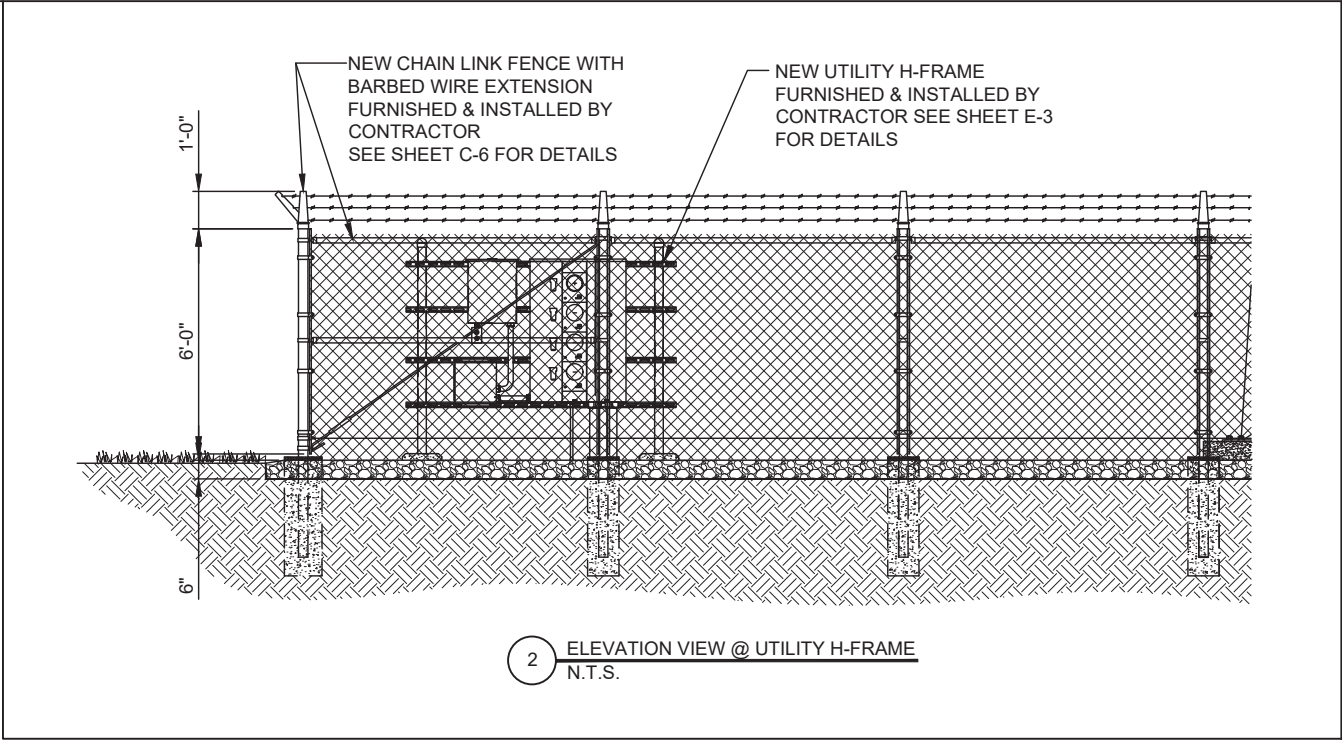
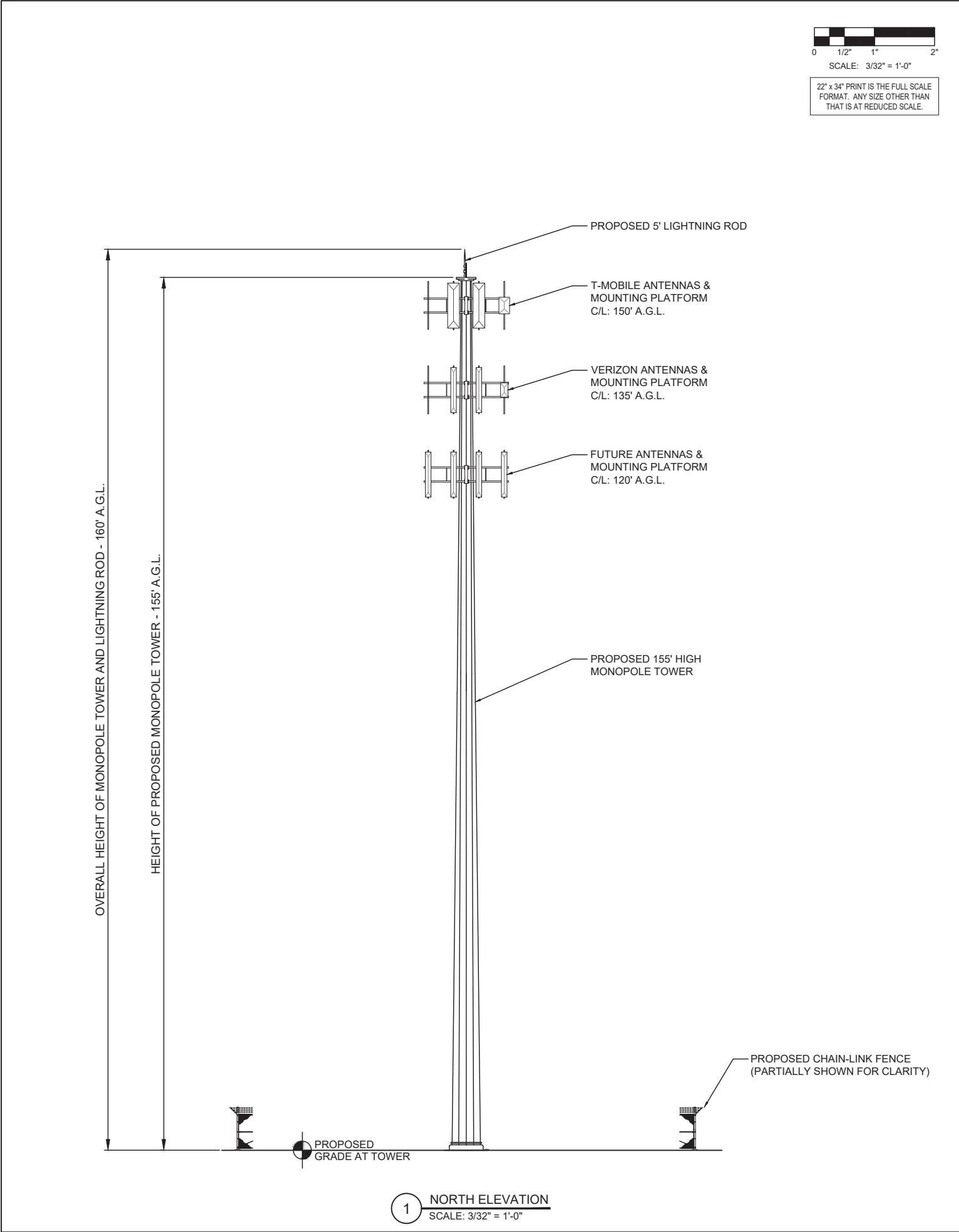
SITE I.D.  
ND23293-S

81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

SHEET TITLE

FENCE DETAILS

**C-4**





SBA

SBA TOWERS IX LLC  
A DELAWARE LIMITED LIABILITY COMPANY  
5900 ROCKY HILL ROAD  
BOCA RATON, FL 33483  
PHONE: 1-800-487-7483



DESIGN1

9973 VALLEY VIEW RD.  
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**ND23293-S**

**FARGO EAGLE  
RUN RELO**

81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

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| DRAWN BY:   | JP       |
| CHECKED BY: | TJR      |
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SHEET TITLE

SITE ELEVATION

SHEET NUMBER

**ANT-1**

GENERAL ELECTRICAL NOTES

- 1.) ALL ELECTRICAL WORK SHALL CONFORM TO NATIONAL ELECTRIC CODE, LATEST ADOPTED EDITION, AND LOCAL CODES. THE CONTRACTORS SHALL FURNISHED AND PAY FOR ALL PERMITS AND RELATED FEES.
- 2.) ALL ELECTRICAL MATERIALS, EQUIPMENT AND INSTALLATION PROCEDURES TO CONFORM WITH SBA SPECIFICATIONS.
- 3.) CONTRACTOR SHALL PERFORM ALL VERIFICATION TESTS AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ENGINEER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT & DISCREPANCIES.
- 4.) ELECTRICAL PLANS, DETAILS, AND DIAGRAMS ARE DIAGRAMMATIC ONLY. FIELD CONDITIONS DICTATE THE AMOUNT AND LOCATION OF EQUIPMENT.
- 5.) ALL MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, NFPA, AND "UL" LISTED.
- 6.) THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY THE NEC, AND ALL APPLICABLE LOCAL CODES.
- 7.) ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE A MINIMUM INTERRUPTING RATING GREATER THAN THE UTILITY FAULT CURRENT.
- 8.) FOR COMPLETE INTERNAL WIRING AND ARRANGEMENT REFER TO VENDOR PRINTS AND INSTRUCTIONS.
- 9.) PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
- 10.) PROVIDE SBA WITH ONE SET OF COMPLETE ELECTRICAL "AS-BUILT" DRAWINGS AT THE COMPLETION OF THE JOB SHOWING ACTUAL ROUTINGS AND WIRING CONNECTIONS.
- 11.) LABEL ALL ELECTRICAL EQUIPMENT PER SBA SPECIFICATIONS.
- 12.) ALL SINGLE-PHASE SELF-CONTAINED METER CONNECTION DEVICES MUST INCLUDE HORN TYPE BY-PASS PROVISION SO THAT SERVICE WILL NOT BE INTERRUPTED WHEN A METER IS REMOVED FROM THE SOCKET.
- 13.) ALL EQUIPMENT PUNCH OUTS AND CONDUITS (USED AND SPARE) TO BE "RODENT PROOFED" WITH CAPS, STEEL MESH, AND/OR FOAM FILL BY CONTRACTOR (AS NEEDED).
- 14.) ALL INTERIOR CONDUITS AND BUSHINGS SHALL BE EMT. ALL EXTERIOR SHALL BE PVC UNLESS NOTED OTHERWISE. SEE SBA SPECIFICATIONS.
- 15.) NO SPOILS TO BE LEFT ON SITE WITHOUT THE WRITTEN CONSENT OF THE LANDOWNER
- 16.) CONTRACTOR TO PROVIDE 2 PHENOLIC LABELS AT METER. ONE TO IDENTIFY "SBA DISCONNECT" AND THE OTHER TO GIVE SITE ADDRESS.
- 17.) ALL EQUIPMENT AND MATERIAL FURNISHED AND INSTALLED UNDER THIS CONTRACT SHALL BE UNDERWRITERS LABORATORIES (U.L.) LISTED, NEW, FREE FROM DEFECTS, AND SHALL BE GUARANTEED FOR A PERIOD OF ONE YEAR FROM DATE OF FINAL ACCEPTANCE BY OWNER OR HIS REPRESENTATIVE. SHOULD ANY TROUBLE DEVELOP DURING THIS PERIOD DUE TO FAULTY WORKMANSHIP, MATERIAL OR EQUIPMENT, THE CONTRACTOR SHALL FURNISH ALL NECESSARY MATERIALS AND LABOR TO CORRECT THE TROUBLE WITHOUT COST TO THE OWNER.
- 18.) ELECTRICAL WORK SHALL INCLUDE, BUT NOT BE LIMITED TO, ALL LABOR, MATERIALS AND EQUIPMENT REQUIRED TO COMPLETE ELECTRICAL POWER AND LIGHTING SYSTEMS, TELEPHONE AND COMMUNICATION SYSTEMS, PANEL BOARDS, CONDUIT, CONTROL WIRING, GROUNDING, ETC. AS INDICATED ON ELECTRICAL DRAWINGS AND/OR AS REQUIRED BY GOVERNING CODES.
- 19.) PRIOR TO INSTALLING ANY ELECTRICAL WORK, THE CONTRACTOR SHALL VISIT THE JOB SITE AND VERIFY EXISTING SITE LOCATIONS AND CONDITIONS AND UTILITY SERVICE REQUIREMENTS OF THE JOB, AND BY REFERENCE TO ARCHITECTURE AND EQUIPMENT SUPPLIERS DRAWINGS. SHOULD THERE BE ANY QUESTION OR PROBLEM CONCERNING THE NECESSARY PROVISIONS TO BE MADE, PROPER DIRECTIONS SHALL BE OBTAINED BEFORE PROCEEDING WITH ANY WORK.
- 20.) PROVIDE POWER AND TELEPHONE TO SERVICE POINTS PER UTILITY COMPANY REQUIREMENTS. CONTRACTOR SHALL CONTACT UTILITY SERVICE PLANNERS AND OBTAIN ALL SERVICE REQUIREMENTS AND INCLUDE COSTS FOR SUCH IN HIS BID.
- 21.) SERVICE EQUIPMENT SHALL HAVE A SHORT CIRCUIT WITHSTAND RATING EQUAL TO OR EXCEEDING THE MAXIMUM AVAILABLE FAULT CURRENT AT THE SUPPLY TERMINAL. THE INSTALLATION SHALL BE FREE FROM ANY SHORT CIRCUITS AND GROUNDS.
- 22.) ALL WIRING SHALL BE COPPER WITH THHN/THWN DUAL RATED 600 VOLTS INSULATION.
- 23.) IN THE EVENT OF ANY CONFLICT OR INCONSISTENCY BETWEEN ITEMS SHOWN ON THE PLANS AND/OR SPECIFICATIONS, THE NOTE, SPECIFICATION OR CODE WHICH PRESCRIBES AND ESTABLISHES THE HIGHEST STANDARD OF PERFORMANCE SHALL PREVAIL.
- 24.) SERVICE CONDUITS SHALL HAVE NO MORE THAN (2) -90° BENDS IN ANY SINGLE RUN. THE CONTRACTOR SHALL PROVIDE PULL BOXES AS NEEDED WHERE CONDUIT REQUIREMENTS EXCEED THESE CONDITIONS.
- 25.) ALL ELECTRICAL EQUIPMENT SHALL BE ANCHORED TO WITHSTAND 100 M.P.H. WIND SPEED AND DESIGNED FOR EXPOSURE C.
- 26.) ALL COAX, POWER AND TELEPHONE SYSTEM CONDUITS SHALL HAVE A MINIMUM 24" RADIUS SWEEPS TO EQUIPMENT, PULLBOXES, MONOPOLE, ETC., UNLESS OTHERWISE NOTED, OR AS REQUIRED BY UTILITY COMPANIES.
- 27.) FUSE TYPE SHALL BE BUSSMAN RKI LOW PEAK FUSE (LPU-RK-100).
- 28.) CONTRACTOR TO PROVIDE GUTTER TAP(S) AS REQUIRED.
- 29.) CONTRACTOR TO COLOR PHASE CONDUCTORS BLACK (B PHASE), RED (A PHASE), WHITE (NEUTRAL), AND GREEN (GROUND).

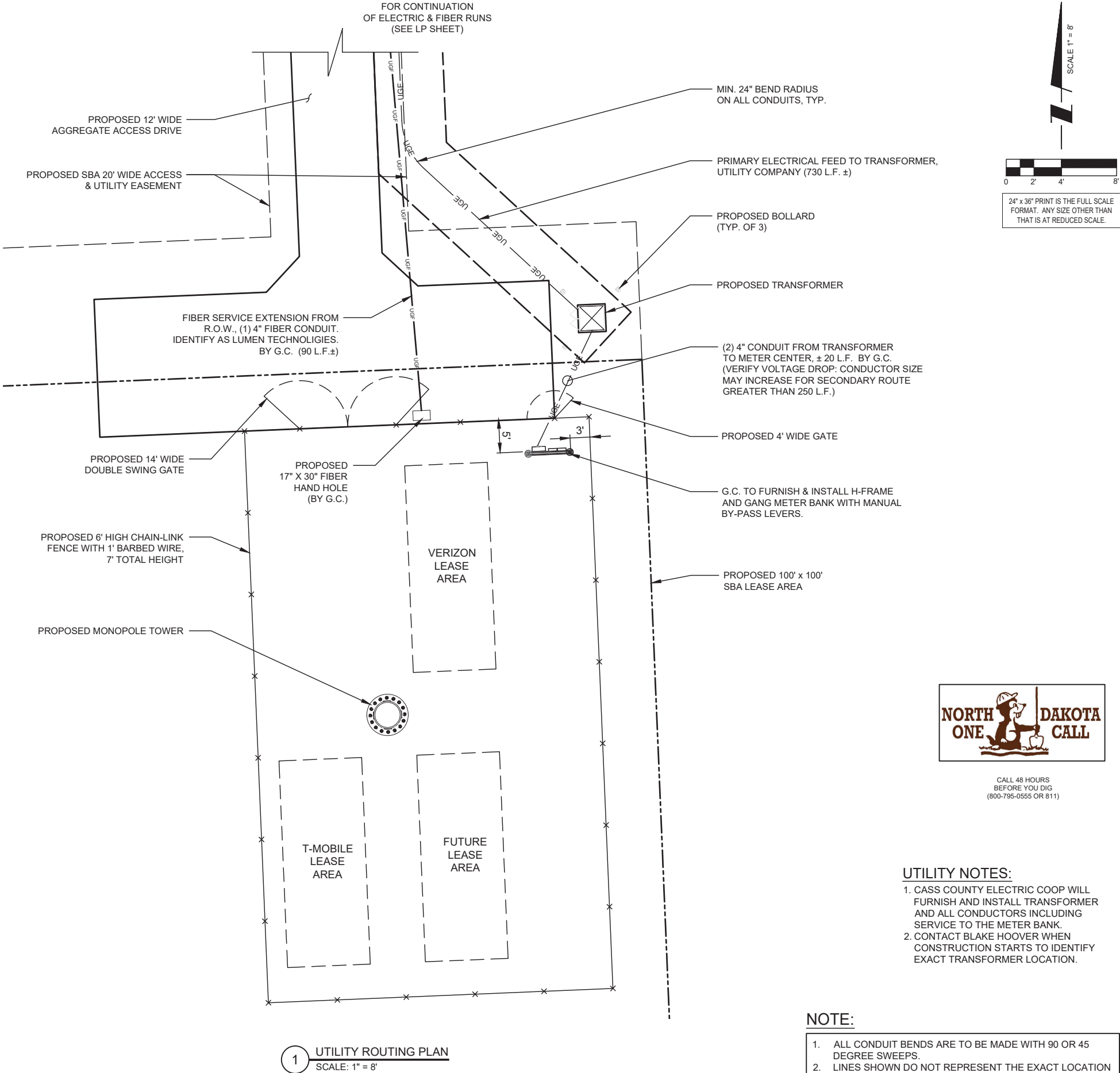
CODES AND STANDARDS

- ANSI  
NEC  
NEMA  
NFPA  
UL
- AMERICAN NATIONAL STANDARDS INSTITUTE  
NATIONAL ELECTRICAL CODE, LATEST ADOPTED EDITION  
NATIONAL ELECTRICAL MANUFACTURER'S ASSOCIATION  
NATIONAL FIRE PROTECTION ASSOCIATION  
UNDERWRITERS LABORATORIES, INC.

UTILITY PROVIDE INFORMATION

POWER COMPANY: CASS COUNTY ELECTRICAL COOP  
CONTACT: BLAKE HOOVER  
PHONE: (701) 356-4467

FIBER COMPANY: LUMEN TECHNOLOGIES  
CONTACT: DAVID MILLS  
PHONE: (763) 355-2258



UTILITY NOTES:

1. CASS COUNTY ELECTRIC COOP WILL FURNISH AND INSTALL TRANSFORMER AND ALL CONDUCTORS INCLUDING SERVICE TO THE METER BANK.
2. CONTACT BLAKE HOOVER WHEN CONSTRUCTION STARTS TO IDENTIFY EXACT TRANSFORMER LOCATION.

NOTE:

1. ALL CONDUIT BENDS ARE TO BE MADE WITH 90 OR 45 DEGREE SWEEPS.
2. LINES SHOWN DO NOT REPRESENT THE EXACT LOCATION OF THE CONDUIT RUNS CONTRACTOR TO VERIFY SERVICE LOCATIONS w/ACTUAL FIELD CONDITIONS.



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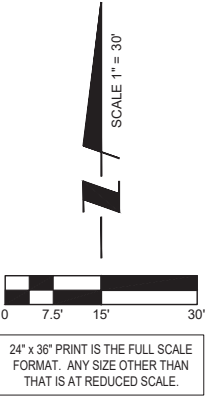
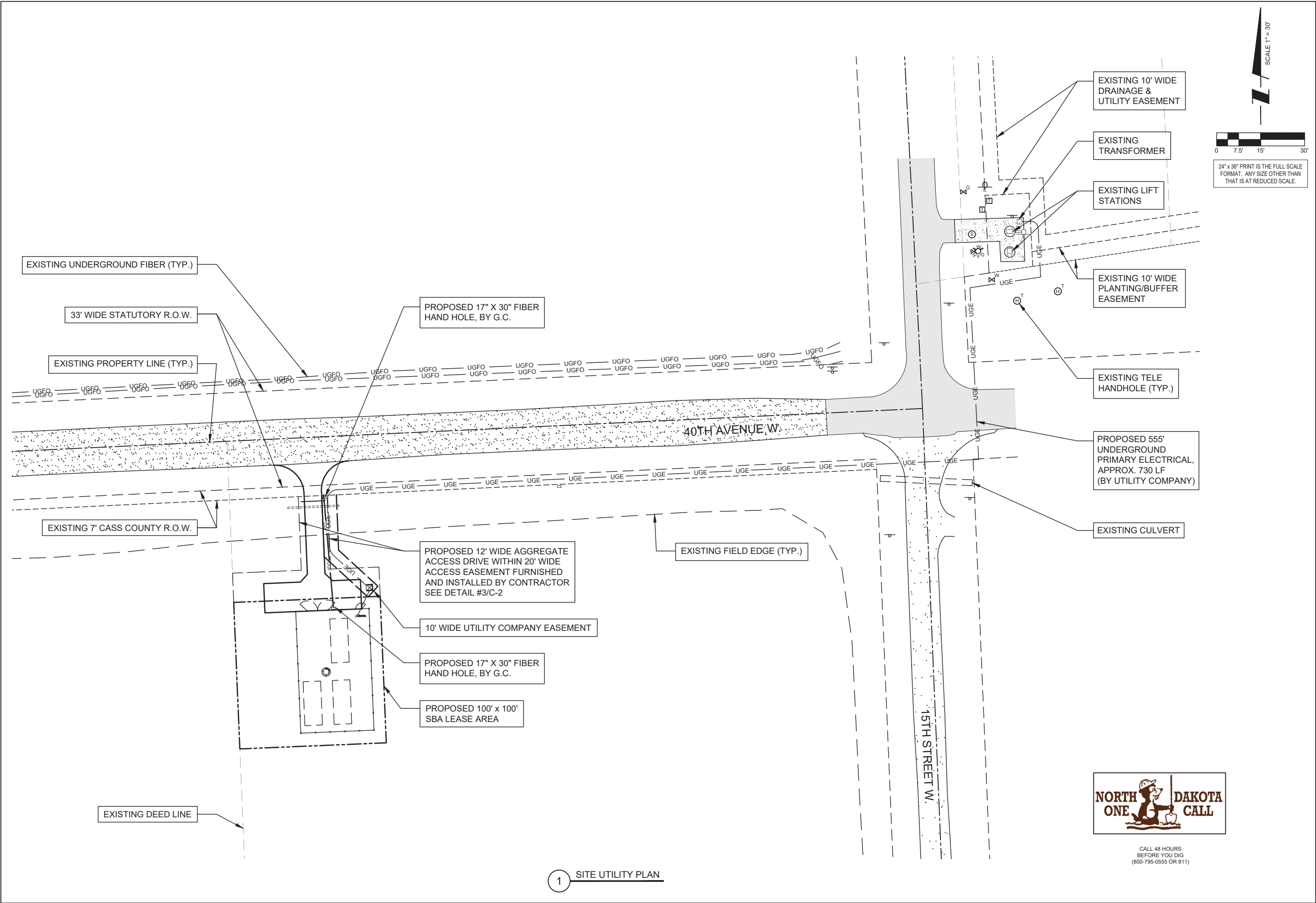
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58078-0000

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|-------------|----------|
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| CHECKED BY: | TJR      |
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|                      |
|----------------------|
| SHEET TITLE          |
| UTILITY ROUTING PLAN |

|              |
|--------------|
| SHEET NUMBER |
| E-1          |



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|           |                                      |          |    |
|           |                                      |          |    |

**SITE I.D.**  
**ND23293-S**  
**FARGO EAGLE**  
**RUN RELO**  
81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

|             |          |
|-------------|----------|
| DRAWN BY:   | JP       |
| CHECKED BY: | TJR      |
| DATE:       | 11/23/21 |

SHEET TITLE  
**SITE UTILITY PLAN**

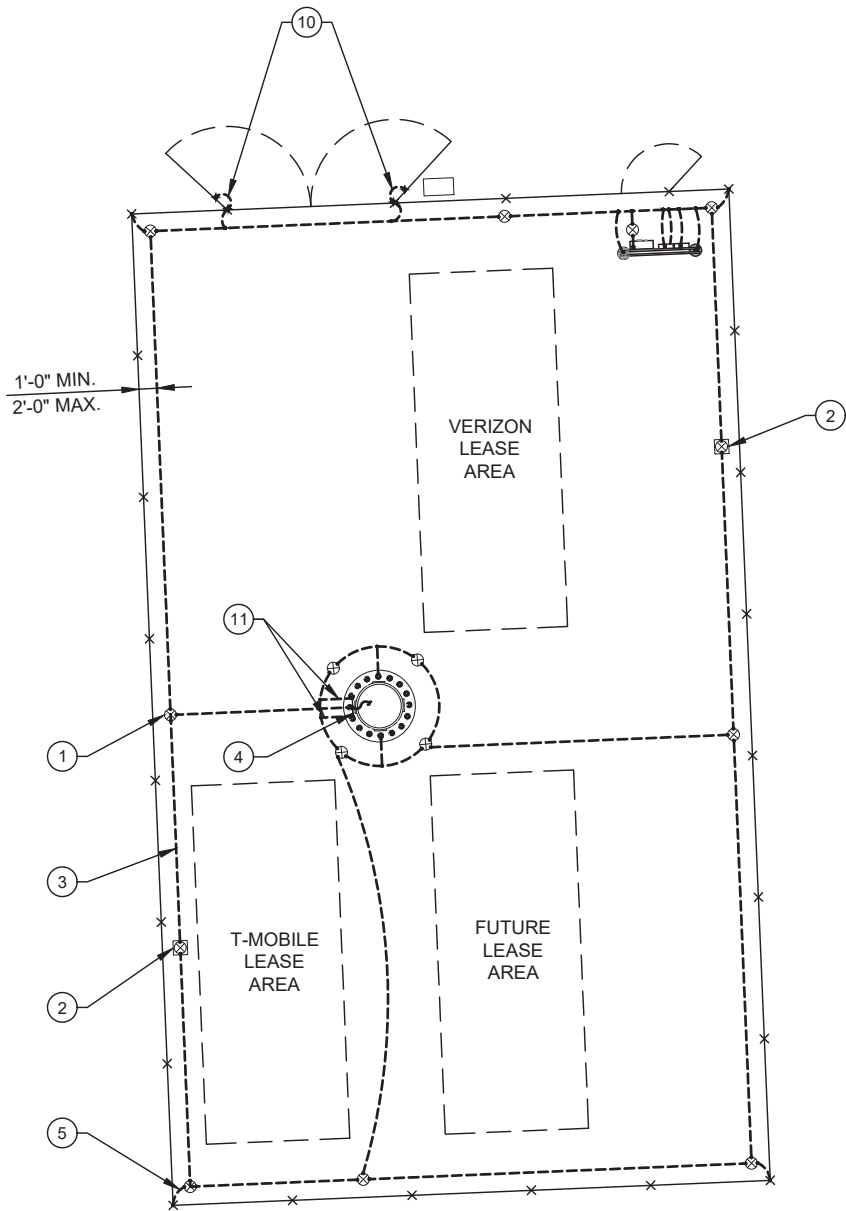
SHEET NUMBER  
**E-2**



CALL 48 HOURS  
BEFORE YOU DIG  
(800-795-0555 OR 811)



NOTE:  
SEE GROUNDING  
DETAILS ON  
SHEETS E-5 & E-6



1 SITE GROUNDING PLAN  
SCALE: N.T.S.

BALLOON REFERENCE NOTES:

- 1 5/8"Øx8" COPPER CLAD GROUND ROD BURIED 42" BELOW GRADE (MIN.)

2 GROUND ROD ACCESS WELL (MIN. OF 2 EACH PER COMPOUND)

3 #2 SOLID, TINNED, BARE COPPER WIRE GROUND RING (CONTINUOUS STRAND) PERIPHERAL GROUND RING SHOULD BE INSTALLED 1'-2' INSIDE THE FENCE LINE, THE TOWER GROUND RING SHOULD BE INSTALLED A MINIMUM TWO FEET OFF OF ANY STRUCTURE

4 1/4"x4"x20" TINNED COPPER GROUND BAR. 2 TYP, AT BASE AND TOP OF TOWER. MOUNT DIRECT TO TOWER, DO NOT ISOLATE.

5 #2 SOLID, TINNED, BARE COPPER WIRE GROUND LEAD TO FENCE CORNER POST.

6 #2 SOLID, TINNED, BARE COPPER WIRE GROUND LEAD TO TELCO CELL-PAK.

7 #2 SOLID, TINNED, BARE COPPER WIRE GROUND LEAD TO UTILITY H-FRAME SUPPORT POST

8 SERVICE ENTRANCE GROUND TO DEDICATED GROUND ROD
- 9 #2 INSULATED, STRANDED COPPER GROUND LEAD ROUTED IN CONDUIT TO 200A LOAD CENTER.

10 #2 INSULATED, STRANDED COPPER BOND STRAP FROM GATE FRAME TO GATE POST. (TYP EACH GATE)

11 #2 SOLID, TINNED, BARE COPPER GROUND LEAD FROM GROUND BAR AT SELF SUPPORT TOWER BASE TO GROUND RING. ROUTE IN 3/4" FLEX CONDUIT AND WEATHERPROOF OPEN END. (2 TYPICAL)

12 #2 SOLID, TINNED, BARE COPPER GROUND LEAD FROM MONOPOLE TOWER BASE TO GROUND RING. (2 TYPICAL, 180° EQUAL SEPARATION)

13 TOWER LIGHT CONTROLLER (GROUND PER MANUFACTURES RECOMMENDATIONS) (IF REQUIRED)

14 #2 SOLID, TINNED, BARE COPPER WIRE FROM TRANSIENT VOLTAGE SURGE SUPPRESSER TO GROUND RING (IF REQUIRED AT LIT SITES)

SYMBOLS LEGEND

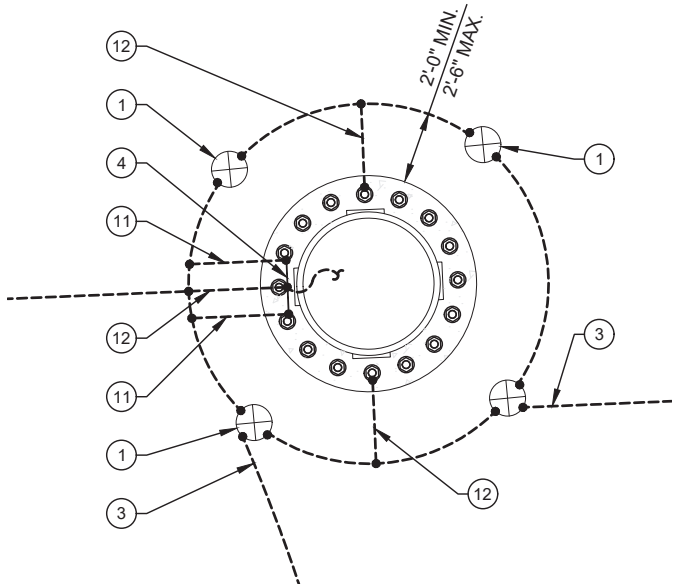
- GROUND ROD WITH ACCESS

GROUND ROD

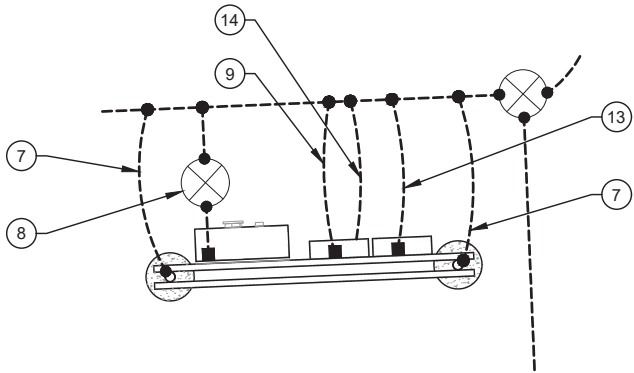
EXOTHERMIC CONNECTION
- MECHANICAL CONNECTION

GROUND BAR

GROUND WIRE



2 ENLARGED GROUNDING PLAN @ TOWER BASE (TYP.)



3 ENLARGED GROUNDING PLAN @ UTILITY H-FRAME



SBA TOWERS IX LLC,  
A DELAWARE LIMITED LIABILITY COMPANY  
9500 ROCKHURST DRIVE, SUITE 100  
BOCA RATON, FL 33487  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
WWW.DESIGN1EP.COM

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ND23293-S

FARGO EAGLE  
RUN RELO

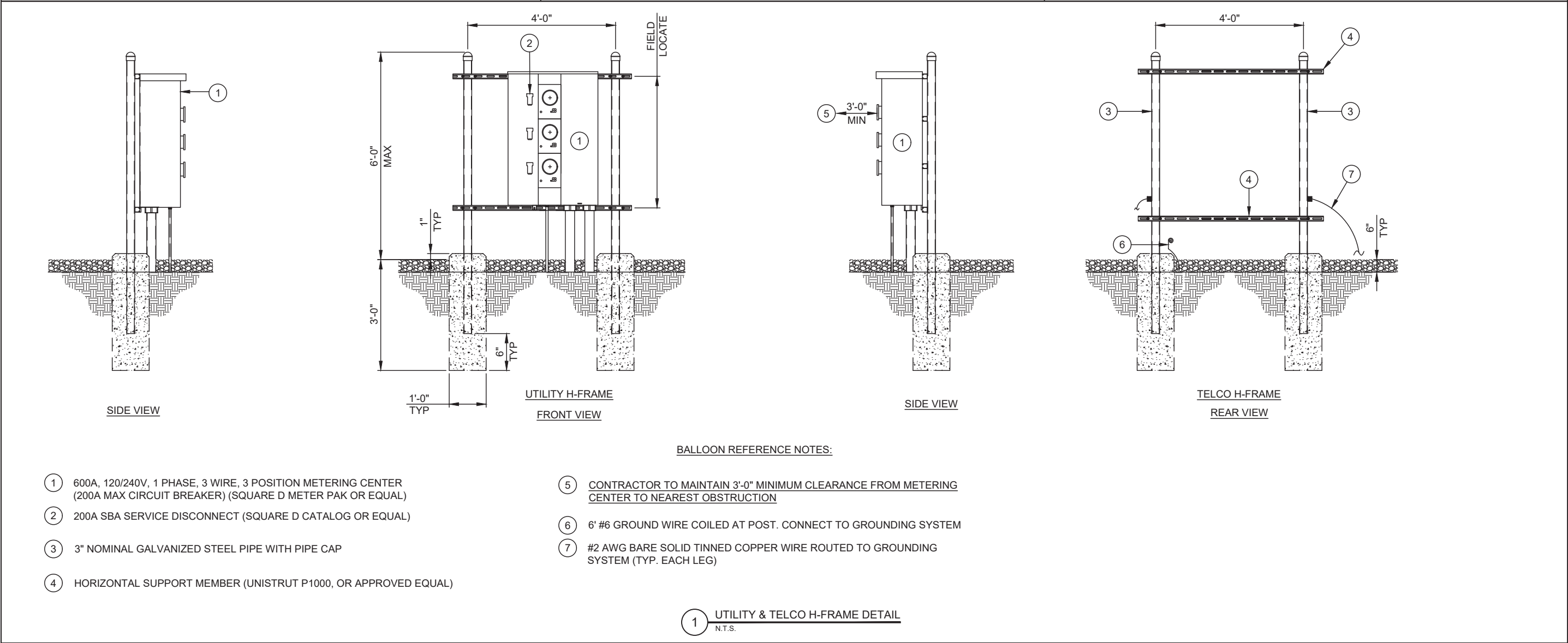
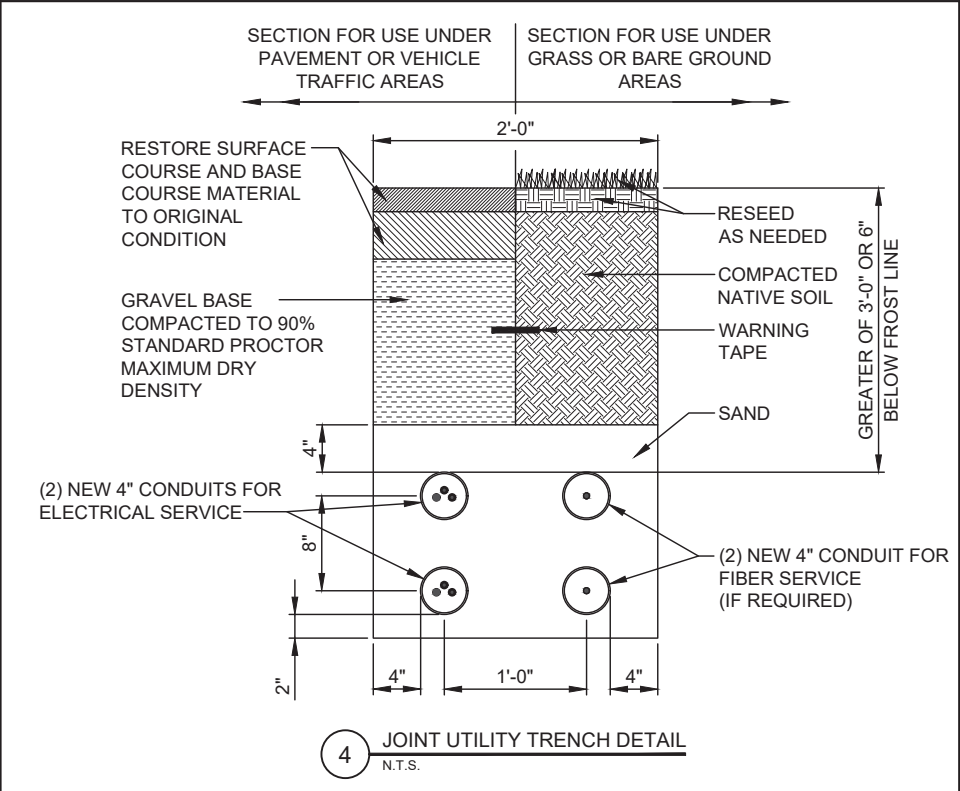
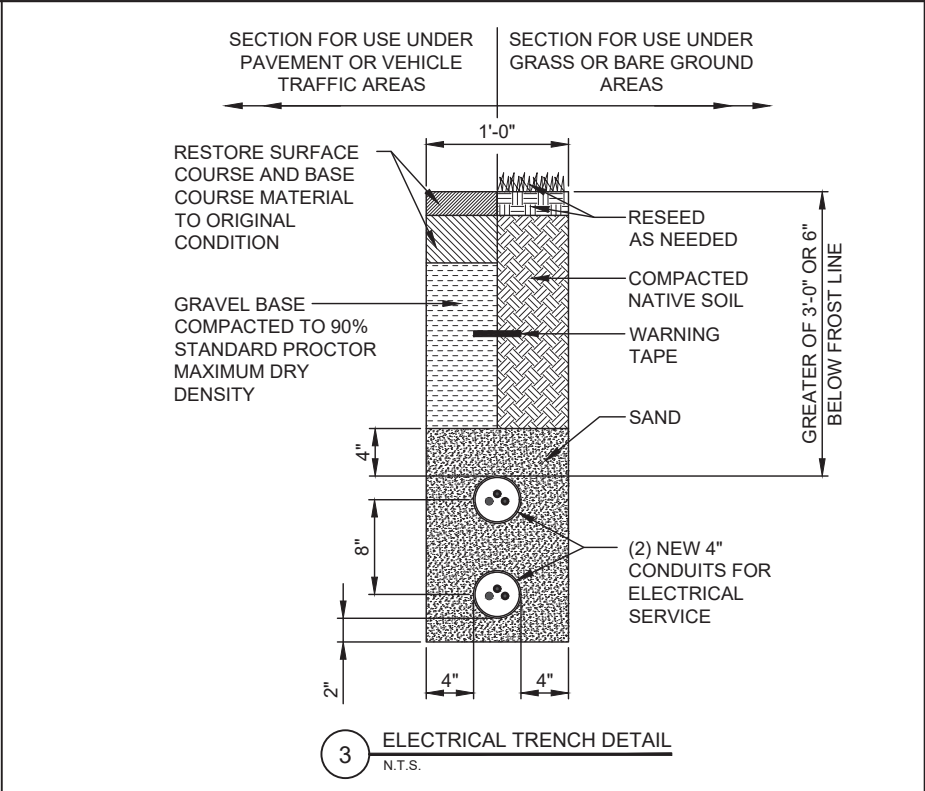
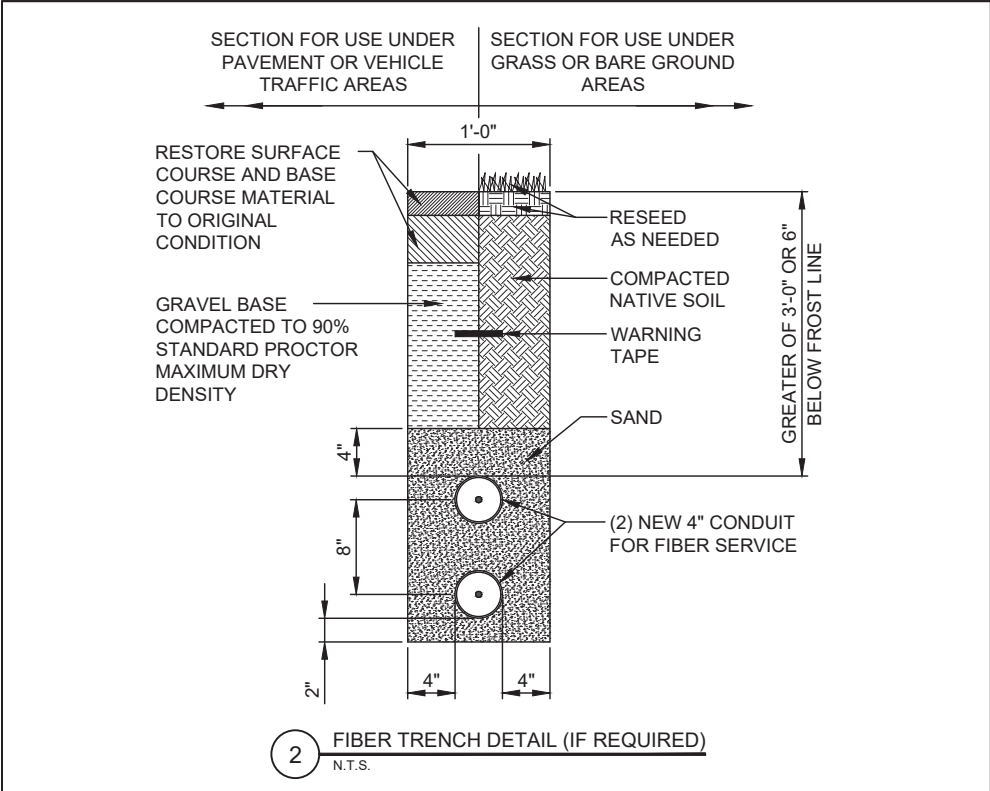
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MAPLETON TOWNSHIP, ND  
58078-0000

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|-------------|----------|
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SHEET TITLE  
SITE  
GROUNDING PLAN  
(MONOPOLE)

SHEET NUMBER

E-3



SBA TOWERS IX LLC  
A DELAWARE LIMITED LIABILITY COMPANY  
5900 ROCKAWAY BLVD., SUITE 200  
BOCA RATON, FL 33487  
PHONE: 1-800-487-7483

DESIGN 1  
9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
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**ND23293-S**

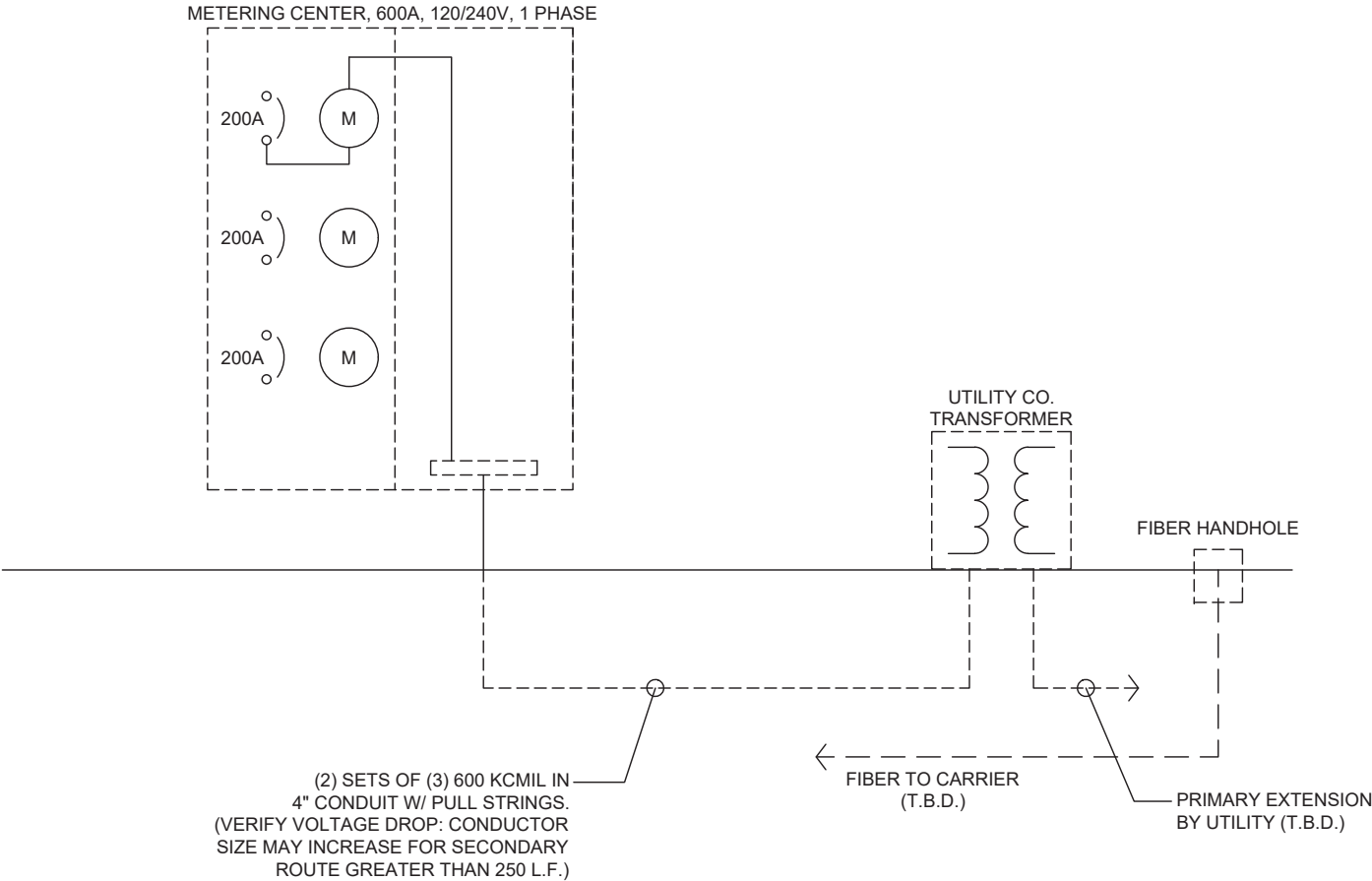
**FARGO EAGLE**  
**RUN RELO**

81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

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| DATE:       | 11/23/21 |

|                             |
|-----------------------------|
| SHEET TITLE                 |
| UTILITY DETAILS<br>(UN-LIT) |

|              |
|--------------|
| SHEET NUMBER |
| <b>E-4</b>   |



2 ELECTRICAL SINGLE-LINE DIAGRAM  
N.T.S.



SBA TOWERS IX LLC,  
A DELAWARE LIMITED LIABILITY COMPANY  
9500 ROCKS COUNTRY NW  
BOCA RATON, FL 33487  
PHONE: 1-800-487-7483



9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
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FARGO EAGLE  
RUN RELO

81ST STREET SOUTH  
MAPLETON TOWNSHIP, ND  
58078-0000

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CHECKED BY: TJR

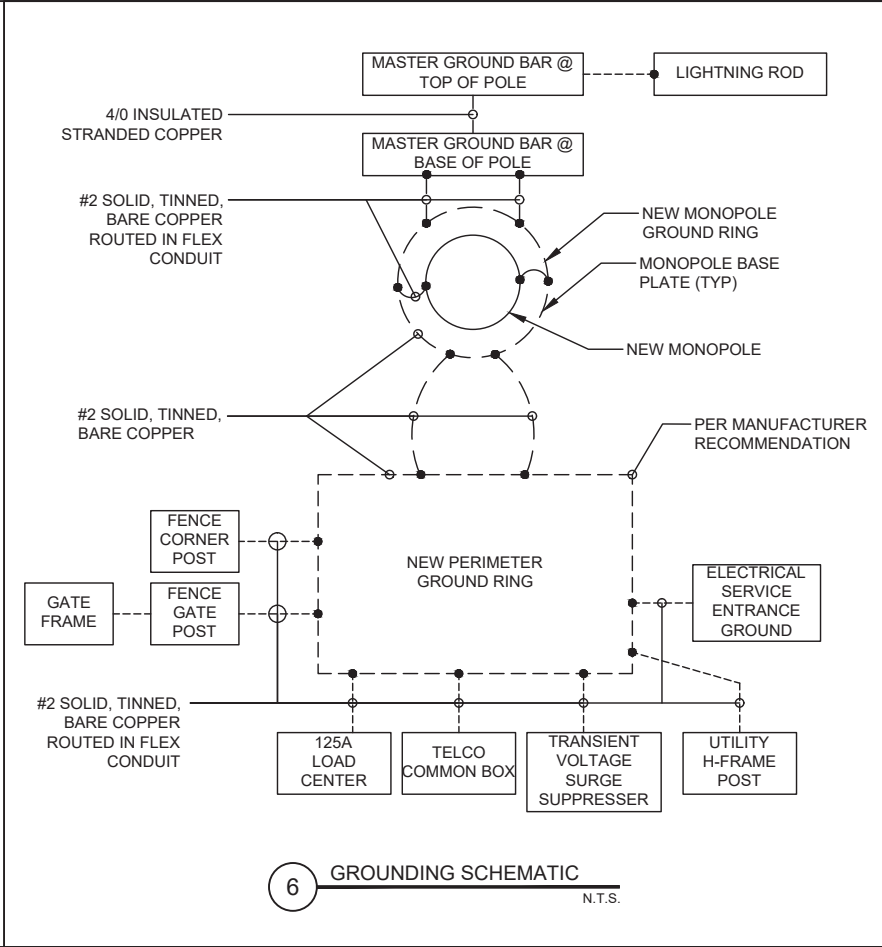
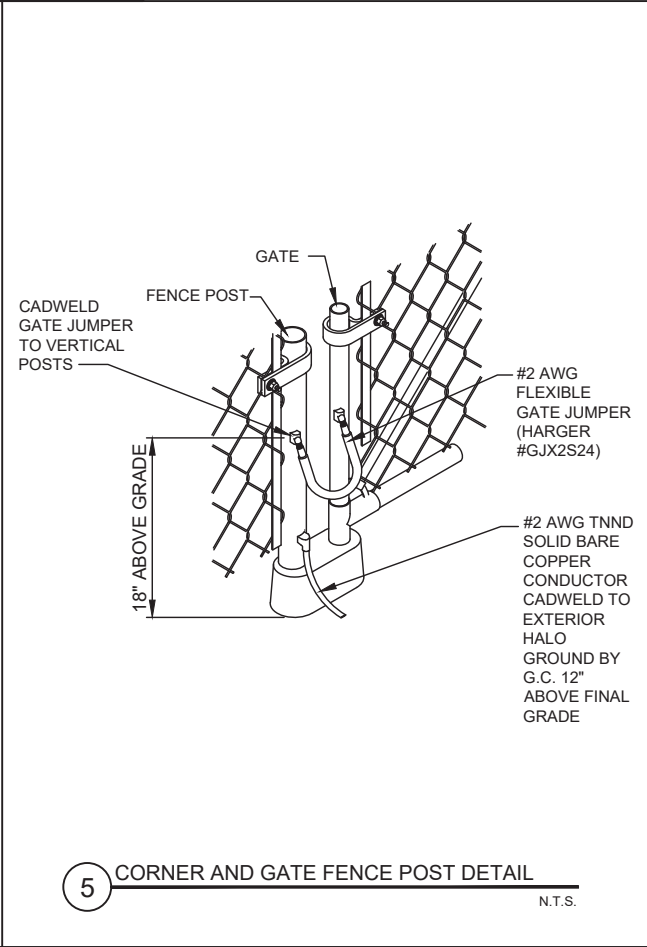
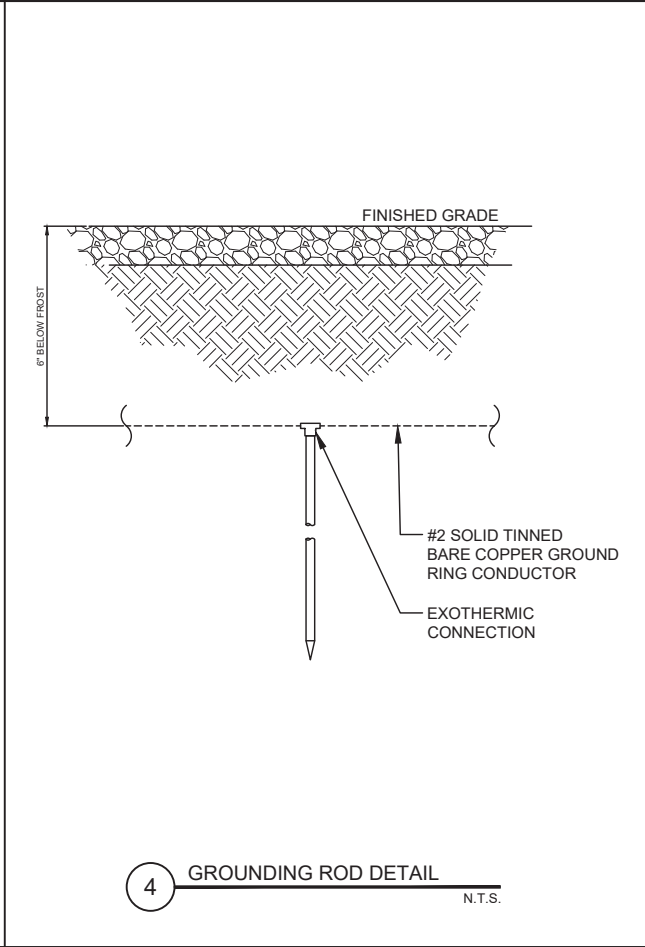
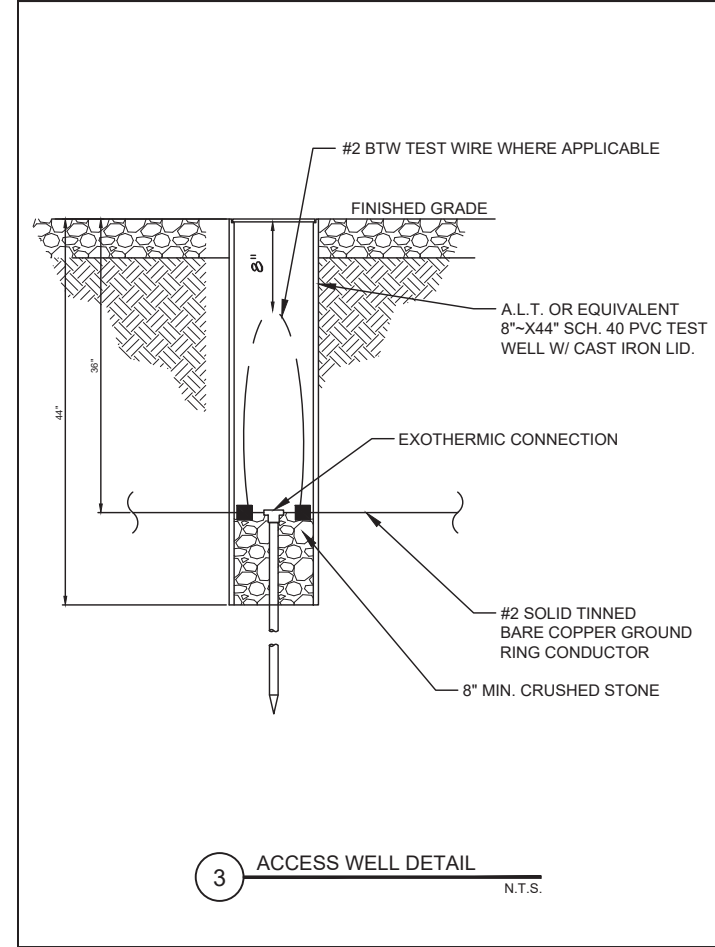
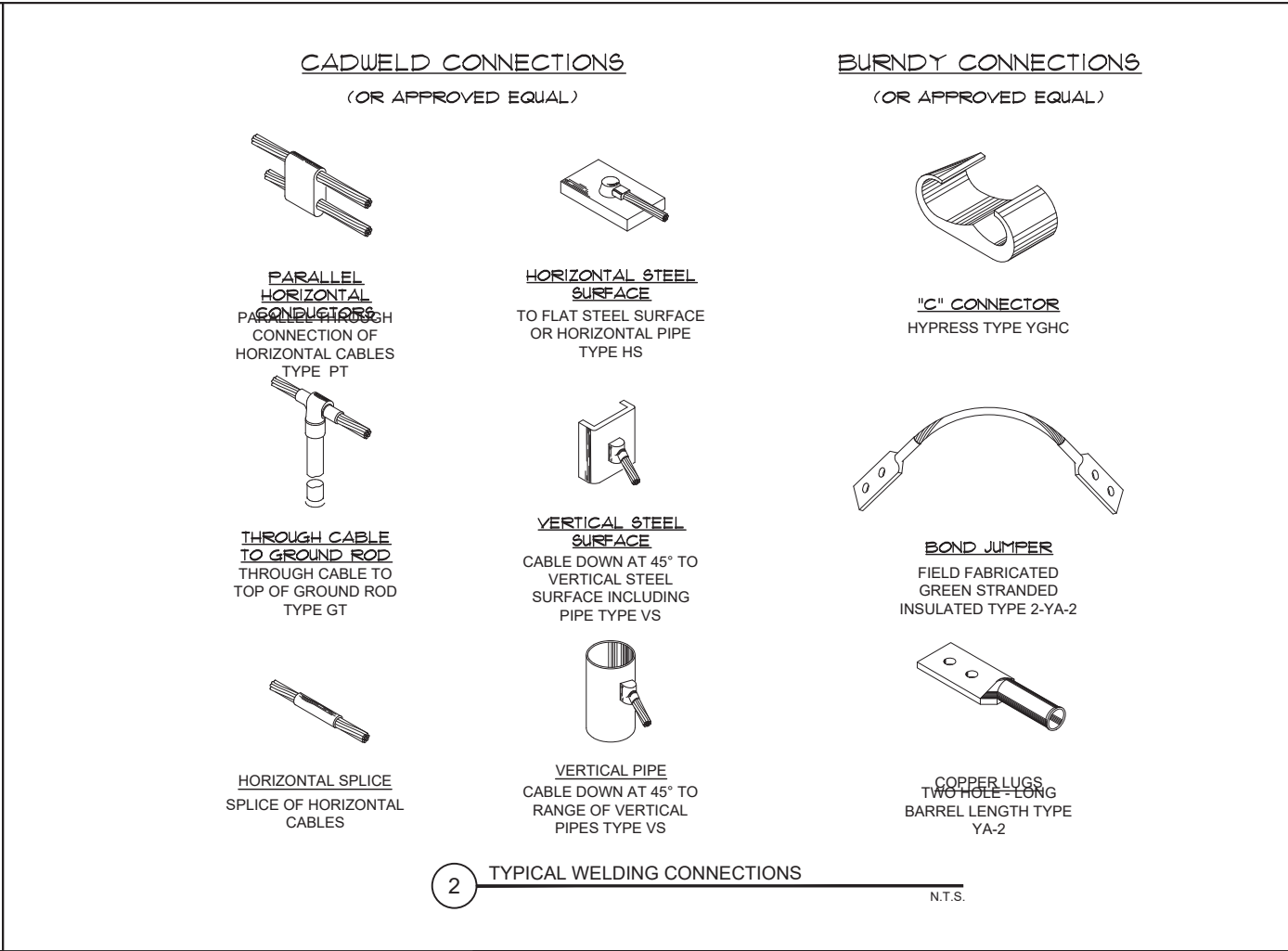
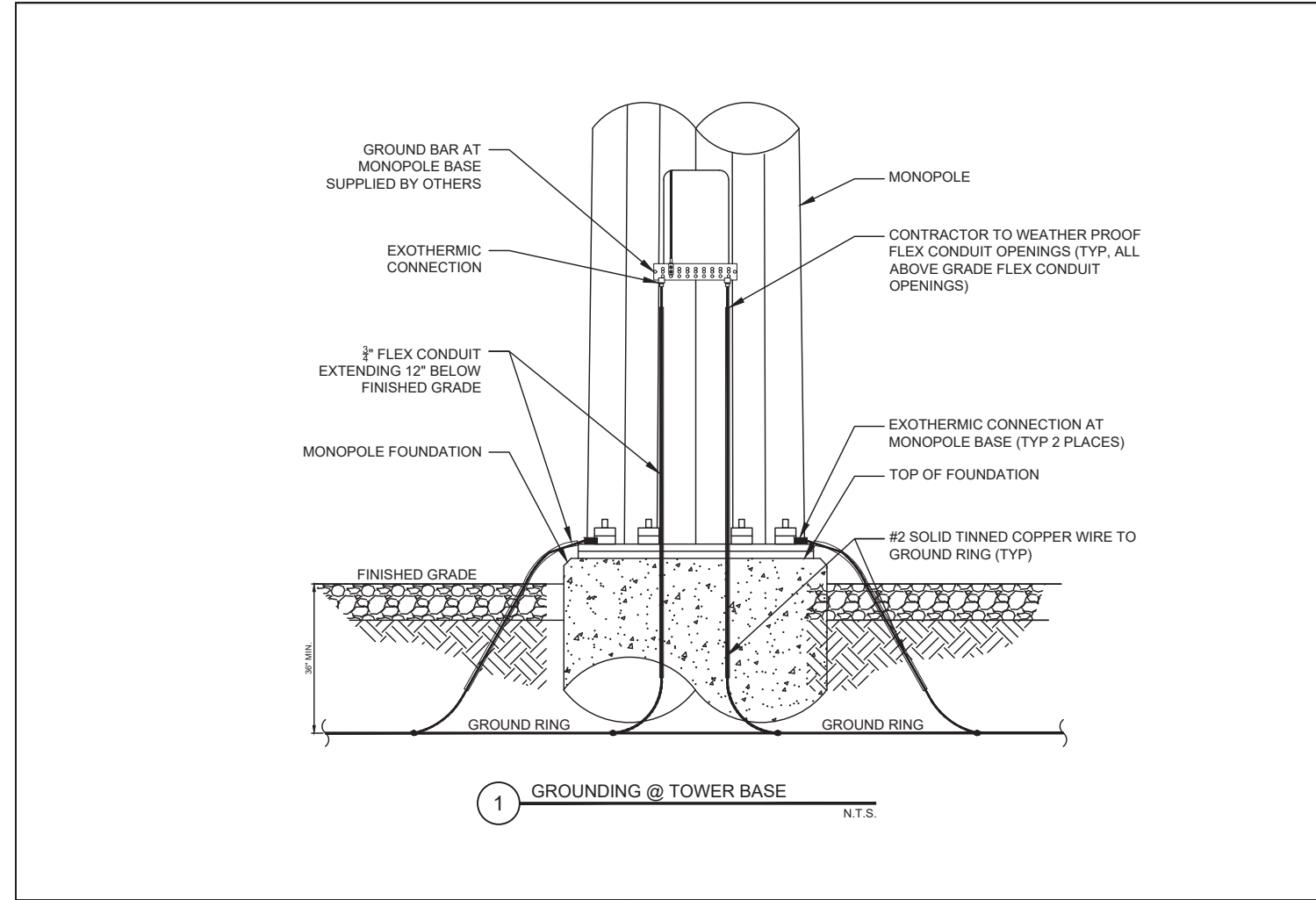
DATE: 11/23/21

SHEET TITLE  
SINGLE LINE DIAGRAM  
& PANEL SCHEDULE  
(UN-LIT)

SHEET NUMBER

E-5





SBA TOWERS IX LLC  
A DELAWARE LIMITED LIABILITY COMPANY  
9500 ROCKAWAY BLVD  
BOCA RATON, FL 33483  
PHONE: 1-800-487-7483

9973 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
(952) 903-9299  
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SHEET TITLE

**ELECTRICAL AND**  
**GROUNDING DETAILS**  
**(MONOPOLE TOWER)**

SHEET NUMBER

**E-6**

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| GENERAL NOTES                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          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| <div>1. ALL REFERENCES TO OWNER HEREIN SHALL BE CONSTRUED TO MEAN SBA OR IT'S DESIGNATED REPRESENTATIVE.</div> <div>2. ALL WORK PRESENTED ON THESE DRAWINGS MUST BE COMPLETED UNLESS NOTED OTHERWISE. THE CONTRACTOR MUST HAVE CONSIDERABLE EXPERIENCE IN PERFORMANCE OF WORK SIMILAR TO THAT DESCRIBED HEREIN. BY ACCEPTANCE OF THIS ASSIGNMENT, THE CONTRACTOR IS ATTESTING THAT HE DOES HAVE SUFFICIENT EXPERIENCE AND ABILITY. THAT HE IS KNOWLEDGEABLE OF THE WORK TO BE PERFORMED AND THAT HE IS LICENSED AND PROPERLY REGISTERED TO DO THIS WORK IN THE STATE AND/OR COUNTY IN WHICH IT IS TO BE PERFORMED.</div> <div>3. UNLESS SHOWN OR NOTED OTHERWISE ON THE CONTRACT DRAWINGS, OR IN THE SPECIFICATIONS, THE FOLLOWING NOTES SHALL APPLY TO THE MATERIALS LISTED HEREIN, AND TO THE PROCEDURES TO BE USED ON THIS PROJECT.</div> <div>4. ALL HARDWARE ASSEMBLY MANUFACTURER'S INSTRUCTIONS SHALL BE FOLLOWED EXACTLY AND SHALL SUPERCEDE ANY CONFLICTING NOTES ENCLOSED HEREIN.</div> <div>5. IT IS THE CONTRACTOR'S SOLE RESPONSIBILITY TO DETERMINE ERECTION PROCEDURE AND SEQUENCE TO INSURE THE SAFETY OF THE STRUCTURE AND ITS COMPONENT PARTS DURING ERECTION AND/OR FIELD MODIFICATIONS. THIS INCLUDES, BUT IS NOT LIMITED TO, THE ADDITION OF WHATEVER TEMPORARY BRACING, GUYS OR TIE DOWNS THAT MAY BE NECESSARY. SUCH MATERIAL SHALL BE REMOVED AND SHALL REMAIN THE PROPERTY OF THE CONTRACTOR AFTER COMPLETION OF THE PROJECT.</div> <div>6. ALL DIMENSIONS, ELEVATIONS AND EXISTING CONDITIONS SHOWN ON THE DRAWINGS SHALL BE FIELD VERIFIED BY THE CONTRACTOR AND THE TESTING AGENCY PRIOR TO BEGINNING ANY MATERIALS ORDERING, FABRICATION OR CONSTRUCTION WORK ON THIS PROJECT. ANY DISCREPANCIES SHALL BE IMMEDIATELY BROUGHT TO THE ATTENTION OF THE OWNER AND THE OWNER'S ENGINEER. THE DISCREPANCIES MUST BE RESOLVED BEFORE THE CONTRACTOR IS TO PROCEED WITH THE WORK. THE CONTRACT DOCUMENTS DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK AND SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, OBSERVATION VISITS TO THE SITE BY THE OWNER AND/OR THE ENGINEER SHALL NOT INCLUDE INSPECTION OF THE PROTECTIVE MEASURES OR THE CONSTRUCTION PROCEDURES.</div> <div>7. ALL MATERIALS AND EQUIPMENT FURNISHED SHALL BE NEW AND OF GOOD QUALITY, FREE FROM FAULTS AND DEFECTS AND IN CONFORMANCE WITH THE CONTRACT DOCUMENTS. ANY AND ALL SUBSTITUTIONS MUST BE PROPERLY APPROVED AND AUTHORIZED IN WRITING BY THE OWNER AND ENGINEER PRIOR TO INSTALLATION. THE CONTRACTOR SHALL FURNISH SATISFACTORY EVIDENCE AS TO THE KIND AND QUALITY OF THE MATERIALS AND EQUIPMENT BEING SUBSTITUTED.</div> <div>8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR INITIATING, MAINTAINING AND SUPERVISING ALL SAFETY PRECAUTIONS AND PROGRAMS IN CONNECTION WITH THE WORK. THE CONTRACTOR IS RESPONSIBLE FOR INSURING THAT THIS PROJECT AND RELATED WORK COMPLIES WITH ALL APPLICABLE LOCAL, STATE AND FEDERAL SAFETY CODES AND REGULATIONS GOVERNING THIS WORK.</div> <div>9. ALL WORK SHALL BE COMPLETED IN ACCORDANCE WITH THE LATEST EDITION OF THE LOCAL BUILDING CODE.</div> <div>10. ALL PROPOSED CELLULAR EQUIPMENT AND FIXTURES SHALL BE FURNISHED BY OWNER FOR INSTALLATION BY THE CONTRACTOR, UNLESS SPECIFICALLY NOTED OTHERWISE HEREIN.</div> <div>11. ACCESS TO THE PROPOSED WORK SITE MAY BE RESTRICTED. THE CONTRACTOR SHALL COORDINATE INTENDED CONSTRUCTION ACTIVITY, INCLUDING WORK SCHEDULE AND MATERIALS ACCESS WITH THE RESIDENT LEASING AGENT FOR APPROVAL.</div> <div>12. RADIO EQUIPMENT INSTALLATION SHALL BE IN ACCORDANCE WITH THE MANUFACTURER'S SPECIFICATIONS.</div> |  | <div>1. DESIGN REQUIREMENTS PER LOCAL BUILDING CODE AND THE E1A/TIA-222-G STRUCTURAL STANDARDS FOR STEEL ANTENNAS TOWERS AND SUPPORTING STRUCTURES.</div> <div>2. STRUCTURAL STEEL SHALL CONFORM TO THE LATEST EDITION OF A.I.S.C. SPECIFICATIONS FOR STRUCTURAL STEEL BUILDINGS-ALLOWABLE STRESS DESIGN AND PLASTIC DESIGN INCLUDING THE COMMENTARY AND THE A.I.S.C. CODE OF STANDARD PRACTICE.</div> <div>3. STRUCTURAL STEEL PLATES AND SHAPES SHALL CONFORM TO ASTM A36. ALL STRUCTURAL STEEL PIPES SHALL CONFORM TO ASTM A53 GRADE 8. ALL STRUCTURAL STEEL TUBING SHALL CONFORM TO ASTM A500 GRACE 8. ALL STRUCTURAL STEEL COMPONENTS AND FABRICATED ASSEMBLIES SHALL BE HOT DIP GALVANIZED AFTER FABRICATION.</div> <div>4. WELDING SHALL BE IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY (AWS) D.1.1-.96. STRUCTURAL WELDING CODE-STEEL WELD ELECTRODES SHALL BE E70XX.</div> <div>5. ALL COAXIAL CABLE CONNECTORS AND TRANSMITTER EQUIPMENT SHALL BE AS SPECIFIED BY THE OWNER AND IS NOT INCLUDED IN THESE CONSTRUCTION DOCUMENTS. THE CONTRACTOR SHALL FURNISH ALL CONNECTION HARDWARE REQUIRED TO SECURE THE CABLES. CONNECTION HARDWARE SHALL BE STAINLESS STEEL.</div> <div>6. NORTH ARROW SHOWN ON PLANS REFERS TO TRUE NORTH. CONTRACTOR SHALL VERIFY NORTH AND INFORM OWNER OF ANY DISCREPANCY BEFORE STARTING CONSTRUCTION.</div> <div>7. ALL CAST IN PLACE CONCRETE SHALL BE MIXED AND PLACED IN ACCORDANCE WITH THE REQUIREMENTS OF ACI 318 AND AC1 301, AND SHALL HAVE A 28 DAY MINIMUM COMPRESSIVE STRENGTH OF 3000 PSI (U.O.N.). CONCRETE SHALL BE PLACED AGAINST UNDISTURBED SOIL UNLESS OTHERWISE NOTED. MINIMUM CONCRETE COVER SHALL BE 3 INCHES UNLESS OTHERWISE NOTED.</div> <div>8. ALL REINFORCING STEEL SHALL CONFORM TO ASTM 615 GRADE 80, DEFORMED BILLET STEEL BARS. WELDED WIRE FABRIC REINFORCING SHALL CONFORM TO ASTM A185.</div> <div>9. THE FABRICATION AND ERECTION OF STRUCTURAL STEEL SHALL CONFORM TO THE LATEST A.I.S.C. SPECIFICATIONS.</div> <div>10.ALL CONNECTIONS NOT FULLY DETAILED ON THESE PLANS SHALL BE DETAILED BY THE STEEL FABRICATOR IN ACCORDANCE WITH A.I.S.C. SPECIFICATIONS.</div> <div>11.HOT-DIP GALVANIZE ITEMS SPECIFIED TO BE ZINC-COATED. AFTER FABRICATION WHERE PRACTICAL. GALVANIZING: ASTM A 123, ASTM A 153/A 153M OR ASTM A 653/A 653M, G90, AS APPLICABLE.</div> <div>12.REPAIR DAMAGED SURFACES WITH GALVANIZING REPAIR METHOD AND PAINT CONFORMING TO ASTM A 780 OR BY APPLICATION OF STICK OR THICK PASTE MATERIAL SPECIFICALLY DESIGNED FOR REPAIR OF GALVANIZING. CLEAN AREAS TO BE REPAIRED, AND REMOVE SLAG FROM WELDS. HEAT SURFACES TO WHICH STICK OR PASTE MATERIAL IS APPLIED WITH A TORCH TO A TEMPERATURE SUFFICIENT TO MELT THE METALLICS. IN STICK OR PASTE, SPREAD MOLTEN MATERIAL UNIFORMLY OVER SURFACES TO BE COATED AND WIPE OFF EXCESS MATERIAL.</div> <div>13.CONTRACTOR SHALL FOLLOW THE MANUFACTURER'S INSTRUCTIONS/ SPECIFICATIONS IF NO INFORMATION IS CONTAINED IN THESE PLANS OR IF THE MANUFACTURER'S SPECIFICATIONS ARE STRICTER.</div> |  | <div>1. CONTRACTOR SHALL CONTACT A SUBSURFACE UTILITY LOCATOR FOR LOCATION OF EXISTING UTILITIES PRIOR TO COMMENCEMENT OF ANY CONSTRUCTION ACTIVITIES. LOCATION OF EXISTING SEWER, WATER LINES, GAS LINES, CONDUITS OR OTHER STRUCTURES ACROSS, UNDERNEATH, OR OTHERWISE ALONG THE LINE OF PROPOSED WORK ARE NOT NECESSARILY SHOWN ON THE PLANS, AND IF SHOWN ARE ONLY APPROXIMATELY CORRECT. CONTRACTOR ASSUMES SOLE RESPONSIBILITY FOR VERIFYING LOCATION AND ELEVATION OF ALL UNDERGROUND UTILITIES (INCLUDING TEST PITs BY HAND IF NECESSARY) IN AREAS OF CONSTRUCTION PRIOR TO STARTING WORK. CONTACT ENGINEER IMMEDIATELY IF LOCATION DR ELEVATION IS DIFFERENT FROM THAT SHOWN ON THE PLANS, OR IF THERE APPEARS TO BE A CONFLICT.</div> <div>2. CONTRACTOR SHALL COORDINATE ALL UTILITY CONNECTIONS WITH APPROPRIATE UTILITY OWNERS AND CONSTRUCTION MANAGER.</div> <div>3. DAMAGE BY THE CONTRACTOR TO UTILITIES OR PROPERTY OF OTHERS, INCLUDING EXISTING PAVEMENT AND OTHER SURFACES DISTURBED BY THE CONTRACTOR DURING CONSTRUCTION SHALL BE REPAIRED TO PRE CONSTRUCTION CONDITIONS BY THE CONTRACTOR AT NO ADDITIONAL COST TO THE CLIENT. FOR GRASSSED AREAS, SEED AND MULCH SHALL BE ACCEPTABLE..</div> <div>4. THE CONTRACTOR SHALL COORDINATE WITH THE OWNER THE REQUIREMENTS FOR AND LIMITS OF OVERHEAD AND/OR UNDERGROUND ELECTRICAL SERVICE.</div> <div>5. THE CONTRACTOR SHALL COORDINATE THE LOCATION OF NEW UNDERGROUND TELEPHONE SERVICE WITH THE TELEPHONE UTILITY AND THE OWNER'S REQUIREMENTS.</div> <div>6. ALL UNDERGROUND UTILITIES SHALL BE INSTALLED AND TESTED SATISFACTORY PRIOR TO COMMENCING ANY PAVING OPERATIONS WHERE SUCH UTILITIES ARE WITHIN THE LIMITS OF PAVEMENT.</div> |  | <div>1. CONTRACTOR TO COORDINATE PAINTING REQUIREMENTS WITH OWNER.</div> <div>2. PAINT COLORS SHALL BE SELECTED TO MATCH EXISTING COLORS AND TEXTURES.</div> <div>3. PROVIDE THE BEST QUALITY GRADE OF COATINGS AS REGULARLY MANUFACTURED BY APPROVED PAINT MATERIAL MANUFACTURERS. MATERIALS NOT DISPLAYING THE MANUFACTURER'S IDENTIFICATION AS A STANDARD, BEST-GRADE PRODUCT WILL NOT BE ACCEPTABLE.</div> <div>4. PROVIDE UNDERCOAT PAINT PRODUCED BY THE SAME MANUFACTURER AS THE FINISH COATS. USE ONLY THINNERS APPROVED BY THE PAINT MANUFACTURER AND USE ONLY WITHIN RECOMMENDED LIMITS.</div> <div>5. COMPLETELY COVER TO PROVIDE AN OPAQUE, SMOOTH SURFACE OF UNIFORM FINISH, COLOR, APPEARANCE, AND COVERAGE. CLOUDINESS, SPOTTINGS, HOLIDAYS, LAPS, BRUSH MARKS, RUNS, SAGS, ROPINESS, OR OTHER SURFACE IMPERFECTIONS WILL NOT BE ACCEPTABLE.</div> <div>FERROUS METALS<br/>SHOP PRIMED<br/>TOUCH-UP COAT - RED OXIDE METAL PRIMER<br/>FINISH COATS - SEMI-GLOSS-ALKYD ENAMEL</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |  |
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                                                                                                                                                                         |  | SBA CONSTRUCTION REQUIREMENTS                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                              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                                                                                                                                                                         |  | <div>1. AWARDED CONTRACTOR WILL BE REQUIRED TO SIGN AND RETURN A COPY OF AN AWARD LETTER FOR SBA'S FILE.</div> <div>2. CONTRACTOR WILL BE REQUIRED TO PROVIDE PROOF OF LICENSE TO PERFORM WORK IN JURISDICTION AT TIME OF BID AWARD.</div> <div>3. CONTRACTOR WILL PROVIDE A CONSTRUCTION SCHEDULE PRIOR TO CONSTRUCTION STARTING AND WILL PROVIDE UPDATE/CHANGES (WITH EXPLANATIONS) TO THAT SCHEDULE WHEN/IF ITEMS ARE DELAYED OR PUSHED OUT.</div> <div>4. CONTRACTOR WILL BE RESPONSIBLE FOR ALL CONCRETE COMPRESSIVE TESTING AND REQUIRED TO SUBMIT FINAL TEST RESULTS WITH CLOSE OUT BOOK.</div> <div>5. CONTRACTOR WILL BE RESPONSIBLE TO PROVIDE SBA PROJECT MANAGERS WITH PHOTOS OF THE MAJOR CONSTRUCTION MILESTONES AS THEY OCCUR.</div> <div>6. CONTRACTOR WILL BE RESPONSIBLE TO ASSIST IN COORDINATING AND OBTAINING PRIMARY POWER TO THE SITE PRIOR TO TOWER ERECTION, AS WELL AS TELCO SERVICE BEFORE PROJECT COMPLETION. (ON SITE VISITS WITH UTILITY COMPANY REPRESENTATIVES AS NECESSARY, ETC.....).</div> <div>7. CONTRACTOR WILL HAVE A REPRESENTATIVE ON A WEEKLY CONFERENCE CALL TO PROVIDE SBA WITH SITE SPECIFIC UPDATES. CURRENTLY, THIS CONFERENCE CALL IS HELD EACH <u>AND</u> EVERY THURSDAY AT 4 PM (EASTERN TIME).</div> <div>8. CONTRACTOR SHOULD BE PREPARED FOR RANDOM SBA SAFETY INSPECTIONS AT ALL TIMES.</div> <div>9. CONTRACTOR IS EXPECTED TO MAINTAIN PROPER WORKING CONDITIONS AND PROCEDURES PER OSHA STANDARDS AT ALL TIMES.</div> <div>10.CONTRACTOR WILL BE REQUIRED TO OBTAIN THE NECESSARY ELECTRICAL PERMITS AND INSPECTIONS AS REQUIRED BY JURISDICTION.</div> <div>11.CONTRACTOR IS EXPECTED TO CLOSE-OUT THE JOB SITE AS QUICKLY AS POSSIBLE (OBTAINING A CERTIFICATE OF OCCUPANCY AND GETTING SBA'S REGIONAL SITE MANAGER'S SIGN-OFF/CHECKLIST APPROVAL ON THE SITE).</div> <div>12.CONTRACTOR WILL PROVIDE A COMPLETED TOWER HEIGHT VERIFICATION FORM AND TAPE DROP WITHIN 24 HOURS OF REACHING OVERALL HEIGHT.</div> <div>13.CONTRACTOR WILL UTILIZE ALL OF THE SBA PROVIDED DOCUMENTATION INCLUDING BUT NOT LIMITED TO: TOWER CONSTRUCTION ACCEPTANCE CHECKLIST, CONSTRUCTION SCHEDULE, CONSTRUCTION CLOSE-OUT LIST &amp; TOWER HEIGHT VERIFICATION.</div> <div>14.CONTRACTOR IS RESPONSIBLE FOR CONCRETE COMPRESSION TESTING.</div> <div>15.CONTRACTOR IS RESPONSIBLE FOR GROUND MEG TESTING.</div> |  |
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THE CONTRACTOR SHALL REWORK (DRY, SCARIFY, ETC...) ALL MATERIAL NOT SUITABLE FOR SUB GRADE IN ITS PRESENT STATE. IF THE MATERIAL, AFTER REWORKING, REMAINS UNSUITABLE THEN THE CONTRACTOR SHALL UNDERCUT THIS MATERIAL AND REPLACE WITH APPROVED MATERIAL AT HIS EXPENSE. ALL SUB GRADES SHALL BE PROOF ROLLED WITH A FULLY LOADED TANDEM AXLE DUMP TRUCK PRIOR TO PAVING. ANY SOFT MATERIAL SHALL BE REWORKED OR REPLACED.</div> <div>2. THE CONTRACTOR IS REQUIRED TO MAINTAIN ALL DITCHES, PIPES, AND OTHER DRAINAGE STRUCTURES FREE FROM OBSTRUCTION UNTIL WORK IS ACCEPTABLE BY THE OWNER. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGES CAUSED BY FAILURE TO MAINTAIN DRAINAGE STRUCTURES IN OPERABLE CONDITION.</div> <div>3. ALL MATERIALS AND WORKMANSHIP SHALL BE WARRANTED FOR ONE (1) YEAR FROM DATE OF ACCEPTANCE.</div> <div>4. ALL DIMENSIONS SHALL BE VERIFIED WITH THE PLANS (LATEST REVISION) PRIOR TO COMMENCING CONSTRUCTION. NOTIFY THE OWNER IMMEDIATELY IF DISCREPANCIES ARE DISCOVERED. THE CONTRACTOR SHALL HAVE A SET OF APPROVED PLANS AVAILABLE AT THE SITE AT ALL TIMES WHEN WORK IS BEING PRE FORMED. A DESIGNATED RESPONSIBLE EMPLOYEE SHALL BE AVAILABLE FOR CONTACT BY GOVERNING AGENCY INSPECTORS.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                   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CONTRACTOR SHALL SECURE ALL NECESSARY PERMITS FOR THIS PROJECT FROM ALL APPLICABLE GOVERNMENTAL AGENCIES. (NOT SUPPLIED BY OWNER)</div> <div>2. ANY PERMITS WHICH MUST BE OBTAINED SHALL BE THE CONTRACTORS RESPONSIBILITY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ABIDING BY ALL CONDITIONS AND REQUIREMENTS OF THE PERMITS. (NOT SUPPLIED BY OWNER)</div> <div>3. ALL WORK SHALL BE IN ACCORDANCE WITH LOCAL CODES AND THE LATEST APPLICABLE CODES AND STANDARDS.</div> <div>4. THE CONTRACTOR SHALL NOTIFY THE APPLICABLE JURISDICTIONAL (STATE, COUNTY, OR CITY) ENGINEER 24 HOURS PRIOR TO THE BEGINNING OF CONSTRUCTION.</div> <div>5. CONTRACTOR RESPONSIBLE FOR CLOSING AND FILING ALL PERMITS ASSOCIATED WITH SITE.</div>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    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# SITE SURVEY

**CERTIFICATION:**

To: SBA Towers IV, LLC, a Delaware Limited Liability Company and Fidelity National Title Insurance Company Order No. 34926864, effective date August 6, 2021.

**PROPERTY DESCRIPTION:**

An interest in land, said interest being over a portion of the following described parent parcel:  
The Northeast Quarter of Section Thirty-six, in Township One Hundred Thirty-nine North of Range  
Fifty West of the Fifth Principal Meridian, situate in the County of Cass and the State of North  
Dakota.

Said parcel contains 160 acres, more or less.

AND BEING the same property conveyed to Cass County Joint Water Resource District, a North Dakota political subdivision from JMD Legacy Investments, LLLP, a North Dakota limited liability limited partnership by Warranty Deed dated October 9, 2020 and recorded October 12, 2020 in Instrument No. 1608234.

Tax Parcel No. 53-0000-09177-000

**SCHEDULE "B" EXCEPTIONS:**

1-8.) Not related to the survey.

9.) County Road Easement dated June 12, 1946, to Cass County, North Dakota, for public highway purposes over and across the South 7 feet of the North 40 feet of the NE¼ of Section 36, Township 139, Range 50, as more fully set forth at Entry No. 16 of the Abstract. This County Road Easement was recorded in the office of the County Recorder on June 13, 1947, in Book W-1 of Miscellaneous, at Page 404, as Document No. 262540.

This document describes a 7' wide easement for roadway purposes. Said easement affects the non-exclusive access and utility easement and is shown on the survey.

10.) Right of Way Easement dated May 25, 1956, to Otter Tail Power Company, Fergus Falls, Minnesota, for the construction, operation and maintenance of an electric transmission line across the S1/2 of NE1/4 of Section 36, Township 139, Range 50, as more fully set forth at Entry No. 21 of the Abstract. This Right of Way Easement was recorded in the office of the County Recorder on June 14, 1956, in Book T-2 of Miscellaneous, Page 554, as Document No. 330350.

This document describes an easement for electric transmission line purposes in the S1/2 of the NE1/4. Said easement does not affect the surveyed area and is not shown on the survey.

11.) Right of Way Easement dated May 25, 1956, to Otter Tail Power Company, Fergus Falls, Minnesota, for the construction, operation and maintenance of an electric transmission line across the S1/2 of NE1/4 of Section 36, Township 139, Range 50, as more fully set forth at Entry No. 21 of the Abstract. This Right of Way Easement was recorded in the office of the County Recorder on June 14, 1956, in Book T-2 of Miscellaneous, Page 554, as Document No. 330350.

This document describes an easement for electric transmission line purposes in the S1/2 of the NE1/4. Said easement is the same as described in Item No. 10 of the title report and it does not affect the surveyed area and is not shown on the survey.



**PROPOSED LEASE AREA DESCRIPTION:**

That part of the Northeast Quarter of Section 36, Township 139 North, Range 50 West of the Fifth Principal Meridian, Cass County, North Dakota, described as follows:

Commencing at the northeast corner of said Northeast Quarter; thence South 2 degrees 23 minutes 25 seconds East along the East line of said Northeast Quarter, a distance of 112.57 feet; thence South 87 degrees 36 minutes 35 seconds West, a distance of 375.00 feet to the Point of Beginning of the lease area to be described; thence continue South 87 degrees 36 minutes 35 seconds West, a distance of 100.00 feet; thence South 2 degrees 23 minutes 25 seconds East, a distance of 100.00 feet; thence North 87 degrees 36 minutes 35 seconds East, a distance of 100.00 feet; thence North 2 degrees 23 minutes 25 seconds West, a distance of 100.00 feet to the Point of Beginning..

Containing 10,000 Sq. Ft. or 0.23 Acres

**PROPOSED ACCESS AND UTILITY EASEMENT DESCRIPTION:**

An easement for ingress, egress and utility purposes over, under and across the Northeast Quarter of Section 36, Township 139 North, Range 50 West of the Fifth Principal Meridian, Cass County, North Dakota, described as follows:

Commencing at the north east corner of said Northeast Quarter; thence South 2 degrees 23 minutes 25 seconds East along the East line of said Northeast Quarter, a distance of 112.57 feet; thence South 87 degrees 36 minutes 35 seconds West, a distance of 375.00 feet; thence North 2 degrees 23 minutes 25 seconds West, a distance of 20.00 feet; thence South 87 degrees 36 minutes 35 seconds West, a distance of 33.00 feet to the Point of Beginning of the easement to be described; thence reverse North 87 degrees 36 minutes 35 seconds East, a distance of 33.00 feet; thence South 2 degrees 23 minutes 25 seconds East, a distance of 20.00 feet; thence South 87 degrees 36 minutes 35 seconds West, a distance of 100.00 feet; thence North 2 degrees 23 minutes 25 seconds West, a distance of 20.00 feet; thence North 87 degrees 36 minutes 35 seconds East, a distance of 37.00 feet; thence North 2 degrees 23 minutes 25 seconds West, a distance of 50.26 feet to the South right of way line of 40th Avenue West; thence North 87 degrees 18 minutes 01 seconds East along said South right of way line, a distance of 20.00 feet to a line bearing North 2 degrees 23 minutes 25 seconds West from the Point of Beginning; thence South 2 degrees 23 minutes 25 seconds East, a distance of 50.36 feet to the Point of Beginning.

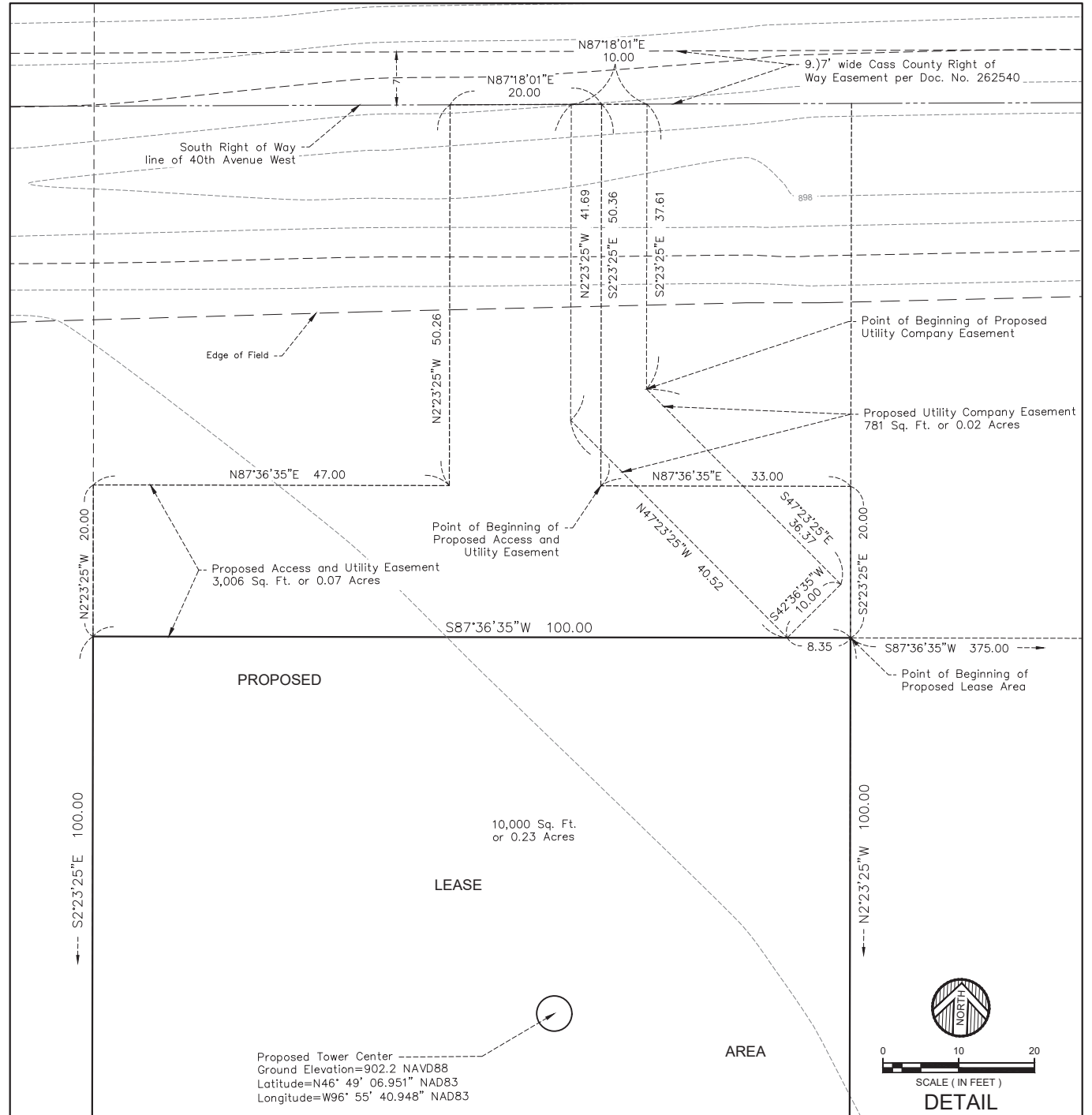
Containing 3,006 Sq. Ft. or 0.07 Acres

**PROPOSED UTILITY COMPANY EASEMENT DESCRIPTION:**

An easement for utility purposes over, under and across the Northeast Quarter of Section 36, Township 139 North, Range 50 West of the Fifth Principal Meridian, Cass County, North Dakota, described as follows:

Commencing at the northeast corner of said Northeast Quarter; thence South 2 degrees 23 minutes 25 seconds East along the East line of said Northeast Quarter, a distance of 112.57 feet; thence South 87 degrees 36 minutes 35 seconds West, a distance of 375.00 feet; thence continue South 87 degrees 36 minutes 35 seconds West, a distance of 8.35 feet; thence North 42 degrees 36 minutes 35 seconds East, a distance of 10.00 feet; thence North 47 degrees 23 minutes 25 seconds West, a distance of 36.37 feet to the Point of Beginning of the easement to be described; thence reverse South 47 degrees 23 minutes 25 seconds East, a distance of 36.37 feet; thence South 42 degrees 36 minutes 35 seconds West, a distance of 10.00 feet; thence North 47 degrees 23 minutes 25 seconds West, a distance of 40.52 feet; thence North 2 degrees 23 minutes 25 seconds West, a distance of 41.69 feet to the South right of way line of 40th Avenue West; thence North 87 degrees 18 minutes 01 seconds East along said South right of way line, a distance of 10.00 feet to a line bearing North 2 degrees 23 minutes 25 seconds West from the Point of Beginning; thence South 2 degrees 23 minutes 25 seconds East, a distance of 37.61 feet to the Point of Beginning.

Containing 781 Sq. Ft. or 0.02 Acres



**SHEET 1 OF 2 SHEETS**

2021 WIDSETH



SBA SITE NUMBER: ND23293-S

SBA SITE NAME:  
FARGO EAGLE RUN RELO

40th Avenue West  
West Fargo, ND 58078

SBA Towers X, LLC, A Delaware Limited Liability Company

|                            |          |                 |  |                   |  |  |     |     |       |
|----------------------------|----------|-----------------|--|-------------------|--|--|-----|-----|-------|
|                            |          |                 |  |                   |  |  |     |     |       |
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|                            |          |                 |  |                   |  |  |     |     |       |
| 1                          | 11/23/21 | CLIENT COMMENTS |  |                   |  |  | JMB | BTB | BTB   |
| No.                        | Date     | REVISIONS       |  |                   |  |  | By  | CHK | APP'D |
| FIELD WORK: 7/7/21&11/4/21 |          | CHECKED BY: JBr |  | DRAWN BY: JMB/NTG |  |  |     |     |       |

I HEREBY CERTIFY THAT THIS DOCUMENT WAS  
PREPARED BY ME OR UNDER MY DIRECT SUPERVISION  
AND THAT I AM A DULY LICENSED LAND SURVEYOR  
UNDER THE LAWS OF THE STATE OF NORTH DAKOTA.

SIGNATURE: Byron L Bullock

DATE: 11/16/21      LICENSE # 4897

FULL SCALE ON 22"x34"  
HALF SCALE ON 11"x17"

2021-11142



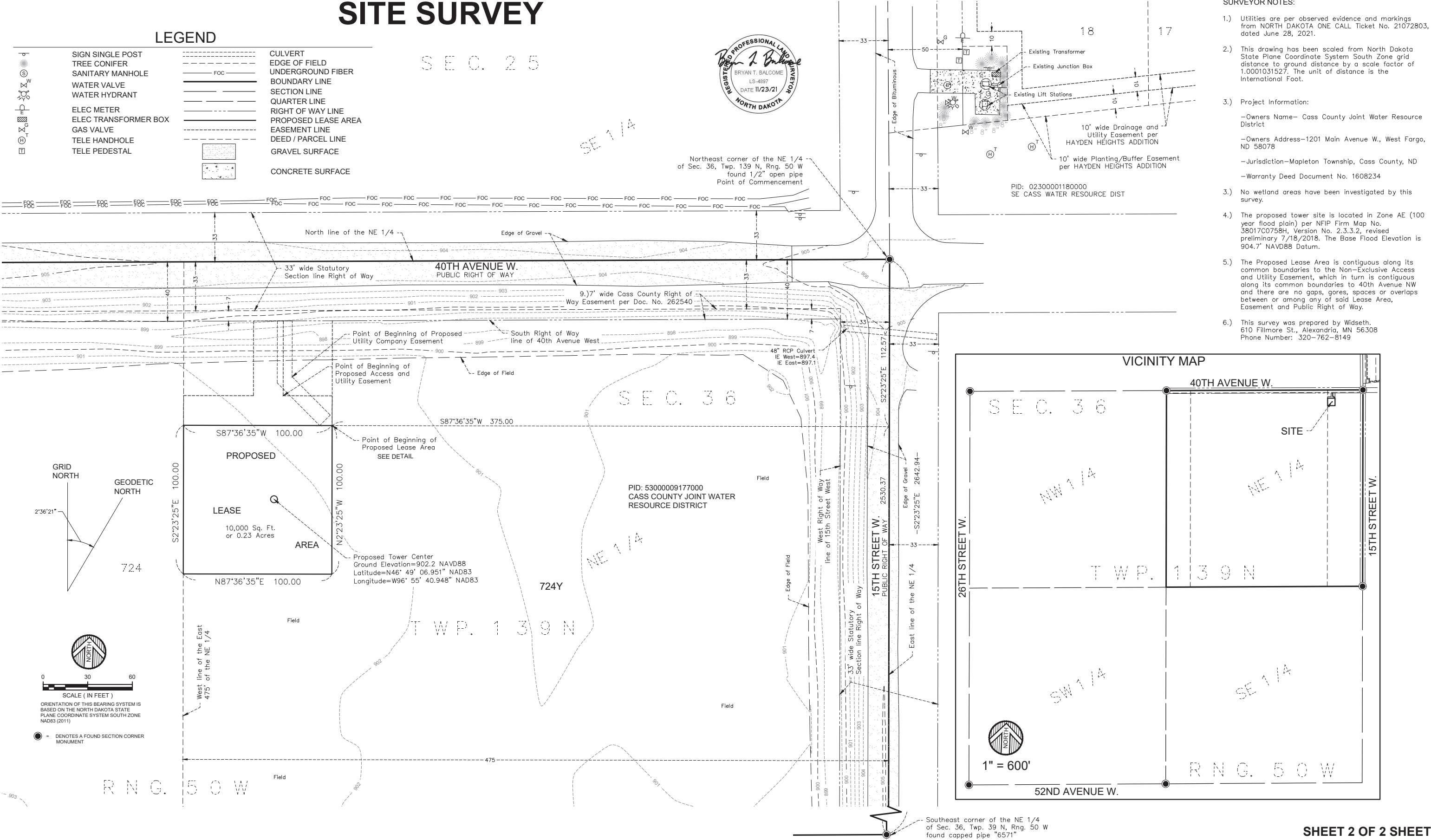
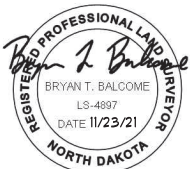


SITE SURVEY

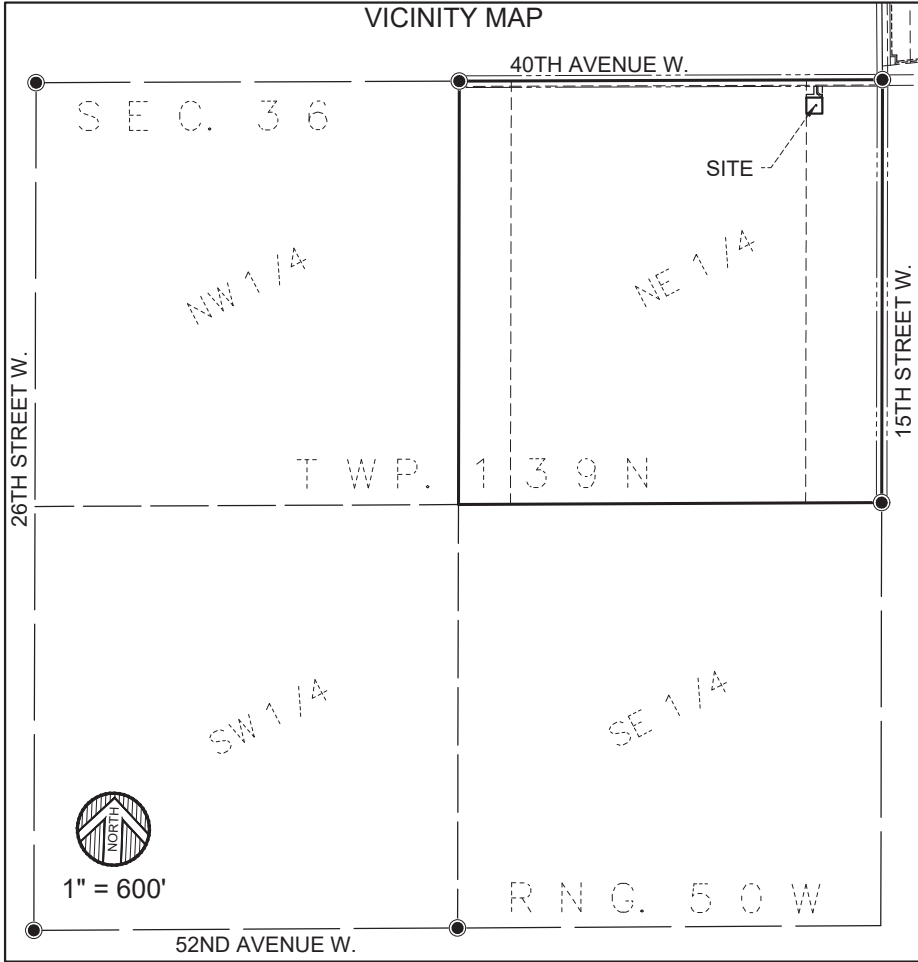
LEGEND

|  |                      |  |                     |
|--|----------------------|--|---------------------|
|  | SIGN SINGLE POST     |  | CULVERT             |
|  | TREE CONIFER         |  | EDGE OF FIELD       |
|  | SANITARY MANHOLE     |  | UNDERGROUND FIBER   |
|  | WATER VALVE          |  | BOUNDARY LINE       |
|  | WATER HYDRANT        |  | SECTION LINE        |
|  | ELEC METER           |  | QUARTER LINE        |
|  | ELEC TRANSFORMER BOX |  | RIGHT OF WAY LINE   |
|  | GAS VALVE            |  | PROPOSED LEASE AREA |
|  | TELE HANDHOLE        |  | EASEMENT LINE       |
|  | TELE PEDESTAL        |  | DEED / PARCEL LINE  |
|  |                      |  | GRAVEL SURFACE      |
|  |                      |  | CONCRETE SURFACE    |

SEC. 25



- SURVEYOR NOTES:
- Utilities are per observed evidence and markings from NORTH DAKOTA ONE CALL Ticket No. 21072803, dated June 28, 2021.
  - This drawing has been scaled from North Dakota State Plane Coordinate System South Zone grid distance to ground distance by a scale factor of 1.0001031527. The unit of distance is the International Foot.
  - Project Information:
    - Owners Name- Cass County Joint Water Resource District
    - Owners Address-1201 Main Avenue W., West Fargo, ND 58078
    - Jurisdiction-Mapleton Township, Cass County, ND
    - Warranty Deed Document No. 1608234
  - No wetland areas have been investigated by this survey.
  - The proposed tower site is located in Zone AE (100 year flood plain) per NFIP Firm Map No. 38017C0758H, Version No. 2.3.3.2, revised preliminary 7/18/2018. The Base Flood Elevation is 904.7' NAVD88 Datum.
  - The Proposed Lease Area is contiguous along its common boundaries to the Non-Exclusive Access and Utility Easement, which in turn is contiguous along its common boundaries to 40th Avenue NW and there are no gaps, gores, spaces or overlaps between or among any of said Lease Area, Easement and Public Right of Way.
  - This survey was prepared by Widseth. 610 Fillmore St., Alexandria, MN 56308 Phone Number: 320-762-8149



SHEET 2 OF 2 SHEETS



SBA SITE NUMBER: ND23293-S  
SBA SITE NAME:  
FARGO EAGLE RUN RELO  
40th Avenue West  
West Fargo, ND 58078  
SBA Towers X, LLC, A Delaware Limited Liability Company

|                            |          |                 |                 |           |      |
|----------------------------|----------|-----------------|-----------------|-----------|------|
| No.                        | Date     | CLIENT COMMENTS | JMB             | BTB       | BTB  |
| 1                          | 11/23/21 |                 |                 |           |      |
| REVISIONS                  |          |                 | By              | CHK       | APPD |
| FIELD WORK: 7/7/21&11/4/21 |          |                 | CHECKED BY: JBr | DRAWN BY: | JMB  |

I HEREBY CERTIFY THAT THIS DOCUMENT WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY LICENSED LAND SURVEYOR UNDER THE LAWS OF THE STATE OF NORTH DAKOTA.

SIGNATURE: *Bryan T. Balcome*  
DATE: 11/16/21 LICENSE # 4897

FULL SCALE ON 22"x34"  
HALF SCALE ON 11"x17"  
2021-11142



# ***Conditional Use Permit***

State of North Dakota,  
County of Cass,  
City of West Fargo

WHEREAS, **SBA Communications Corporation** (hereinafter referred to as the “**Applicant**”) has paid the sum of two hundred dollars (\$200.00) to the City of West Fargo, as required by the City of West Fargo Zoning Ordinance, and has complied with all the requirements of said ordinance necessary for obtaining this permit; and

WHEREAS, **Cass County Joint Water Resource District** is the legal owner of property located at 4331 81 St S, Mapleton, ND 58078, legally described as (hereinafter referred to as the “**Property**”):

**36-139-5- NE ¼ A 160.00, Cass County, North Dakota**

NOW, THEREFORE, by order of the West Fargo City Commission, the said applicant is hereby issued a Conditional Use Permit to:

**Construct a 155-foot steel monopole plus 5-foot lightning rod wireless communications tower in an agriculturally zoned district.**

on the above-described Property with the following conditions:

1. The tower is constructed as a galvanized steel monopole according to the plans approved by the City of West Fargo.
2. The tower is designed to accommodate both the applicant’s antennas and comparable antennas for additional users.
3. That the tower owner and his or her successor shall allow the shared use of the tower if an additional user agrees in writing to meet reasonable terms and conditions for shared use.
4. The City of West Fargo reserves the right to inspect the property for compliance with these conditions.
5. Any and all claims that arise or may arise against Applicant, its agents, servants, or employees while engaged in the use of the Property, shall in no way be the obligation of the City of West Fargo. Furthermore, Applicant, its agents servants, employees, or assigns shall indemnify, hold harmless, and defend the City, its officers and employees against any and all liability, loss, costs, damages, expenses, claims, actions, or judgments, including attorneys’ fees which the City, its officers or employees may hereafter sustain, incur, or be required to pay, in any way connected with the use of the Property or City actions related to the granting of this Conditional Use Permit.
6. Any improvements made to the property in connection with this Conditional Use

Permit shall be at the sole expense of the Owner and shall not be the obligation of the City.

7. If Applicant fails to observe the terms and conditions of this Conditional Use Permit, the City may revoke this Conditional Use Permit. In such an event, the City will give owner at least a ten (10) day notice of revocation of a revocation hearing for the Conditional Use Permit stating the time, place and purpose of such hearing. Upon such hearing, the City may revoke this Conditional Use Permit. If this Conditional Permit is revoked Owner shall remove the tower from the property by the date stated by the City Commission at the hearing. Applicant shall pay as reasonable attorney's fees and court costs associated with the City's enforcement of the terms of this Conditional Use Permit.
8. This Conditional Use permit will not be in effect until such time as:
  - a) it is executed and recorded with Cass County; and
  - b) the City of West Fargo is provided with recording information.
9. The obligations herein shall run with the Property and shall bind the Applicant and the Owner and their successors and assigns.
10. Each provision, section, sentence, clause, phrase, and word of this Agreement is intended to be severable. If any provision, section, sentence, clause, phrase, and word hereof is held by a court with jurisdiction to be illegal or invalid for any reason whatsoever, such illegality or invalidity shall not affect the validity of the remainder of this Agreement.
11. The Applicant acknowledges receipt of this Conditional Use Permit and agrees to its terms and conditions.

Dated this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

**APPLICANT:** \_\_\_\_\_

STATE OF NORTH DAKOTA    )  
                                          )  
COUNTY OF CASS            )

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, before me, the undersigned, a Notary Public in and for said county and state, personally appeared \_\_\_\_\_, known to me to be the person who is described in and who executed the above and foregoing document and acknowledged to me that he executed the same.

[SEAL]

\_\_\_\_\_  
Notary Public

Dated this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

**OWNER:**

\_\_\_\_\_  
SBA Communications Corporation  
Print Name  
& Title: \_\_\_\_\_

STATE OF NORTH DAKOTA   )  
                                          )  
COUNTY OF CASS            )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me, the undersigned, a Notary Public in and for said county and state, personally appeared \_\_\_\_\_, known to me to be the person who is described in and who executed the above and foregoing document and acknowledged to me that he executed the same.

[SEAL]

\_\_\_\_\_  
Notary Public

Dated this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_.

**WEST FARGO BOARD OF CITY  
COMMISSIONERS:**

\_\_\_\_\_  
Bernie Dardis, President of the Board

STATE OF NORTH DAKOTA   )  
                                          )  
COUNTY OF CASS            )

On this \_\_\_\_\_ day of \_\_\_\_\_, 20\_\_\_\_, before me, the undersigned, a Notary Public in and for said county and state, personally appeared Bernie Dardis known to me to be the person who is described in and who executed the above and foregoing document and acknowledged to me that he executed the same.

\_\_\_\_\_  
Notary Public



Dated this \_\_\_\_ day of \_\_\_\_\_, 20\_\_.

**WEST FARGO PLANNING & COMMUNITY  
DEVELOPMENT DEPARTMENT:**

\_\_\_\_\_  
Aaron Nelson, Planning Director

STATE OF NORTH DAKOTA    )  
                                          )  
COUNTY OF CASS            )

On this \_\_\_\_ day of \_\_\_\_\_, 20\_\_, before me, the undersigned, a Notary Public in and for said county and state, personally appeared Aaron Nelson, known to me to be the person who is described in and who executed the above and foregoing document and acknowledged to me that he executed the same.

[SEAL]

\_\_\_\_\_  
Notary Public



## City Commission Agenda Item Request

Please Note: The following information must be completed and submitted before noon on the Wednesday preceding the City Commission Meeting. Failure to comply may delay action being taken on your request.

Office Use:

**Regular Agenda Item #:**

**Consent Agenda Item #:**

**Agenda Item Information:**

**Contact Name: \***

Nick Lee, City Assessor

**Phone Number: \***

701-515-5300

**Email Address:**

nick.lee@westfargond.gov

**Date \***

12/6/2021

**Topic for Consent or Regular Agenda?**

Please select one option:

- ☐ Consent Agenda  
☒ Regular Agenda

**Please Briefly Describe Your Request \***

Application for Abatement or Refund of Taxes for Charleswood Commercial Estates LLC for 2019 & 2020

**Site Address or Legal Description (if applicable)**

02-0110-00020-000, 02-0110-00030-000, 02-0111-00030-000, 02-0111-00060-000, & 02-0114-00010-000 (740, 752, 837, 833, & 823 Beaton Dr E, West Fargo ND)

**Action Being Requested from City Commission \***

Meet as the Local Board of Equalization. Review submitted information and hear testimony regarding abatement and provide a recommendation to the County Board of Equalization.

**Upload Additional Documentation (Optional):**

# Application For Abatement Or Refund Of Taxes

North Dakota Century Code § 57-23-04

File with the County Auditor on or before November 1 of the year following the year in which the tax becomes delinquent.

State of North Dakota

Assessment District

County of Cass

Property I.D. No. 02-0110-00020-000

Name Charleswood Commercial Estates, LLC

Telephone No. (701) 281-3951

Address PO Box 9495, Fargo ND, 58106

Legal description of the property involved in this application:

Lot: 2 Block: 1 CHARLESWOOD 28TH LT 2 BLK 1 \*\*6- 29-12 REPLATTED 02-0107-00030-000,  
00040-000 & 000 50-000

Total true and full value of the property described  
above for the year 2019 is:

Land \$ 343.100  
Improvements \$ \_\_\_\_\_  
Total \$ 343.100  
(1)

Total true and full value of the property described  
above for the year 2019 should be:

Land \$ 137.800  
Improvements \$ \_\_\_\_\_  
Total \$ 137.800  
(2)

The difference of \$ 205,300.00 true and full value between (1) and (2) above is due to the following reason(s):

- ☐ 1. Agricultural property true and full value exceeds its agricultural value defined in N.D.C.C. § 57-02-27.2
- ☐ 2. Residential or commercial property's true and full value exceeds the market value
- ☐ 3. Error in property description, entering the description, or extending the tax
- ☐ 4. Nonexisting improvement assessed
- ☐ 5. Complainant or property is exempt from taxation. Attach a copy of Application for Property Tax Exemption.
- ☐ 6. Duplicate assessment
- ☐ 7. Property improvement was destroyed or damaged by fire, flood, tornado, or other natural disaster (see N.D.C.C. § 57-23-04(1)(g))
- ☐ 8. Error in noting payment of taxes, taxes erroneously paid
- ☐ 9. Property qualifies for Homestead Credit (N.D.C.C. § 57-02-08.1) or Disabled Veterans Credit (N.D.C.C. § 57-02-08.8). Attach a copy of the application.
- ☒ 10. Other (explain) See attached

The following facts relate to the market value of the residential or commercial property described above. For agricultural property, go directly to question #5.

1. Purchase price of property: \$ 130.100 Date of purchase: June 2013  
Terms: Cash ☒ Contract \_\_\_\_\_ Trade \_\_\_\_\_ Other (explain) \_\_\_\_\_  
Was there personal property involved in the purchase price? no Estimated value: \$ \_\_\_\_\_  
yes/no
2. Has the property been offered for sale on the open market? no If yes, how long? \_\_\_\_\_  
yes/no  
Asking price: \$ \_\_\_\_\_ Terms of sale: \_\_\_\_\_
3. The property was independently appraised: no Purpose of appraisal: \_\_\_\_\_  
yes/no  
Market value estimate: \$ \_\_\_\_\_  
Appraisal was made by whom? \_\_\_\_\_
4. The applicant's estimate of market value of the property involved in this application is \$ 183.000
5. The estimated agricultural productive value of this property is excessive because of the following condition(s): N/A

Applicant asks that the property value be reassessed and appropriate taxes calculated.

By filing this application, I consent to an inspection of the above-described property by an authorized assessment official for the purpose of making an appraisal of the property. I understand the official will give me reasonable notification of the inspection. See N.D.C.C. § 57-23-05.1.

I declare under the penalties of N.D.C.C. § 12.1-11-02, which provides for a Class A misdemeanor for making a false statement in a governmental matter, that this application is, to the best of my knowledge and belief, a true and correct application.

Signature of Preparer (if other than applicant)

Date

Signature of Applicant

Date

24775  
(2-2016)

# Recommendation of the Governing Body of the City or Township

Recommendation of the governing board of \_\_\_\_\_

On \_\_\_\_\_, \_\_\_\_\_, the governing board of this municipality, after examination of this application and the facts, passed a resolution recommending to the Board of County Commissioners that the application be \_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

City Auditor or Township Clerk

## Action by the Board of County Commissioners

Application was \_\_\_\_\_ by action of \_\_\_\_\_ County Board of Commissioners.  
Approved/Rejected

Based upon an examination of the facts and the provisions of North Dakota Century Code § 57-23-04, we approve this application. The taxable valuation is reduced from \$ \_\_\_\_\_ to \$ \_\_\_\_\_ and the taxes are reduced accordingly. The taxes, if paid, will be refunded to the extent of \$ \_\_\_\_\_. The Board accepts \$ \_\_\_\_\_ in full settlement of taxes for the tax year \_\_\_\_\_.

We reject this application in whole or in part for the following reason(s). Written explanation of the rationale for the decision must be attached. \_\_\_\_\_

Dated \_\_\_\_\_.

County Auditor

Chairperson

## Certification of County Auditor

I certify that the Board of County Commissioners took the action stated above and the records of my office and the office of the County Treasurer show the following facts as to the assessment and the payment of taxes on the property described in this application.

| Year | Taxable Value | Tax | Date Paid<br>(if paid) | Payment Made<br>Under Written Protest? |
|------|---------------|-----|------------------------|----------------------------------------|
|      |               |     |                        | yes/no                                 |

I further certify that the taxable valuation and the taxes ordered abated or refunded by the Board of County Commissioner are as follows:

| Year | Reduction in Taxable Valuation | Reduction in Taxes |
|------|--------------------------------|--------------------|
|      |                                |                    |

County Auditor

Date

Application For Abatement  
Or Refund Of Taxes

Name of Applicant *Commercial Charleswood Estates LLC*

County Auditor's File No. *4525*

Date Application Was Filed With The County Auditor *11/1/21*

Date County Auditor Mailed Application to Township Clerk or City Auditor *11/1/21*

(must be within five business days of filing date)

Charleswood Commercial Estates, LLC

Parcel #02-0110-00020-00

740 Beaton Rd E, West Fargo ND 58078

Property values are not supported by current market conditions. The property sold on a contract in 2018 for \$183,000, therefore the True and Full value should be less than the above sale amount to calculate the correct amount of property tax. That value should be \$137,800.

# Application For Abatement Or Refund Of Taxes

North Dakota Century Code § 57-23-04

File with the County Auditor on or before November 1 of the year following the year in which the tax becomes delinquent.

State of North Dakota  
County of Cass  
Name Charleswood Commercial Estates, LLC  
Address PO Box 9495, Fargo ND, 58106  
Assessment District \_\_\_\_\_  
Property I.D. No. 02-0110-00020-000  
Telephone No. (701) 281-3951

Legal description of the property involved in this application:

Lot: 2 Block: 1 CHARLESWOOD 28TH LT 2 BLK 1 \*\*6- 29-12 REPLATTED 02-0107-00030-000,  
00040-000 & 000 50-000

Total true and full value of the property described  
above for the year 2020 is:

Land \$ 343.100  
Improvements \$ \_\_\_\_\_  
Total \$ 343.100  
(1)

Total true and full value of the property described  
above for the year 2020 should be:

Land \$ 137.800  
Improvements \$ \_\_\_\_\_  
Total \$ 137.800  
(2)

The difference of \$ 205,300.00 true and full value between (1) and (2) above is due to the following reason(s):

- ☐ 1. Agricultural property true and full value exceeds its agricultural value defined in N.D.C.C. § 57-02-27.2
- ☐ 2. Residential or commercial property's true and full value exceeds the market value
- ☐ 3. Error in property description, entering the description, or extending the tax
- ☐ 4. Nonexisting improvement assessed
- ☐ 5. Complainant or property is exempt from taxation. Attach a copy of Application for Property Tax Exemption.
- ☐ 6. Duplicate assessment
- ☐ 7. Property improvement was destroyed or damaged by fire, flood, tornado, or other natural disaster (see N.D.C.C. § 57-23-04(1)(g))
- ☐ 8. Error in noting payment of taxes, taxes erroneously paid
- ☐ 9. Property qualifies for Homestead Credit (N.D.C.C. § 57-02-08.1) or Disabled Veterans Credit (N.D.C.C. § 57-02-08.8). Attach a copy of the application.
- ☒ 10. Other (explain) See attached

The following facts relate to the market value of the residential or commercial property described above. For agricultural property, go directly to question #5.

1. Purchase price of property: \$ 130.100 Date of purchase: June 2013  
Terms: Cash ☒ Contract \_\_\_\_\_ Trade \_\_\_\_\_ Other (explain) \_\_\_\_\_  
Was there personal property involved in the purchase price? no Estimated value: \$ \_\_\_\_\_  
yes/no
2. Has the property been offered for sale on the open market? no If yes, how long? \_\_\_\_\_  
yes/no  
Asking price: \$ \_\_\_\_\_ Terms of sale: \_\_\_\_\_
3. The property was independently appraised: no Purpose of appraisal: \_\_\_\_\_  
yes/no  
Market value estimate: \$ \_\_\_\_\_  
Appraisal was made by whom? \_\_\_\_\_
4. The applicant's estimate of market value of the property involved in this application is \$ 183.000
5. The estimated agricultural productive value of this property is excessive because of the following condition(s): N/A

Applicant asks that the property value be reassessed and appropriate taxes calculated.

By filing this application, I consent to an inspection of the above-described property by an authorized assessment official for the purpose of making an appraisal of the property. I understand the official will give me reasonable notification of the inspection. See N.D.C.C. § 57-23-05.1.

I declare under the penalties of N.D.C.C. § 12.1-11-02, which provides for a Class A misdemeanor for making a false statement in a governmental matter, that this application is, to the best of my knowledge and belief, a true and correct application.

Signature of Preparer (if other than applicant)

Date

Signature of Applicant

Date



# Recommendation of the Governing Body of the City or Township

Recommendation of the governing board of \_\_\_\_\_

On \_\_\_\_\_, \_\_\_\_\_, the governing board of this municipality, after examination of this application and the facts, passed a resolution recommending to the Board of County Commissioners that the application be \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_, \_\_\_\_\_  
City Auditor or Township Clerk

## Action by the Board of County Commissioners

Application was \_\_\_\_\_ by action of \_\_\_\_\_ County Board of Commissioners.  
Approved/Rejected

Based upon an examination of the facts and the provisions of North Dakota Century Code § 57-23-04, we approve this application. The taxable valuation is reduced from \$ \_\_\_\_\_ to \$ \_\_\_\_\_ and the taxes are reduced accordingly. The taxes, if paid, will be refunded to the extent of \$ \_\_\_\_\_. The Board accepts \$ \_\_\_\_\_ in full settlement of taxes for the tax year \_\_\_\_\_.

We reject this application in whole or in part for the following reason(s). Written explanation of the rationale for the decision must be attached. \_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

Dated \_\_\_\_\_, \_\_\_\_\_

County Auditor \_\_\_\_\_ Chairperson

## Certification of County Auditor

I certify that the Board of County Commissioners took the action stated above and the records of my office and the office of the County Treasurer show the following facts as to the assessment and the payment of taxes on the property described in this application.

| Year | Taxable Value | Tax | Date Paid (if paid) | Payment Made Under Written Protest? |
|------|---------------|-----|---------------------|-------------------------------------|
|      |               |     |                     | yes/no                              |

I further certify that the taxable valuation and the taxes ordered abated or refunded by the Board of County Commissioner are as follows:

| Year | Reduction in Taxable Valuation | Reduction in Taxes |
|------|--------------------------------|--------------------|
|      |                                |                    |

County Auditor \_\_\_\_\_ Date \_\_\_\_\_

## Application For Abatement Or Refund Of Taxes

Name of Applicant *Charleswood Commercial Estates LLC*

County Auditor's File No. *4526*

Date Application Was Filed With The County Auditor *11/1/21*

Date County Auditor Mailed Application to Township Clerk or City Auditor *11/24/21*  
(must be within five business days of filing date)



Charleswood Commercial Estates, LLC

Parcel #02-0110-00020-00

740 Beaton Rd E, West Fargo ND 58078

Property values are not supported by current market conditions. The property sold on a contract in 2018 for \$183,000, therefore the True and Full value should be less than the above sale amount to calculate the correct amount of property tax. That value should be \$137,800.

# Application For Abatement Or Refund Of Taxes

North Dakota Century Code § 57-23-04

File with the County Auditor on or before November 1 of the year following the year in which the tax becomes delinquent.

State of North Dakota

Assessment District

County of Cass

Property I.D. No. 02-0110-00030-000

Name Charleswood Commercial Estates, LLC

Telephone No. (701) 281-3951

Address PO Box 9495 Fargo, ND 58106

Legal description of the property involved in this application:

Lot: 3 Block: 1 CHARLESWOOD 28TH LT 3 BLK 1 \*\*6- 29-12 REPLATTED 02-0107-00030-000, 00040-000 & 000 50-000 .

Total true and full value of the property described above for the year 2019 is:

Land \$ 343.100  
Improvements \$                       
Total \$ 343.100  
(1)

Total true and full value of the property described above for the year 2019 should be:

Land \$ 137.800  
Improvements \$                       
Total \$ 137.800  
(2)

The difference of \$ 205,300.00 true and full value between (1) and (2) above is due to the following reason(s):

- ☐ 1. Agricultural property true and full value exceeds its agricultural value defined in N.D.C.C. § 57-02-27.2
- ☐ 2. Residential or commercial property's true and full value exceeds the market value
- ☐ 3. Error in property description, entering the description, or extending the tax
- ☐ 4. Nonexisting improvement assessed
- ☐ 5. Complainant or property is exempt from taxation. Attach a copy of Application for Property Tax Exemption.
- ☐ 6. Duplicate assessment
- ☐ 7. Property improvement was destroyed or damaged by fire, flood, tornado, or other natural disaster (see N.D.C.C. § 57-23-04(1)(g))
- ☐ 8. Error in noting payment of taxes, taxes erroneously paid
- ☐ 9. Property qualifies for Homestead Credit (N.D.C.C. § 57-02-08.1) or Disabled Veterans Credit (N.D.C.C. § 57-02-08.8). Attach a copy of the application.
- ☒ 10. Other (explain) See attached.

The following facts relate to the market value of the residential or commercial property described above. For agricultural property, go directly to question #5.

1. Purchase price of property: \$ 130.100 Date of purchase: June 2013  
Terms: Cash ☒ Contract ☐ Trade ☐ Other (explain)                       
Was there personal property involved in the purchase price? no Estimated value: \$                       
yes/no
2. Has the property been offered for sale on the open market? no If yes, how long?                       
yes/no  
Asking price: \$                      Terms of sale:
3. The property was independently appraised: no Purpose of appraisal:                       
yes/no  
Market value estimate: \$                       
Appraisal was made by whom?
4. The applicant's estimate of market value of the property involved in this application is \$ 205,300
5. The estimated agricultural productive value of this property is excessive because of the following condition(s): N/A

Applicant asks that the property value be reassessed and taxes recalculated.

By filing this application, I consent to an inspection of the above-described property by an authorized assessment official for the purpose of making an appraisal of the property. I understand the official will give me reasonable notification of the inspection. See N.D.C.C. § 57-23-05.1.

I declare under the penalties of N.D.C.C. § 12.1-11-02, which provides for a Class A misdemeanor for making a false statement in a governmental matter, that this application is, to the best of my knowledge and belief, a true and correct application.

Signature of Preparer (if other than applicant)

Date

Signature of Applicant

Date

## Recommendation of the Governing Body of the City or Township

Recommendation of the governing board of \_\_\_\_\_

On \_\_\_\_\_, the governing board of this municipality, after examination of this application and the facts, passed a resolution recommending to the Board of County Commissioners that the application be \_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_,

\_\_\_\_\_  
City Auditor or Township Clerk

### Action by the Board of County Commissioners

Application was \_\_\_\_\_ by action of \_\_\_\_\_ County Board of Commissioners.  
Approved/Rejected

Based upon an examination of the facts and the provisions of North Dakota Century Code § 57-23-04, we approve this application. The taxable valuation is reduced from \$ \_\_\_\_\_ to \$ \_\_\_\_\_ and the taxes are reduced accordingly. The taxes, if paid, will be refunded to the extent of \$ \_\_\_\_\_. The Board accepts \$ \_\_\_\_\_ in full settlement of taxes for the tax year \_\_\_\_\_.

We reject this application in whole or in part for the following reason(s). Written explanation of the rationale for the decision must be attached. \_\_\_\_\_

Dated \_\_\_\_\_

\_\_\_\_\_  
County Auditor

\_\_\_\_\_  
Chairperson

### Certification of County Auditor

I certify that the Board of County Commissioners took the action stated above and the records of my office and the office of the County Treasurer show the following facts as to the assessment and the payment of taxes on the property described in this application.

| Year | Taxable Value | Tax | Date Paid<br>(if paid) | Payment Made<br>Under Written Protest? |
|------|---------------|-----|------------------------|----------------------------------------|
|      |               |     |                        | yes/no                                 |

I further certify that the taxable valuation and the taxes ordered abated or refunded by the Board of County Commissioner are as follows:

| Year | Reduction in Taxable Valuation | Reduction in Taxes |
|------|--------------------------------|--------------------|
|      |                                |                    |

\_\_\_\_\_  
County Auditor

\_\_\_\_\_  
Date

### Application For Abatement Or Refund Of Taxes

Name of Applicant *Charleswood Commercial Estates LLC*

County Auditor's File No. *4527*

Date Application Was Filed  
With The County Auditor *11/1/21*

Date County Auditor Mailed  
Application to Township  
Clerk or City Auditor *11/1/21*

(must be within five business days of filing date)

Charleswood Commercial Estates, LLC

Parcel #02-0110-00030-00

752 Beaton Rd E, West Fargo ND

Property values are not supported by current market conditions. The property sold on a contract in 2018 for \$183,000, therefore the True and Full value should be less than the above sale amount to calculate the correct amount of property tax. That value should be \$137,800.

# Application For Abatement Or Refund Of Taxes

North Dakota Century Code § 57-23-04

File with the County Auditor on or before November 1 of the year following the year in which the tax becomes delinquent.

State of North Dakota Assessment District \_\_\_\_\_  
County of Cass Property I.D. No. 02-0110-00030-000  
Name Charleswood Commercial Estates, LLC Telephone No. (701) 281-3951  
Address PO Box 9495 Fargo, ND 58106

Legal description of the property involved in this application:

Lot: 3 Block: 1 CHARLESWOOD 28TH LT 3 BLK 1 \*\*6- 29-12 REPLATTED 02-0107-00030-000,  
00040-000 & 000 50-000 .

Total true and full value of the property described  
above for the year 2020 is:

Land \$ 343.100  
Improvements \$ \_\_\_\_\_  
Total \$ 343.100  
(1)

Total true and full value of the property described  
above for the year 2020 should be:

Land \$ 137.800  
Improvements \$ \_\_\_\_\_  
Total \$ 137.800  
(2)

The difference of \$ 205,300.00 true and full value between (1) and (2) above is due to the following reason(s):

- ☐ 1. Agricultural property true and full value exceeds its agricultural value defined in N.D.C.C. § 57-02-27.2
- ☐ 2. Residential or commercial property's true and full value exceeds the market value
- ☐ 3. Error in property description, entering the description, or extending the tax
- ☐ 4. Nonexisting improvement assessed
- ☐ 5. Complainant or property is exempt from taxation. Attach a copy of Application for Property Tax Exemption.
- ☐ 6. Duplicate assessment
- ☐ 7. Property improvement was destroyed or damaged by fire, flood, tornado, or other natural disaster (see N.D.C.C. § 57-23-04(1)(g))
- ☐ 8. Error in noting payment of taxes, taxes erroneously paid
- ☐ 9. Property qualifies for Homestead Credit (N.D.C.C. § 57-02-08.1) or Disabled Veterans Credit (N.D.C.C. § 57-02-08.8). Attach a copy of the application.
- ☒ 10. Other (explain) See attached.

The following facts relate to the market value of the residential or commercial property described above. For agricultural property, go directly to question #5.

1. Purchase price of property: \$ 130.100 Date of purchase: June 2013  
Terms: Cash ☒ Contract \_\_\_\_\_ Trade \_\_\_\_\_ Other (explain) \_\_\_\_\_  
Was there personal property involved in the purchase price? no Estimated value: \$ \_\_\_\_\_  
yes/no
2. Has the property been offered for sale on the open market? no If yes, how long? \_\_\_\_\_  
yes/no  
Asking price: \$ \_\_\_\_\_ Terms of sale: \_\_\_\_\_
3. The property was independently appraised: no Purpose of appraisal: \_\_\_\_\_  
yes/no  
Market value estimate: \$ \_\_\_\_\_  
Appraisal was made by whom? \_\_\_\_\_
4. The applicant's estimate of market value of the property involved in this application is \$ 205.300
5. The estimated agricultural productive value of this property is excessive because of the following condition(s): N/A

Applicant asks that the property value be reassessed and taxes recalculated.

By filing this application, I consent to an inspection of the above-described property by an authorized assessment official for the purpose of making an appraisal of the property. I understand the official will give me reasonable notification of the inspection. See N.D.C.C. § 57-23-05.1.

I declare under the penalties of N.D.C.C. § 12.1-11-02, which provides for a Class A misdemeanor for making a false statement in a governmental matter, that this application is, to the best of my knowledge and belief, a true and correct application.

Signature of Preparer (if other than applicant)

Date

Signature of Applicant

Date



Recommendation of the Governing Body of the City or Township

Recommendation of the governing board of \_\_\_\_\_

On \_\_\_\_\_, \_\_\_\_\_, the governing board of this municipality, after examination of this application and the facts, passed a resolution recommending to the Board of County Commissioners that the application be \_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

City Auditor or Township Clerk

Action by the Board of County Commissioners

Application was \_\_\_\_\_ by action of \_\_\_\_\_ County Board of Commissioners.  
Approved/Rejected

Based upon an examination of the facts and the provisions of North Dakota Century Code § 57-23-04, we approve this application. The taxable valuation is reduced from \$ \_\_\_\_\_ to \$ \_\_\_\_\_ and the taxes are reduced accordingly. The taxes, if paid, will be refunded to the extent of \$ \_\_\_\_\_. The Board accepts \$ \_\_\_\_\_ in full settlement of taxes for the tax year \_\_\_\_\_.

We reject this application in whole or in part for the following reason(s). Written explanation of the rationale for the decision must be attached. \_\_\_\_\_

Dated \_\_\_\_\_.

County Auditor

Chairperson

Certification of County Auditor

I certify that the Board of County Commissioners took the action stated above and the records of my office and the office of the County Treasurer show the following facts as to the assessment and the payment of taxes on the property described in this application.

| Year | Taxable Value | Tax | Date Paid<br>(if paid) | Payment Made<br>Under Written Protest? |
|------|---------------|-----|------------------------|----------------------------------------|
|      |               |     |                        | yes/no                                 |

I further certify that the taxable valuation and the taxes ordered abated or refunded by the Board of County Commissioner are as follows:

| Year | Reduction in Taxable Valuation | Reduction in Taxes |
|------|--------------------------------|--------------------|
|      |                                |                    |

County Auditor

Date

Application For Abatement  
Or Refund Of Taxes

Name of Applicant Charleswood Commercial  
Estates LLC  
County Auditor's File No. 4528

Date Application Was Filed  
With The County Auditor 11/1/21

Date County Auditor Mailed  
Application to Township  
Clerk or City Auditor 11/1/21  
(must be within five business days of filing date)

Charleswood Commercial Estates, LLC

Parcel #02-0110-00030-00

752 Beaton Rd E, West Fargo ND

Property values are not supported by current market conditions. The property sold on a contract in 2018 for \$183,000, therefore the True and Full value should be less than the above sale amount to calculate the correct amount of property tax. That value should be \$137,800.



# Application For Abatement Or Refund Of Taxes

North Dakota Century Code § 57-23-04

File with the County Auditor on or before November 1 of the year following the year in which the tax becomes delinquent.

State of North Dakota

Assessment District

County of Cass

Property I.D. No. 02-0114-00010-000

Name Charleswood Commercial Estates, LLC

Telephone No. (701) 281-3951

Address PO Box 9495, Fargo ND, 58106

Legal description of the property involved in this application:

Lot: 1 Block: 1 CHARLESWOOD 32ND LT 1 BLK 1 \*\*1 0-1-13 REPLATTED FRM 02-0111-00010-000  
PLAT DOC#14 00069

Total true and full value of the property described above for the year 2019 is:

Land \$ 436,400  
Improvements \$  
Total \$ 436,400  
(1)

Total true and full value of the property described above for the year 2019 should be:

Land \$ 105,100  
Improvements \$  
Total \$ 105,100  
(2)

The difference of \$ 331,300.00 true and full value between (1) and (2) above is due to the following reason(s):

- ☐ 1. Agricultural property true and full value exceeds its agricultural value defined in N.D.C.C. § 57-02-27.2
- ☐ 2. Residential or commercial property's true and full value exceeds the market value
- ☐ 3. Error in property description, entering the description, or extending the tax
- ☐ 4. Nonexisting improvement assessed
- ☐ 5. Complainant or property is exempt from taxation. Attach a copy of Application for Property Tax Exemption.
- ☐ 6. Duplicate assessment
- ☐ 7. Property improvement was destroyed or damaged by fire, flood, tornado, or other natural disaster (see N.D.C.C. § 57-23-04(1)(g))
- ☐ 8. Error in noting payment of taxes, taxes erroneously paid
- ☐ 9. Property qualifies for Homestead Credit (N.D.C.C. § 57-02-08.1) or Disabled Veterans Credit (N.D.C.C. § 57-02-08.8). Attach a copy of the application.
- ☒ 10. Other (explain) See attached.

The following facts relate to the market value of the residential or commercial property described above. For agricultural property, go directly to question #5.

1. Purchase price of property: \$ 99,300 Date of purchase: June 2013  
Terms: Cash ☒ Contract ☐ Trade ☐ Other (explain) ☐  
Was there personal property involved in the purchase price? ☐ yes/no ☒ no Estimated value: \$
2. Has the property been offered for sale on the open market? ☐ yes/no ☒ no If yes, how long? ☐  
Asking price: \$ Terms of sale: ☐
3. The property was independently appraised: ☐ yes/no ☒ no Purpose of appraisal: ☐  
Market value estimate: \$  
Appraisal was made by whom? ☐
4. The applicant's estimate of market value of the property involved in this application is \$ 140,000
5. The estimated agricultural productive value of this property is excessive because of the following condition(s): N/A

Applicant asks that property value be reassessed and taxes recalculated.

By filing this application, I consent to an inspection of the above-described property by an authorized assessment official for the purpose of making an appraisal of the property. I understand the official will give me reasonable notification of the inspection. See N.D.C.C. § 57-23-05.1.

I declare under the penalties of N.D.C.C. § 12.1-11-02, which provides for a Class A misdemeanor for making a false statement in a governmental matter, that this application is, to the best of my knowledge and belief, a true and correct application.

Signature of Preparer (if other than applicant)

Date

Signature of Applicant

Date

Recommendation of the Governing Body of the City or Township

Recommendation of the governing board of \_\_\_\_\_

On \_\_\_\_\_, \_\_\_\_\_, the governing board of this municipality, after examination of this application and the facts, passed a resolution recommending to the Board of County Commissioners that the application be \_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

City Auditor or Township Clerk

Action by the Board of County Commissioners

Application was \_\_\_\_\_ by action of \_\_\_\_\_ County Board of Commissioners.  
Approved/Rejected

Based upon an examination of the facts and the provisions of North Dakota Century Code § 57-23-04, we approve this application. The taxable valuation is reduced from \$ \_\_\_\_\_ to \$ \_\_\_\_\_ and the taxes are reduced accordingly. The taxes, if paid, will be refunded to the extent of \$ \_\_\_\_\_. The Board accepts \$ \_\_\_\_\_ in full settlement of taxes for the tax year \_\_\_\_\_.

We reject this application in whole or in part for the following reason(s). Written explanation of the rationale for the decision must be attached. \_\_\_\_\_

Dated \_\_\_\_\_.

County Auditor

Chairperson

Certification of County Auditor

I certify that the Board of County Commissioners took the action stated above and the records of my office and the office of the County Treasurer show the following facts as to the assessment and the payment of taxes on the property described in this application.

| Year | Taxable Value | Tax | Date Paid<br>(if paid) | Payment Made<br>Under Written Protest? |
|------|---------------|-----|------------------------|----------------------------------------|
|      |               |     |                        | yes/no                                 |

I further certify that the taxable valuation and the taxes ordered abated or refunded by the Board of County Commissioner are as follows:

| Year | Reduction in Taxable Valuation | Reduction in Taxes |
|------|--------------------------------|--------------------|
|      |                                |                    |

County Auditor

Date

Application For Abatement  
Or Refund Of Taxes

Name of Applicant *Charleswood Commercial  
Estates LLC*

County Auditor's File No. *4529*

Date Application Was Filed  
With The County Auditor *11/1/21*

Date County Auditor Mailed  
Application to Township  
Clerk or City Auditor *11/1/21*

(must be within five business days of filing date)

Charleswood Commercial Estates, LLC

Parcel #02-0110-00030-00

823 Beaton Dr E, West Fargo ND 58078

Property values are not supported by current market conditions. The property sold on a contract in 2018 for \$140,000 therefore the True and Full value should be less than the above sale amount to calculate the correct amount of property tax. That value should be \$105,100.

North Dakota Century Code § 57-23-04

Page 225 of 264



Recommendation of the Governing Body of the City or Township

Recommendation of the governing board of \_\_\_\_\_

On \_\_\_\_\_, \_\_\_\_\_, the governing board of this municipality, after examination of this application and the facts, passed a resolution recommending to the Board of County Commissioners that the application be \_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

City Auditor or Township Clerk

Action by the Board of County Commissioners

Application was \_\_\_\_\_ by action of \_\_\_\_\_ County Board of Commissioners.  
Approved/Rejected

Based upon an examination of the facts and the provisions of North Dakota Century Code § 57-23-04, we approve this application. The taxable valuation is reduced from \$ \_\_\_\_\_ to \$ \_\_\_\_\_ and the taxes are reduced accordingly. The taxes, if paid, will be refunded to the extent of \$ \_\_\_\_\_. The Board accepts \$ \_\_\_\_\_ in full settlement of taxes for the tax year \_\_\_\_\_.

We reject this application in whole or in part for the following reason(s). Written explanation of the rationale for the decision must be attached. \_\_\_\_\_

Dated \_\_\_\_\_.

County Auditor

Chairperson

Certification of County Auditor

I certify that the Board of County Commissioners took the action stated above and the records of my office and the office of the County Treasurer show the following facts as to the assessment and the payment of taxes on the property described in this application.

| Year | Taxable Value | Tax | Date Paid<br>(if paid) | Payment Made<br>Under Written Protest? |
|------|---------------|-----|------------------------|----------------------------------------|
|      |               |     |                        | yes/no                                 |

I further certify that the taxable valuation and the taxes ordered abated or refunded by the Board of County Commissioner are as follows:

| Year | Reduction in Taxable Valuation | Reduction in Taxes |
|------|--------------------------------|--------------------|
|      |                                |                    |

County Auditor

Date

Application For Abatement  
Or Refund Of Taxes

Name of Applicant *Chadsworth Commercial*  
*Estates LLC*  
County Auditor's File No. *4530*

Date Application Was Filed  
With The County Auditor *11/1/21*

Date County Auditor Mailed  
Application to Township  
Clerk or City Auditor *11/1/21*  
(must be within five business days of filing date)

Charleswood Commercial Estates, LLC

Parcel #02-0110-00030-00

823 Beaton Dr E, West Fargo ND 58078

Property values are not supported by current market conditions. The property sold on a contract in 2018 for \$140,000 therefore the True and Full value should be less than the above sale amount to calculate the correct amount of property tax. That value should be \$105,100.

# Application For Abatement Or Refund Of Taxes

North Dakota Century Code § 57-23-04

File with the County Auditor on or before November 1 of the year following the year in which the tax becomes delinquent.

State of North Dakota  
County of Cass  
Name Charleswood Commercial Estates, LLC  
Address PO Box 9495, Fargo ND, 58106  
Assessment District \_\_\_\_\_  
Property I.D. No. 02-0111-00060-000  
Telephone No. (701) 281-3951

Legal description of the property involved in this application:

Lot: 6 Block: 1 CHARLESWOOD 29TH LT 6 BLK 1

Total true and full value of the property described above for the year 2019 is:

Land \$ 750.700  
Improvements \$ \_\_\_\_\_  
Total \$ 750.700  
(1)

Total true and full value of the property described above for the year 2019 should be:

Land \$ 180.900  
Improvements \$ \_\_\_\_\_  
Total \$ 180.900  
(2)

The difference of \$ 569,800.00 true and full value between (1) and (2) above is due to the following reason(s):

- ☐ 1. Agricultural property true and full value exceeds its agricultural value defined in N.D.C.C. § 57-02-27.2
- ☐ 2. Residential or commercial property's true and full value exceeds the market value
- ☐ 3. Error in property description, entering the description, or extending the tax
- ☐ 4. Nonexisting improvement assessed
- ☐ 5. Complainant or property is exempt from taxation. Attach a copy of Application for Property Tax Exemption.
- ☐ 6. Duplicate assessment
- ☐ 7. Property improvement was destroyed or damaged by fire, flood, tornado, or other natural disaster (see N.D.C.C. § 57-23-04(1)(g))
- ☐ 8. Error in noting payment of taxes, taxes erroneously paid
- ☐ 9. Property qualifies for Homestead Credit (N.D.C.C. § 57-02-08.1) or Disabled Veterans Credit (N.D.C.C. § 57-02-08.8). Attach a copy of the application.
- ☒ 10. Other (explain) See attached.

The following facts relate to the market value of the residential or commercial property described above. For agricultural property, go directly to question #5.

1. Purchase price of property: \$ 170.800 Date of purchase: June 2013  
Terms: Cash ☒ Contract \_\_\_\_\_ Trade \_\_\_\_\_ Other (explain) \_\_\_\_\_  
Was there personal property involved in the purchase price? no Estimated value: \$ \_\_\_\_\_  
yes/no
2. Has the property been offered for sale on the open market? no If yes, how long? \_\_\_\_\_  
yes/no  
Asking price: \$ \_\_\_\_\_ Terms of sale: \_\_\_\_\_
3. The property was independently appraised: no Purpose of appraisal: \_\_\_\_\_  
yes/no  
Market value estimate: \$ \_\_\_\_\_  
Appraisal was made by whom? \_\_\_\_\_
4. The applicant's estimate of market value of the property involved in this application is \$ 338.000
5. The estimated agricultural productive value of this property is excessive because of the following condition(s): N/A

Applicant asks that property value be reassessed and taxes recalculated.

By filing this application, I consent to an inspection of the above-described property by an authorized assessment official for the purpose of making an appraisal of the property. I understand the official will give me reasonable notification of the inspection. See N.D.C.C. § 57-23-05.1.

I declare under the penalties of N.D.C.C. § 12.1-11-02, which provides for a Class A misdemeanor for making a false statement in a governmental matter, that this application is, to the best of my knowledge and belief, a true and correct application.

Signature of Preparer (if other than applicant) \_\_\_\_\_

Date \_\_\_\_\_

Signature of Applicant [Signature]

Date 3/31/2021



Recommendation of the Governing Body of the City or Township

Recommendation of the governing board of \_\_\_\_\_

On \_\_\_\_\_, \_\_\_\_\_, the governing board of this municipality, after examination of this application and the facts, passed a resolution recommending to the Board of County Commissioners that the application be \_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

City Auditor or Township Clerk

Action by the Board of County Commissioners

Application was \_\_\_\_\_ by action of \_\_\_\_\_ County Board of Commissioners.  
Approved/Rejected

Based upon an examination of the facts and the provisions of North Dakota Century Code § 57-23-04, we approve this application. The taxable valuation is reduced from \$ \_\_\_\_\_ to \$ \_\_\_\_\_ and the taxes are reduced accordingly. The taxes, if paid, will be refunded to the extent of \$ \_\_\_\_\_. The Board accepts \$ \_\_\_\_\_ in full settlement of taxes for the tax year \_\_\_\_\_.

We reject this application in whole or in part for the following reason(s). Written explanation of the rationale for the decision must be attached. \_\_\_\_\_

Dated \_\_\_\_\_.

County Auditor

Chairperson

Certification of County Auditor

I certify that the Board of County Commissioners took the action stated above and the records of my office and the office of the County Treasurer show the following facts as to the assessment and the payment of taxes on the property described in this application.

| Year | Taxable Value | Tax | Date Paid<br>(if paid) | Payment Made<br>Under Written Protest? |
|------|---------------|-----|------------------------|----------------------------------------|
|      |               |     |                        | yes/no                                 |

I further certify that the taxable valuation and the taxes ordered abated or refunded by the Board of County Commissioner are as follows:

| Year | Reduction in Taxable Valuation | Reduction in Taxes |
|------|--------------------------------|--------------------|
|      |                                |                    |

County Auditor

Date

Application For Abatement  
Or Refund Of Taxes

Name of Applicant Charleswood Commercial  
Estates LLC  
County Auditor's File No. 4531

Date Application Was Filed  
With The County Auditor

11/1/21

Date County Auditor Mailed  
Application to Township  
Clerk or City Auditor

11/1/21

(must be within five business days of filing date)

Charleswood Commercial Estates, LLC

Parcel #02-0110-00030-00

833 Beaton Dr E, West Fargo ND 58078

Property values are not supported by current market conditions. The property sold on a contract in 2018 for \$241,000 therefore the True and Full value should be less than the above sale amount to calculate the correct amount of property tax. That value should be \$180,900.

**Application For Abatement Or Refund Of Taxes**  
North Dakota Century Code § 57-23-04

File with the County Auditor on or before November 1 of the year following the year in which the tax becomes delinquent.

State of North Dakota \_\_\_\_\_ Assessment District \_\_\_\_\_  
County of Cass \_\_\_\_\_ Property I.D. No. 02-0111-00060-000  
Name Charleswood Commercial Estates, LLC Telephone No. (701) 281-3951  
Address PO Box 9495, Fargo ND, 58106

Legal description of the property involved in this application:

Lot: 6 Block: 1 CHARLESWOOD 29TH LT 6 BLK 1

Total true and full value of the property described above for the year 2020 is:

Land \$ 750.700  
Improvements \$ \_\_\_\_\_  
Total \$ 750.700  
(1)

Total true and full value of the property described above for the year 2020 should be:

Land \$ 180.900  
Improvements \$ \_\_\_\_\_  
Total \$ 180.900  
(2)

The difference of \$ 569,800.00 true and full value between (1) and (2) above is due to the following reason(s):

- ☐ 1. Agricultural property true and full value exceeds its agricultural value defined in N.D.C.C. § 57-02-27.2  
☐ 2. Residential or commercial property's true and full value exceeds the market value  
☐ 3. Error in property description, entering the description, or extending the tax  
☐ 4. Nonexisting improvement assessed  
☐ 5. Complainant or property is exempt from taxation. Attach a copy of Application for Property Tax Exemption.  
☐ 6. Duplicate assessment  
☐ 7. Property improvement was destroyed or damaged by fire, flood, tornado, or other natural disaster (see N.D.C.C. § 57-23-04(1)(g))  
☐ 8. Error in noting payment of taxes, taxes erroneously paid  
☐ 9. Property qualifies for Homestead Credit (N.D.C.C. § 57-02-08.1) or Disabled Veterans Credit (N.D.C.C. § 57-02-08.8). Attach a copy of the application.  
☒ 10. Other (explain) See attached.

The following facts relate to the market value of the residential or commercial property described above. For agricultural property, go directly to question #5.

1. Purchase price of property: \$ 170.800 Date of purchase: June 2013  
Terms: Cash ☒ Contract \_\_\_\_\_ Trade \_\_\_\_\_ Other (explain) \_\_\_\_\_  
Was there personal property involved in the purchase price? no Estimated value: \$ \_\_\_\_\_  
yes/no
2. Has the property been offered for sale on the open market? no If yes, how long? \_\_\_\_\_  
yes/no  
Asking price: \$ \_\_\_\_\_ Terms of sale: \_\_\_\_\_
3. The property was independently appraised: no Purpose of appraisal: \_\_\_\_\_  
yes/no  
Market value estimate: \$ \_\_\_\_\_  
Appraisal was made by whom? \_\_\_\_\_
4. The applicant's estimate of market value of the property involved in this application is \$ 338.000
5. The estimated agricultural productive value of this property is excessive because of the following condition(s): N/A

Applicant asks that property value be reassessed and taxes recalculated.

By filing this application, I consent to an inspection of the above-described property by an authorized assessment official for the purpose of making an appraisal of the property. I understand the official will give me reasonable notification of the inspection. See N.D.C.C. § 57-23-05.1.

I declare under the penalties of N.D.C.C. § 12.1-11-02, which provides for a Class A misdemeanor for making a false statement in a governmental matter, that this application is, to the best of my knowledge and belief, a true and correct application.

Signature of Preparer (if other than applicant) \_\_\_\_\_

Date \_\_\_\_\_

Signature of Applicant [Signature]

Date 3/31/2021

Recommendation of the Governing Body of the City or Township

Recommendation of the governing board of \_\_\_\_\_

On \_\_\_\_\_, \_\_\_\_\_, the governing board of this municipality, after examination of this application and the facts, passed a resolution recommending to the Board of County Commissioners that the application be \_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

City Auditor or Township Clerk

Action by the Board of County Commissioners

Application was \_\_\_\_\_ by action of \_\_\_\_\_ County Board of Commissioners.  
Approved/Rejected

Based upon an examination of the facts and the provisions of North Dakota Century Code § 57-23-04, we approve this application. The taxable valuation is reduced from \$ \_\_\_\_\_ to \$ \_\_\_\_\_ and the taxes are reduced accordingly. The taxes, if paid, will be refunded to the extent of \$ \_\_\_\_\_. The Board accepts \$ \_\_\_\_\_ in full settlement of taxes for the tax year \_\_\_\_\_.

We reject this application in whole or in part for the following reason(s). Written explanation of the rationale for the decision must be attached. \_\_\_\_\_

Dated \_\_\_\_\_.

County Auditor

Chairperson

Certification of County Auditor

I certify that the Board of County Commissioners took the action stated above and the records of my office and the office of the County Treasurer show the following facts as to the assessment and the payment of taxes on the property described in this application.

| Year | Taxable Value | Tax | Date Paid<br>(if paid) | Payment Made<br>Under Written Protest? |
|------|---------------|-----|------------------------|----------------------------------------|
|      |               |     |                        | yes/no                                 |

I further certify that the taxable valuation and the taxes ordered abated or refunded by the Board of County Commissioner are as follows:

| Year | Reduction in Taxable Valuation | Reduction in Taxes |
|------|--------------------------------|--------------------|
|      |                                |                    |

County Auditor

Date

Application For Abatement  
Or Refund Of Taxes

Name of Applicant Charleswood Commercial  
Estates LLC  
County Auditor's File No. 4532

Date Application Was Filed  
With The County Auditor 11/1/21

Date County Auditor Mailed  
Application to Township  
Clerk or City Auditor 11/1/21  
(must be within five business days of filing date)

Charleswood Commercial Estates, LLC

Parcel #02-0110-00030-00

833 Beaton Dr E, West Fargo ND 58078

Property values are not supported by current market conditions. The property sold on a contract in 2018 for \$241,000 therefore the True and Full value should be less than the above sale amount to calculate the correct amount of property tax. That value should be \$180,900.



# Application For Abatement Or Refund Of Taxes

North Dakota Century Code § 57-23-04

File with the County Auditor on or before November 1 of the year following the year in which the tax becomes delinquent.

State of North Dakota

Assessment District

County of Cass

Property I.D. No. 02-0111-00030-000

Name Charleswood Commercial Estates, LLC

Telephone No. (701) 281-3951

Address PO Box 9495, Fargo ND, 58106

Legal description of the property involved in this application:

Lot: 3 Block: 1 CHARLESWOOD 29TH LT 3 BLK 1

Total true and full value of the property described above for the year 2019 is:

Land \$ 841.800  
Improvements \$ \_\_\_\_\_  
Total \$ 841.800  
(1)

Total true and full value of the property described above for the year 2019 should be:

Land \$ 253.400  
Improvements \$ \_\_\_\_\_  
Total \$ 253.400  
(2)

The difference of \$ 588,400.00 true and full value between (1) and (2) above is due to the following reason(s):

- ☐ 1. Agricultural property true and full value exceeds its agricultural value defined in N.D.C.C. § 57-02-27.2
- ☐ 2. Residential or commercial property's true and full value exceeds the market value
- ☐ 3. Error in property description, entering the description, or extending the tax
- ☐ 4. Nonexisting improvement assessed
- ☐ 5. Complainant or property is exempt from taxation. Attach a copy of Application for Property Tax Exemption.
- ☐ 6. Duplicate assessment
- ☐ 7. Property improvement was destroyed or damaged by fire, flood, tornado, or other natural disaster (see N.D.C.C. § 57-23-04(1)(g))
- ☐ 8. Error in noting payment of taxes, taxes erroneously paid
- ☐ 9. Property qualifies for Homestead Credit (N.D.C.C. § 57-02-08.1) or Disabled Veterans Credit (N.D.C.C. § 57-02-08.8). Attach a copy of the application.
- ☒ 10. Other (explain) See attached.

The following facts relate to the market value of the residential or commercial property described above. For agricultural property, go directly to question #5.

1. Purchase price of property: \$ 239,400 Date of purchase: June 2013  
Terms: Cash ☒ Contract \_\_\_\_\_ Trade \_\_\_\_\_ Other (explain) \_\_\_\_\_  
Was there personal property involved in the purchase price? no Estimated value: \$ \_\_\_\_\_  
yes/no
2. Has the property been offered for sale on the open market? no If yes, how long? \_\_\_\_\_  
yes/no  
Asking price: \$ \_\_\_\_\_ Terms of sale: \_\_\_\_\_
3. The property was independently appraised: no Purpose of appraisal: \_\_\_\_\_  
yes/no  
Market value estimate: \$ \_\_\_\_\_  
Appraisal was made by whom? \_\_\_\_\_
4. The applicant's estimate of market value of the property involved in this application is \$ 338,000
5. The estimated agricultural productive value of this property is excessive because of the following condition(s): N/A

Applicant asks that property value be reassessed and taxes recalculated.

By filing this application, I consent to an inspection of the above-described property by an authorized assessment official for the purpose of making an appraisal of the property. I understand the official will give me reasonable notification of the inspection. See N.D.C.C. § 57-23-05.1.

I declare under the penalties of N.D.C.C. § 12.1-11-02, which provides for a Class A misdemeanor for making a false statement in a governmental matter, that this application is, to the best of my knowledge and belief, a true and correct application.

Signature of Preparer (if other than applicant)

Date

Signature of Applicant

Date

24775  
(2-2016)

Recommendation of the Governing Body of the City or Township

Recommendation of the governing board of \_\_\_\_\_

On \_\_\_\_\_, \_\_\_\_\_, the governing board of this municipality, after examination of this application and the facts, passed a resolution recommending to the Board of County Commissioners that the application be \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
City Auditor or Township Clerk

Action by the Board of County Commissioners

Application was \_\_\_\_\_ by action of \_\_\_\_\_ County Board of Commissioners.  
Approved/Rejected

Based upon an examination of the facts and the provisions of North Dakota Century Code § 57-23-04, we approve this application. The taxable valuation is reduced from \$ \_\_\_\_\_ to \$ \_\_\_\_\_ and the taxes are reduced accordingly. The taxes, if paid, will be refunded to the extent of \$ \_\_\_\_\_. The Board accepts \$ \_\_\_\_\_ in full settlement of taxes for the tax year \_\_\_\_\_.

We reject this application in whole or in part for the following reason(s). Written explanation of the rationale for the decision must be attached. \_\_\_\_\_

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dated \_\_\_\_\_,

\_\_\_\_\_  
County Auditor

\_\_\_\_\_  
Chairperson

Certification of County Auditor

I certify that the Board of County Commissioners took the action stated above and the records of my office and the office of the County Treasurer show the following facts as to the assessment and the payment of taxes on the property described in this application.

| Year | Taxable Value | Tax | Date Paid<br>(if paid) | Payment Made<br>Under Written Protest? |
|------|---------------|-----|------------------------|----------------------------------------|
|      |               |     |                        | yes/no                                 |

I further certify that the taxable valuation and the taxes ordered abated or refunded by the Board of County Commissioner are as follows:

| Year | Reduction in Taxable Valuation | Reduction in Taxes |
|------|--------------------------------|--------------------|
|      |                                |                    |

\_\_\_\_\_  
County Auditor

\_\_\_\_\_  
Date

Application For Abatement  
Or Refund Of Taxes

Name of Applicant Charleswood Commercial  
Estates LLC

County Auditor's File No. 4533

Date Application Was Filed  
With The County Auditor 11/1/21

Date County Auditor Mailed  
Application to Township  
Clerk or City Auditor 11/1/21

(must be within 166 business days of filing date)



Charleswood Estates, LLC

Parcel #02-0110-00030-00

837 Beaton Dr E, West Fargo ND 58078

Property values are not supported by current market conditions. The property sold on a contract in 2018 for \$338,000 therefore the True and Full value should be less than the above sale amount to calculate the correct amount of property tax. That value should be \$253,400.

# Application For Abatement Or Refund Of Taxes

North Dakota Century Code § 57-23-04

File with the County Auditor on or before November 1 of the year following the year in which the tax becomes delinquent.

State of North Dakota

Assessment District

County of Cass

Property I.D. No. 02-0111-00030-000

Name Charleswood Commercial Estates, LLC

Telephone No. (701) 281-3951

Address PO Box 9495, Fargo ND, 58106

Legal description of the property involved in this application:

Lot: 3 Block: 1 CHARLESWOOD 29TH LT 3 BLK 1

Total true and full value of the property described above for the year 2020 is:

Land \$ 841.800

Improvements \$

Total \$ 841.800

(1)

Total true and full value of the property described above for the year 2020 should be:

Land \$ 253.400

Improvements \$

Total \$ 253.400

(2)

The difference of \$ 588.400.00 true and full value between (1) and (2) above is due to the following reason(s):

- ☐ 1. Agricultural property true and full value exceeds its agricultural value defined in N.D.C.C. § 57-02-27.2
- ☐ 2. Residential or commercial property's true and full value exceeds the market value
- ☐ 3. Error in property description, entering the description, or extending the tax
- ☐ 4. Nonexisting improvement assessed
- ☐ 5. Complainant or property is exempt from taxation. Attach a copy of Application for Property Tax Exemption.
- ☐ 6. Duplicate assessment
- ☐ 7. Property improvement was destroyed or damaged by fire, flood, tornado, or other natural disaster (see N.D.C.C. § 57-23-04(1)(g))
- ☐ 8. Error in noting payment of taxes, taxes erroneously paid
- ☐ 9. Property qualifies for Homestead Credit (N.D.C.C. § 57-02-08.1) or Disabled Veterans Credit (N.D.C.C. § 57-02-08.8). Attach a copy of the application.
- ☒ 10. Other (explain) See attached.

The following facts relate to the market value of the residential or commercial property described above. For agricultural property, go directly to question #5.

1. Purchase price of property: \$ 239.400 Date of purchase: June 2013  
Terms: Cash ☒ Contract ☐ Trade ☐ Other (explain) ☐  
Was there personal property involved in the purchase price? no Estimated value: \$                       
yes/no
2. Has the property been offered for sale on the open market? no If yes, how long?                       
yes/no  
Asking price: \$                      Terms of sale:
3. The property was independently appraised: no Purpose of appraisal:                       
yes/no  
Market value estimate: \$                       
Appraisal was made by whom?
4. The applicant's estimate of market value of the property involved in this application is \$ 338.000
5. The estimated agricultural productive value of this property is excessive because of the following condition(s): N/A

Applicant asks that property value be reassessed and taxes recalculated.

By filing this application, I consent to an inspection of the above-described property by an authorized assessment official for the purpose of making an appraisal of the property. I understand the official will give me reasonable notification of the inspection. See N.D.C.C. § 57-23-05.1.

I declare under the penalties of N.D.C.C. § 12.1-11-02, which provides for a Class A misdemeanor for making a false statement in a governmental matter, that this application is, to the best of my knowledge and belief, a true and correct application.

Signature of Preparer (if other than applicant)

Date

Signature of Applicant

Date

## Recommendation of the Governing Body of the City or Township

Recommendation of the governing board of \_\_\_\_\_

On \_\_\_\_\_, \_\_\_\_\_, the governing board of this municipality, after examination of this application and the facts, passed a resolution recommending to the Board of County Commissioners that the application be \_\_\_\_\_

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Dated this \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_.

\_\_\_\_\_  
 City Auditor or Township Clerk

### Action by the Board of County Commissioners

Application was \_\_\_\_\_ by action of \_\_\_\_\_ County Board of Commissioners.  
 Approved/Rejected

Based upon an examination of the facts and the provisions of North Dakota Century Code § 57-23-04, we approve this application. The taxable valuation is reduced from \$ \_\_\_\_\_ to \$ \_\_\_\_\_ and the taxes are reduced accordingly. The taxes, if paid, will be refunded to the extent of \$ \_\_\_\_\_. The Board accepts \$ \_\_\_\_\_ in full settlement of taxes for the tax year \_\_\_\_\_.

We reject this application in whole or in part for the following reason(s). Written explanation of the rationale for the decision must be attached.

\_\_\_\_\_  
 \_\_\_\_\_  
 \_\_\_\_\_

Dated \_\_\_\_\_.

\_\_\_\_\_  
 County Auditor

\_\_\_\_\_  
 Chairperson

### Certification of County Auditor

I certify that the Board of County Commissioners took the action stated above and the records of my office and the office of the County Treasurer show the following facts as to the assessment and the payment of taxes on the property described in this application.

| Year | Taxable Value | Tax | Date Paid<br>(if paid) | Payment Made<br>Under Written Protest? |
|------|---------------|-----|------------------------|----------------------------------------|
|      |               |     |                        | yes/no                                 |

I further certify that the taxable valuation and the taxes ordered abated or refunded by the Board of County Commissioner are as follows:

| Year | Reduction in Taxable Valuation | Reduction in Taxes |
|------|--------------------------------|--------------------|
|      |                                |                    |

\_\_\_\_\_  
 County Auditor

\_\_\_\_\_  
 Date

Application For Abatement  
 Or Refund Of Taxes

Name of Applicant Charleswood Commercial

Estate LLC

4534

County Auditor's File No.

Date Application Was Filed  
 With The County Auditor

11/1/21

Date County Auditor Mailed  
 Application to Township  
 Clerk or City Auditor

11/1/21

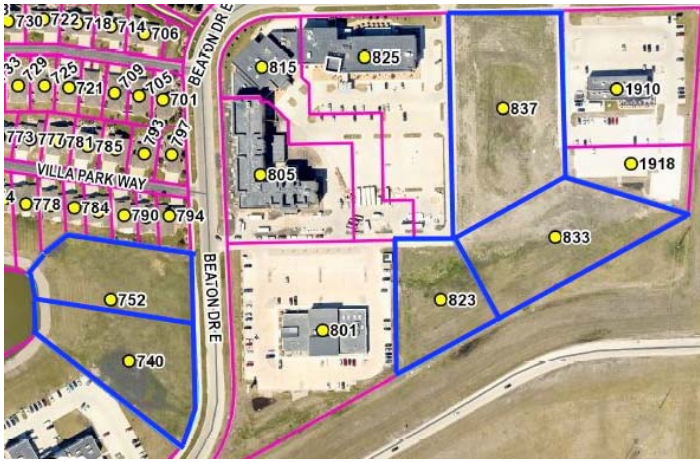
(must be within five business days of filing date)

Charleswood Estates, LLC

Parcel #02-0110-00030-00

837 Beaton Dr E, West Fargo ND 58078

Property values are not supported by current market conditions. The property sold on a contract in 2018 for \$338,000 therefore the True and Full value should be less than the above sale amount to calculate the correct amount of property tax. That value should be \$253,400.



**PIN:** 02-0110-00020-000, 02-0110-00030-000, 02-0111-00030-000, 02-0111-00060-000, & 02-0114-00010-000

**Address:** 740, 752, 837, 833, & 823 Beaton Dr E,

**Owner:** Charleswood Commercial Estates LLC

**A19 & A20 Value:** \$2,715,100 or \$8.03/sf  
(Value is for all parcels combined)

**Property Notes:** The properties appealed are vacant commercial land parcels situated on the northwest corner of I94 and 9th St E. These properties are in a tax increment finance district established in 2013. Zoning of these parcels are PUD and Commercial Office Park.

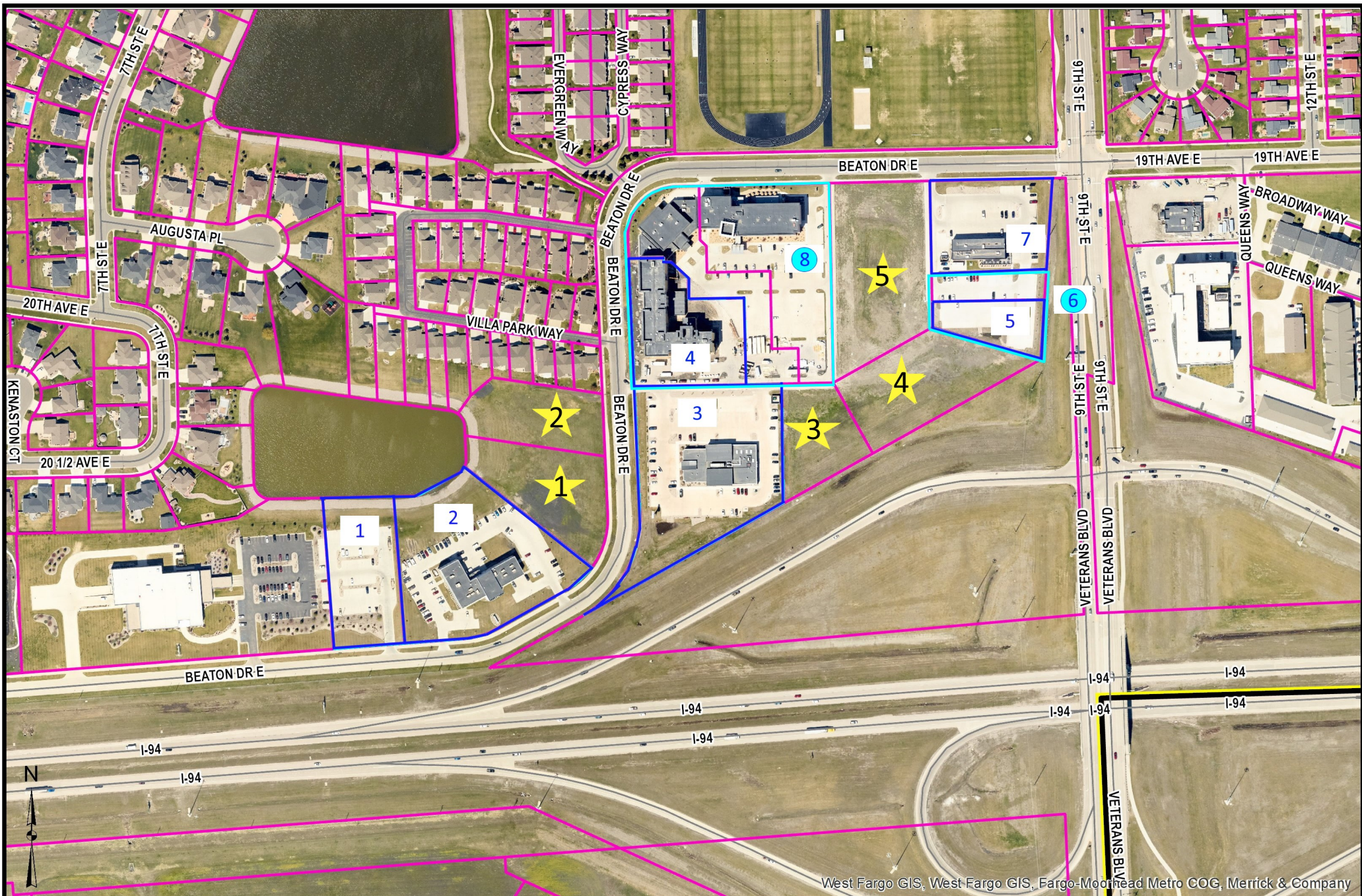
**General Notes:** In my discussion with Mr. Patel, he mentioned that the property has never been listed with a broker. He has submitted a contract for deed, that has never been recorded, in the amount of \$1,085,000 or \$3.21/sf. Mr. Patel mentioned that he is not a related party to the purchaser and that the market had changed, which warranted the lower sale price.

**Comparable Sale Notes:** As displayed on the next page, I have included all the land sales of adjacent property over the years. Even though some of the sales are old, they clearly indicate an increasing market. Sales in the last 9 years range from as low as \$5/sf to as high as \$18.86/sf. Zoning plays a big part in valuation, so it has been displayed as well.

**Final Thoughts:** The applicant is asking for a value of \$815,000 or \$2.41/sf, which is 25% less then the \$1,085,000 or \$3.21/sf contract price. Aside from the fact they acquired this property seven years ago for over twice their requested rate, sales clearly indicate the \$2.41/sf is considerably lower then all other sales of commercial land with similar zoning types and sizes. Even though Mr. Patel has submitted a sale of the subject properties, our valuations are based on market sales prices. A market sale price is the most likely price received from a buyer and seller, acting in their own best interests, after reasonable exposure to the market. After reviewing the surrounding sales, and discovering the land has never been formally listed for sale, it is my belief that the contract amount is not a market sale, and should have little bearing on the valuation of land in this area. Since our valuations are supported by sales, and there is no additional information submitted to suggest our values are excessive or not uniform, my recommendation is to uphold our assessed values.

**RECOMMENDATION: NO CHANGE TO THE 2019 AND 2020 VALUES**





West Fargo GIS, West Fargo GIS, Fargo-Moorhead Metro COG, Merrick & Company

These data are provided on an "AS-IS" basis, without warranty of any type, expressed or implied, including but not limited to any warranty as to their performance, merchantability, or fitness for any particular purpose.

| Sales Comparables                                                                                                        |                        |
|--------------------------------------------------------------------------------------------------------------------------|------------------------|
| ★                                                                                                                        | - Subjects             |
| ●                                                                                                                        | - Replatted since sale |
| Date: 12/14/2020                                                                                                         |                        |
| This map is not a substitute for accurate field surveys or for locating actual property lines and any adjacent features. |                        |



## Charleswood Commercial Estates LLC

### Subjects

| <u>Position</u> | <u>Parcel</u>     | <u>Address</u>  | <u>Owner</u>                       | <u>2018 ASD \$</u> | <u>Lot Size SF</u> | <u>\$/SF</u> | <u>Zone</u> |
|-----------------|-------------------|-----------------|------------------------------------|--------------------|--------------------|--------------|-------------|
| 1               | 02-0110-00020-000 | 740 BEATON DR E | Charleswood Commercial Estates LLC | \$ 343,100         | 57,188             | \$ 6.00      | C-OP        |
| 2               | 02-0110-00030-000 | 752 BEATON DR E | Charleswood Commercial Estates LLC | \$ 343,100         | 57,188             | \$ 6.00      | C-OP        |
| 3               | 02-0114-00010-000 | 823 BEATON DR E | Charleswood Commercial Estates LLC | \$ 436,400         | 43,644             | \$ 10.00     | PUD         |
| 4               | 02-0111-00060-000 | 833 BEATON DR E | Charleswood Commercial Estates LLC | \$ 750,700         | 75,069             | \$ 10.00     | PUD         |
| 5               | 02-0111-00030-000 | 837 BEATON DR E | Charleswood Commercial Estates LLC | \$ 841,800         | 105,224            | \$ 8.00      | PUD         |

### Original Purchase Info

| <u>Parcel</u>     | <u>Address</u>  | <u>Sold Date</u> | <u>Seller</u>   | <u>Buyer</u>              | <u>Sale Price</u> | <u>Lot Size SF</u> | <u>\$/SF</u> | <u>Zone</u> |
|-------------------|-----------------|------------------|-----------------|---------------------------|-------------------|--------------------|--------------|-------------|
| 02-0110-00020-000 | 740 BEATON DR E | 6/20/2013        | Charleswood Inc | Minnesota Hospitality Inc | \$ 2,974,191      | 528,477            | \$ 5.63      | C-OP        |
| 02-0110-00030-000 | 752 BEATON DR E | 6/20/2013        | Charleswood Inc | Minnesota Hospitality Inc | -                 |                    |              | C-OP        |
| 02-0111-00010-000 | 801 BEATON DR E | 6/20/2013        | Charleswood Inc | Minnesota Hospitality Inc | -                 |                    |              | PUD         |
| 02-0111-00030-000 | 837 BEATON DR E | 6/20/2013        | Charleswood Inc | Minnesota Hospitality Inc | -                 |                    |              | PUD         |
| 02-0111-00050-000 | 1918 9TH ST E   | 6/20/2013        | Charleswood Inc | Minnesota Hospitality Inc | -                 |                    |              | PUD         |
| 02-0111-00060-000 | 833 BEATON DR E | 6/20/2013        | Charleswood Inc | Minnesota Hospitality Inc | -                 |                    |              | PUD         |

(These parcels include the same area as the parcels they own currently plus 02-0111-00050-000 & 02-0114-00020-000 which they later sold.)

### Comparable Sales

| <u>Position</u> | <u>Parcel</u>     | <u>Address</u>  | <u>Sold Date</u> | <u>Seller</u>               | <u>Buyer</u>                | <u>Sale Price</u> | <u>Lot Size SF</u> | <u>\$/SF</u> | <u>Zone</u> | <u>DBA</u>                |
|-----------------|-------------------|-----------------|------------------|-----------------------------|-----------------------------|-------------------|--------------------|--------------|-------------|---------------------------|
| 2               | 02-0110-00010-000 | 728 BEATON DR E | 6/27/2012        | Charleswood Inc             | TGFL Holdings               | \$ 831,803        | 133,335            | \$ 6.24      | C-OP        | HIGH POINT NETWORK        |
| 1               | 02-0107-00020-000 | 716 BEATON DR E | 5/31/2012        | Charleswood Inc             | Dealer Sites LLC            | \$ 415,466        | 65,380             | \$ 6.35      | C-OP        | BOBCAT PARKING            |
| 5               | 02-0115-00020-000 | 1918 9TH ST E   | 9/21/2018        | CIG Investments - Fargo LLP | 9th Street Properties LLC   | \$ 350,342        | 28,621             | \$ 12.24     | PUD         | CROSSROADS DENTAL         |
| 4               | 02-0112-00010-000 | 805 BEATON DR E | 10/13/2016       | KAJ Management LLC          | West Fargo Hospitality LLC  | \$ 1,365,056      | 72,389             | \$ 18.86     | PUD         | HOMEWOOD SUITES           |
| 6               | 02-0111-00050-000 | 1918 9TH ST E   | 8/10/2015        | Charleswood Commercial Es   | CIG Investments - Fargo LLP | \$ 465,598        | 47,798             | \$ 9.74      | PUD         | BLARNEY STONE PARKING LOT |
| 3               | 02-0114-00020-000 | 801 BEATON DR E | 10/15/2013       | Minnesota Hospitality Inc   | GRD West Fargo LLC          | \$ 1,294,825      | 142,366            | \$ 9.10      | PUD         | BIOLIFE                   |
| 7               | 02-0111-00040-000 | 1910 9TH ST E   | 12/12/2012       | Charleswood Inc             | CIG Investments - Fargo LLP | \$ 669,230        | 66,925             | \$ 10.00     | PUD         | BLARNEY STONE             |
| 8               | 02-0111-00020-000 | 815 BEATON DR E | 12/12/2012       | Charleswood Inc             | KAJ Management LLC          | \$ 1,197,085      | 239,413            | \$ 5.00      | PUD         | ZONED AG AT START OF YEAR |

Note: MN Hospitality and Charleswood Commercial Estates are related companies



"Consent" or "Regular"  
Agenda Item?

[Regular]

**Commission President**

Bernie Dardis

Primary Portfolio:

Administration/Finance

Secondary Portfolio:

Street, Water and  
Sewer

**Commission**

**Vice President**

Brad Olson

Primary Portfolio:

Street, Water and  
Sewer

Secondary Portfolio:

Sanitation

**Commissioner**

Eric Gjerdevig

Primary Portfolio:

Planning, Zoning and  
Engineering

Secondary Portfolio:

Administration/Finance

**Commissioner**

Mark Simmons

Primary Portfolio:

Police and Fire

Secondary Portfolio:

Planning, Zoning and  
Engineering

**Commissioner**

Mandy George

Primary Portfolio:

Sanitation

Secondary Portfolio:

Police and Fire

**City Administrator**

Tina Fisk

**Asst. City Administrator**

Tim Solberg

**To:** West Fargo City Commission

**From:** Dustin T. Scott, City Engineer

**Date:** December 6, 2021

**Subject:** Grant Acceptance

**Action:** Accept Grant Applications

**Summary and Recommendation:**

Staff prepared four (4) grant applications for eligible projects under various programs administrated by the NDDOT. These applications will be reviewed and considered by MetroCOG, who then submits to the NDDOT in December. If/when a project is awarded a grant, it will be brought back to the City Commission for acceptance and/or whether to proceed with design/construction.

The following documents are attached for review/consideration:

- Urban Road Program (URP) application for Sheyenne Street from 40<sup>th</sup> Ave to 52<sup>nd</sup> Ave for FY 2026
- Transportation Alternative (TA) application for bike path from Scheel's Soccer Complex to Elmwood Park for FY 2025
- Highway Safety Improvement Program (HSIP) application for intersection improvements at signalized intersections for FY 2025
- HSIP application for intersection improvements on Veterans Boulevard for FY 2025 in cooperation with City of Fargo

Staff Recommendation: Approve grant applications and Authorize mayor to sign letters of support.

**Policy Analysis:**

The City has received several HSIP, TA and URP grants in previous years. These (4) project submittals were developed in coordination with the Planning Department. The city's Review Committee voted unanimously in support of these projects during their meeting held on November 23, 2021.

**Financial Analysis:**

If approved, each project will be added to the city's Capital Improvement Plan (CIP). In the past, the local share of these projects were funded through a combination of Capital Improvement Sales Tax (CI) and Special Assessments. The city commission will have the opportunity to set funding amounts for each project if/when they decide to move forward with design/construction.

**Previously Presented Information and Commission Actions:**

- None

# **URBAN REGIONAL & URBAN ROADS PROJECT SCOPING WORKSHEET**

DATE: 11/19/2021

PRIORITY# 1

Regional: Y

Urban Roads: Y

City: West Fargo

Street: Sheyenne between 40<sup>th</sup> & 52<sup>nd</sup> Avenue

County: Cass

Length: 1 mile

Proposed Improvement: This segment of Sheyenne Street is currently a 2 lane rural roadway with a 34 foot top and no pedestrian/bikeway facilities. It is currently posted for 35 mph and no parking is allowed along this corridor. Traffic volumes have increased significantly in recent years with urban development in the area. These will increase dramatically with new middle and high schools recently built about one mile to the south in the City of Horace. A study completed in 2016 by KLJ identified the need for improvements on this roadway and estimated 12,500 vehicles per day by 2045. Further study of the corridor currently underway in 2021 show preliminary estimated traffic of 15,000 vehicles per day. Observation and citizen complaints demonstrate that capacity and level of service is quickly deteriorating.

Proposed improvements consist of a concrete urban section with storm sewer and 2-4 lanes from 52<sup>nd</sup> to 40<sup>th</sup> Avenue. Further study and design will help determine if 2, 3 or 4 lanes will be required to maintain traffic flow with intersection improvements. Added amenities will consist of a 10 foot multiuse path to be included on each side of the roadway and street lighting. Additional right of way will be required for all proposed roadway sections. Cost estimate provided is for a full 4 lane section.

| Cost Estimates Breakdown (in \$1,000) |       |     |         |         |         |                   |        |
|---------------------------------------|-------|-----|---------|---------|---------|-------------------|--------|
| PE                                    | CE    | R/W | Utility | Constr. | Bridges | Non-Participating | Total  |
| 1,500                                 | 1,500 | 0   | 0       | 15,000  | 0       | 0                 | 18,000 |

Present Road: Surface Width? 34 feet

Surface Type? Asphalt

On Street Parking Allowed? No

Present: No

Proposed: No

### Proposed Improvements

ADT Present: 9,100                      Yr: 2021                      Travel Way Width : 11  
ADT Design: 15,000                  Design year: 2045                  No. of Lanes: 2/3/4  
Design Speed: 55                      Roadway Width: 40  
Maximum Curve: Length – 685' Radius – 1150'                  Min. R/W Width: 120  
Maximum Grade: \_\_\_\_\_

### Right of Way

Will Additional ROW or easement be acquired? Yes                  ROW acquisition by: City  
Has any ROW easements been acquired since 7-1-72: Yes                  ROW Condemnation by: City  
Est. No. of occupied family dwelling to be displaced? 0  
Est. No. business to be displaced? 0

### Impacts

Will there be any additional Impacts (Cultural and Environmental Resources): None  
  
Will there be any impacts to 4(f) or 6(f) properties: None  
  
Airports: None                                              Public Hearings: As Needed  
Environmental Classification (Cat-Ex, EA, EIS): Cat-Ex  
Transportation Enhancements: Improved Capacity and Pedestrian access  
Intermodal: None  
Pedestrian Needs: Multi-purpose paths

### Railroads Crossings

| RR Name | No. Xings | No. Tracks<br>and Type of<br>Crossing | Daily Train<br>Movements | Train<br>Speed | Present<br>Protection | Proposed<br>Protection |
|---------|-----------|---------------------------------------|--------------------------|----------------|-----------------------|------------------------|
| N/A     |           |                                       |                          |                |                       |                        |

### Purpose and Need Statement:

#### Purpose of Project

The purpose of the proposed project is to widen Sheyenne Street between 40<sup>th</sup> Avenue East and 52<sup>nd</sup> Avenue East, to address capacity needs, roadway reliability and social and economic development along the proposed corridor.

#### Need for Project

The need for the proposed project along Sheyenne Street is driven by urban expansion, including congestion from development along the corridor, schools accessed via the corridor, crash susceptibility issues, and a lack of multimodal opportunities. Current and projected needs within this corridor include increasing capacity, addressing social demands, accommodating economic development and improving roadway reliability.

### Capacity

Under existing conditions the corridor operates at an acceptable level of delay. The anticipated growth of roadway users would result in additional strain on the corridor. According to the 2016 Sheyenne Street Corridor Study, existing land use abutting Sheyenne Street is predominantly residential (approximately 73 percent of the total land use). In addition, according to 2010 Census data, approximately 36 percent of the total West Fargo population lives in the neighborhoods surrounding the Sheyenne Street corridor. By 2045, 53 percent of the total West Fargo population is expected to live in the surrounding neighborhoods based on growth projections. Additionally, the area south of city limits of the corridor is anticipated to experience continued accelerated growth that will likely result in pronounced morning and evening peaks in traffic volumes as motorists travel through the corridor in the morning and back into the corridor in the afternoon. In the 2016 corridor study this created traffic loadings of over 18,000 ADT. Further study in 2021 showed traffic loadings closer to 15,000 ADT. These conflicting numbers with the 2045 MTP warrants further investigation and coordination to see how the adjacent corridors develop. It is anticipated that when funding is secured, additional studying of the corridor will be completed to identify the final roadway section before final design and bidding.

### Social Demands and Economic Development

The lack of employment, shopping or dining opportunities compounded by the disproportionately high percentage of residential developments within the area creates an economic demand for commercial land uses along the corridor. The lack of multimodal facilities along the Sheyenne Street corridor, coupled with existing and projected traffic capacity issues serve to reduce the attractiveness of the corridor to the expansion of neighborhood commercial developments. Improved capacity, access management and pedestrian/ bicycle accommodations would improve the conditions for neighborhood commercial retail developments.

### Existing Conditions:

1. When was the current street section built? Has there been any additional maintenance to the street section?  
The current street section was built in 1993 by the County and has been maintained by the City since 2006, when an overlay was completed by the City. No other maintenance has been completed since the 2006 overlay.
2. How many driving lanes and turning lanes does the street section currently have and what is the widths of the driving and turning lanes?  
The roadway is currently a two lane rural section with shoulders. The roadway section is 2-12' lanes with a 5' wide shoulder.
3. What is the condition of the pavement section?  
The current pavement is asphalt. A 2020 PCI inspection shows minor cracking and rutting, but no major damage to the section other than normal weathering.
4. Any existing geometric concerns?  
None

5. Are there any access points to adjoining properties that present a special concern?  
No, most access points are to local roads that access small residential subdivisions. These may require minor access control to be constructed. 47<sup>th</sup> Ave may become signalized in the near future, creating a larger access control of this roadway.
6. Are there any existing sidewalks or shared use path in place?  
No existing sidewalks or shared use paths.
7. What is the condition of the existing storm sewer? Will any additional storm sewer work need to be done along with this project?  
There is no existing storm sewer. The current rural section uses ditches for storm drainage. An upgrade to an urban section will require full addition of storm sewer connection to the existing storm lift station on the corridor. The existing station has been built to accommodate the additional storm runoff of the corridor.
8. What is the condition of the city's water and sewer line? Will any work have to be done to the city's water and sewer lines along with this project?  
The existing water line has been recently installed and is in good condition. There is no existing sanitary lines along the corridor, as the residential area to the west connects to a main west of Sheyenne Street and the residents to the east are not connected to city sewer services.
9. Describe the existing lighting system currently in place? What type of standards and luminaires are currently being used?  
There is a rural lighting system in place. Will need to be updated to city standard luminaries.
10. What intersections currently have traffic signals? Are there any locations that have a high accident rate? Are additional turning lanes needed?  
The only intersection with a traffic signal is Sheyenne and 40<sup>th</sup> Ave S. This signal was rebuilt in 2019 with the completion of the widening of Sheyenne Street north of 40<sup>th</sup> Ave. The south end of the project meets with a County road at a roundabout. Additional turning lanes may be required at the 47<sup>th</sup> Ave S. intersection into the neighborhood to the west.

Remarks:

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City Engineer: \_\_\_\_\_

Date: \_\_\_\_\_

District Engineer: \_\_\_\_\_

Date: \_\_\_\_\_



**IMPROVEMENT PROJECT NO. XXXX**  
**Sheyenne Street Urbanization - 40th Ave E to 52nd Ave E**  
**WEST FARGO ND**

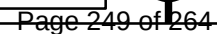
*Engineer's Opinion of Probable Cost*

|                            | <i>ITEM</i>       | <i>UNIT</i> | <i>QUANTITY</i> | <i>UNIT PRICE</i> | <i>TOTAL</i>           |
|----------------------------|-------------------|-------------|-----------------|-------------------|------------------------|
| 1.                         | Road Urbanization | L Sum       | 1               | \$11,500,000.00   | \$11,500,000.00        |
| 2.                         | Storm Sewer       | L Sum       | 1               | \$1,500,000.00    | \$1,500,000.00         |
| 3.                         | Multi-Use Path    | L Sum       | 1               | \$500,000.00      | \$300,000.00           |
| 4.                         | Street Lighting   | L Sum       | 1               | \$1,000,000.00    | \$700,000.00           |
| Construction Subtotal      |                   |             |                 |                   | \$14,000,000.00        |
| Construction Contingencies |                   |             |                 |                   | \$1,000,000.00         |
| Preliminary Engineering    |                   |             |                 |                   | \$1,500,000.00         |
| Construction Engineering   |                   |             |                 |                   | \$1,500,000.00         |
| <b>Total Construction</b>  |                   |             |                 |                   | <b>\$18,000,000.00</b> |





$$1 \text{ in} = 1,000 \text{ ft}$$





# CITY OF WEST FARGO Scheels Soccer Complex – Elmwood Park Bike Path

Connecting North Elmwood Park to the  
Scheels Soccer Complex

## TRANSPORTATION ALTERNATIVE PROGRAM APPLICATION

CITY OF WEST FARGO | 800 4th Ave E, West Fargo ND 58078

CITY OF WEST FARGO SCHEELS SOCCER COMPLEX –  
ELMWOOD PARK BIKE PATH

CITY OF WEST FARGO

## 1. Project Name

Scheels Soccer Complex – Elmwood Park Bike Path

## 2. Project Location

Along 9<sup>th</sup> Street W and between 10<sup>th</sup> Ave W and 10 ½ Ave W to North Elmwood Park.

## 3. Project Contact

City of West Fargo Engineering

## 4. Contact Person

Dustin Scott, PE, City Engineer  
City of West Fargo  
800 4<sup>th</sup> Ave E  
West Fargo ND 58078  
701.433.5425  
[dustin.scott@westfargond.gov](mailto:dustin.scott@westfargond.gov)

## 5. Project Sponsor

City of West Fargo

## 6. Sponsoring Official

Dustin Scott, PE, City Engineer  
City of West Fargo  
800 4<sup>th</sup> Ave E  
West Fargo ND 58078  
701.433.5425  
[dustin.scott@westfargond.gov](mailto:dustin.scott@westfargond.gov)

## 7. Project Description

The project would connect an existing sidewalk and shared use paths at the Scheels Soccer Complex to North Elmwood Park using an 11' shared used path. Currently, an existing bike path runs along the north side of 13<sup>th</sup> Ave W to the west end of town. This bike path would connect an existing sidewalk on 11<sup>th</sup> Street west to the 13<sup>th</sup> Ave W bike path, along with running along an existing city utility easement east to a city park (North Elmwood Park).

## 8. Project Cost

The total opinion of probable cost for construction of this project is \$365,000. Cost breakdown as proposed under an 80% Federal and 20% local funding ratio would meet the maximum project funding of **\$290,000 Federal share** leaving a \$75,000 local share of eligible costs. The detailed estimate completed by Dustin Scott is attached. All planning, preliminary engineering, and construction engineering will be paid with local funds.

## 9. What TA category best fits your project?

A. Construction of on-road and off-road trail facilities for pedestrians, bicyclists, and other non-motorized forms of transportation, including sidewalks, bicycle infrastructure, pedestrian and bicycle signals, traffic calming techniques, lighting and other safety-related infrastructure, and transportation projects to achieve compliance with the Americans with Disabilities Act of 1990.

## 10. Supporting Data

1. *Is your project part of an identified recreation or transportation plan? If so, explain.*

This project is included in the 2019 MetroCOG Bikeways Gap Analysis. It was also awarded as an alternate for the 2024 TA Grant program.

2. *Is your project tied to another project? If so, please explain.*

No.

3. *How does your project fit with similar projects in your community and/or region?*

This project connects two public park spaces using existing easements. The soccer complex has several playing fields, and North Elmwood Park has several ball diamonds.

4. *Provide documentation of governmental agencies that are in support of this project.*

Letters of support from City of West Fargo and West Fargo Park District are attached.

## 11. Public Accessibility

This project is proposed to be constructed within City of West Fargo owned and maintained property.

## 12. Matching Funds Provided By

City of West Fargo will be providing the matching funds for this project.

## 13. Will Right of Way For This Project Be Needed?

Yes, the City of West Fargo is prepared to acquire additional right of way to complete this project if necessary.

## 14. Maintenance of This Project Will Be Provided By:

West Fargo Public Works will be responsible for providing maintenance of this project.

## 15. Environmental Impacts

- Land Use – No impact.
- Farmland – No impact.
- Social – Positive impact to existing park and recreation fields, will connect two major recreation areas on west side of town.
- Economic – No impact.
- Relocation – No impact.
- Wetlands – Impact during construction expected to be minimal. City is prepared to obtain necessary clearance and permitting if necessary.
- Flood plain – No impact – City is prepared to obtain necessary clearance and permitting if necessary.
- Threatened or Endangered Species – No impact.
- Cultural Resources – No impact.
- Hazardous Waste – No impact.

## 16. Signatures

### Contact Person / Responsible Official

**Dustin Scott, PE, City Engineer - City of West Fargo**

**Date**

### MPO Official

**Cindy Gray, AICP, Executive Director - FM Metro COG**

**Date**



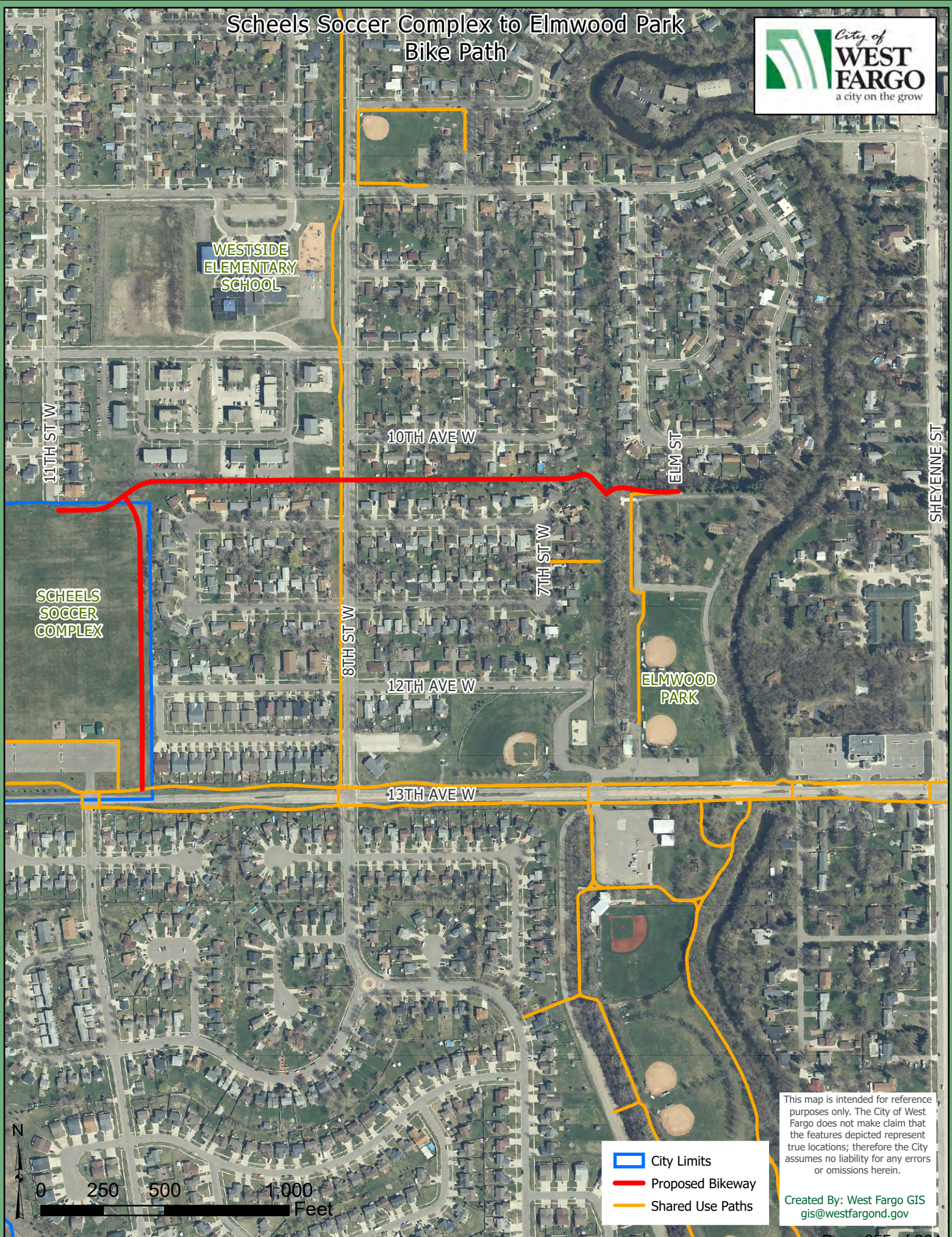
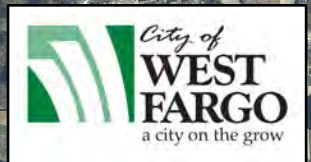
**IMPROVEMENT PROJECT NO. XXXX**  
**Scheels Soccer Complex - North Elmwood Park Bike Path**  
**WEST FARGO ND**

*Engineer's Opinion of Probable Cost*

|                           | <i>ITEM</i>                                   | <i>UNIT</i> | <i>QUANTITY</i> | <i>UNIT PRICE</i> | <i>TOTAL</i>        |
|---------------------------|-----------------------------------------------|-------------|-----------------|-------------------|---------------------|
| 1.                        | Clear/grub                                    | LSum        | 1               | \$30,000.00       | \$30,000.00         |
| 2.                        | Curb Ramp - 6" Concrete                       | Each        | 2               | \$350.00          | \$700.00            |
| 3.                        | Detectable Warning Panel                      | SF          | 40              | \$40.00           | \$1,600.00          |
| 4.                        | Multi-Use Path/Paving - 11' Width 5" Concrete | SY          | 4,400           | \$60.00           | \$264,000.00        |
| 5.                        | Cleaning                                      | LSum        | 1               | \$5,000.00        | \$5,000.00          |
| 6.                        | Storm Water Management                        | LSum        | 1               | \$5,000.00        | \$5,000.00          |
| 7.                        | Traffic Control                               | LSum        | 1               | \$5,000.00        | \$5,000.00          |
| 8.                        | Sedimentation Control Fence                   | LF          | 3,600           | \$3.00            | \$10,800.00         |
| 9.                        | Topsoil Stripping - 6"                        | CY          | 667             | \$4.00            | \$2,668.00          |
| 10.                       | Seeding - Type II                             | SY          | 8,000           | \$0.30            | \$2,400.00          |
| 11.                       | Mowing                                        | Each        | 5               | \$500.00          | \$2,500.00          |
| 12.                       | Watering                                      | Each        | 5               | \$500.00          | \$2,500.00          |
| Construction Subtotal     |                                               |             |                 |                   | \$332,168.00        |
| Contingencies             |                                               |             |                 |                   | \$33,216.80         |
| <b>Total Construction</b> |                                               |             |                 |                   | <b>\$365,384.80</b> |



# Scheels Soccer Complex to Elmwood Park Bike Path



- City Limits
- Proposed Bikeway
- Shared Use Paths

This map is intended for reference purposes only. The City of West Fargo does not make claim that the features depicted represent true locations; therefore the City assumes no liability for any errors or omissions herein.

Created By: West Fargo GIS  
gis@westfargond.gov



**HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP)****PROJECT APPLICATION**

North Dakota Department of Transportation, Programming  
SFN 59959 (11-2019)

**23 USC § 409 Documents**  
**NDDOT Reserves All Objections**

Please attach a location map(s). You may use additional sheets to further describe your project.

|                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agency Name<br>City of West Fargo                                                                                                                                                                                                                                                                                                  |                                                                                                                                                                      | NDDOT District<br>Fargo                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                |
| Contact Name<br>Dustin Scott                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                      | Current Date<br>11/19/21                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                |
| Email Address<br>dustin.scott@westfargond.gov                                                                                                                                                                                                                                                                                      |                                                                                                                                                                      | Telephone Number<br>701-515-5100                                                                                                                                                                                                                                                                                                                           | Project Cost Estimate (attach detailed copy)<br>\$461,500.00                                                                                                                                                                                                   |
| Location Description<br>3 Intersections:<br>- 19th Ave E and 9th St E<br>- 38th Ave W and<br>Sheyenne Street<br>- 32nd Ave E and 4th St E                                                                                                                                                                                          | Roadway Ownership<br><input type="checkbox"/> State<br><input type="checkbox"/> County<br><input checked="" type="checkbox"/> City<br><input type="checkbox"/> Tribe | Vision Zero Emphasis Area (check all that apply)<br><input type="checkbox"/> Younger Drivers<br><input type="checkbox"/> Speeding or Aggressive Drivers<br><input type="checkbox"/> Alcohol-Related<br><input type="checkbox"/> Unbelted Vehicle Occupants<br><input type="checkbox"/> Lane Departure<br><input checked="" type="checkbox"/> Intersections | Functional Class<br><input type="checkbox"/> Local Road or Street<br><input type="checkbox"/> Minor Collector<br><input type="checkbox"/> Major Collector<br><input type="checkbox"/> Minor Arterial<br><input checked="" type="checkbox"/> Principal Arterial |
| Improvement Category (check all that apply)                                                                                                                                                                                                                                                                                        |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                |
| <input type="checkbox"/> Access Management                                                                                                                                                                                                                                                                                         | <input checked="" type="checkbox"/> Intersection Geometry                                                                                                            | <input type="checkbox"/> Parking                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> Roadway Delineation                                                                                                                                                                                                                   |
| <input type="checkbox"/> Advanced Technology & ITS                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> Intersection Traffic Control                                                                                                                | <input type="checkbox"/> Pedestrians & Bicyclists                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Roadway Signs & Traffic Control                                                                                                                                                                                                       |
| <input type="checkbox"/> Alignment                                                                                                                                                                                                                                                                                                 | <input type="checkbox"/> Lighting                                                                                                                                    | <input type="checkbox"/> Railroad Grade Crossings                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Shoulder Treatments                                                                                                                                                                                                                   |
| <input type="checkbox"/> Animal Related                                                                                                                                                                                                                                                                                            | <input type="checkbox"/> Miscellaneous                                                                                                                               | <input type="checkbox"/> Roadside                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Speed Management                                                                                                                                                                                                                      |
| <input type="checkbox"/> Interchange Design                                                                                                                                                                                                                                                                                        | <input type="checkbox"/> Non-infrastructure                                                                                                                          | <input type="checkbox"/> Roadway                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> Work Zone                                                                                                                                                                                                                             |
| Describe Current Safety Issues<br>All the intersections currently have negative offset left turn lanes. This reduces sight distance at all intersections, which reduces safety for all left turns. None of the intersections have been identified as a high crash location.                                                        |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                |
| Describe Proposed Safety Improvements<br>Re-align the existing left turn lanes from a negative alignment to a neutral alignment or slightly positive alignment. This will require removing of the existing current curb median, occasional replacement of street lighting, and re-striping the turn lanes to a different geometry. |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                |

For questions or comments contact:

Justin Schlosser  
701-328-2673  
jjschlosser@nd.gov

Please email completed form to this address: hsip@nd.gov



# DOT Application B

## Intersections of 9TH St E & 19TH Ave E, 32ND Ave E & 4TH St E, and Sheyenne St & 38TH Ave W





**IMPROVEMENT PROJECT NO. XXXX**  
**Intersection Geometry Updates**  
**WEST FARGO ND**

*Engineer's Opinion of Probable Cost*

**19th Ave E and 9th St E**

|    | ITEM                 | UNIT  | QUANTITY | UNIT PRICE   | TOTAL               |
|----|----------------------|-------|----------|--------------|---------------------|
| 1. | Curb Removal         | LF    | 325      | \$15.00      | \$4,875.00          |
| 2. | Saw Cut Concrete     | LF    | 50       | \$7.50       | \$375.00            |
| 3. | Concrete Removal     | SY    | 450      | \$25.00      | \$11,250.00         |
| 4. | 8" Concrete Pavement | SY    | 450      | \$150.00     | \$67,500.00         |
| 5. | Curb and Gutter      | LF    | 0        | \$50.00      | \$0.00              |
| 6. | Pavement Marking     | LF    | 1,500    | \$0.50       | \$750.00            |
| 7. | Mobilization         | L Sum | 1        | \$10,000.00  | \$10,000.00         |
| 8. | Traffic Control      | L Sum | 1        | \$10,000.00  | \$10,000.00         |
|    |                      |       |          | <b>TOTAL</b> | <b>\$104,750.00</b> |

**Sheyenne and 38th Ave E**

|     | ITEM                 | UNIT  | QUANTITY | UNIT PRICE   |                     |
|-----|----------------------|-------|----------|--------------|---------------------|
| 1.  | Curb Removal         | LF    | 500      | \$15.00      | \$7,500.00          |
| 2.  | Saw Cut Concrete     | LF    | 50       | \$7.50       | \$375.00            |
| 3.  | Concrete Removal     | SY    | 400      | \$25.00      | \$10,000.00         |
| 4.  | 8" Concrete Pavement | SY    | 400      | \$150.00     | \$60,000.00         |
| 5.  | Curb and Gutter      | LF    | 0        | \$50.00      | \$0.00              |
| 6.  | Pavement Marking     | LF    | 1,500    | \$0.50       | \$750.00            |
| 7.  | Revise Signal - FYA  | L Sum | 1        | \$5,000.00   | \$5,000.00          |
| 8.  | Move Street Light    | EA    | 4        | \$10,000.00  | \$40,000.00         |
| 9.  | Mobilization         | L Sum | 1        | \$10,000.00  | \$10,000.00         |
| 10. | Traffic Control      | L Sum | 1        | \$10,000.00  | \$10,000.00         |
|     |                      |       |          | <b>TOTAL</b> | <b>\$143,625.00</b> |

**32nd Ave E and 4th St E**

|    | ITEM                 | UNIT  | QUANTITY | UNIT PRICE   |                     |
|----|----------------------|-------|----------|--------------|---------------------|
| 1. | Curb Removal         | LF    | 500      | \$15.00      | \$7,500.00          |
| 2. | Saw Cut Concrete     | LF    | 50       | \$7.50       | \$375.00            |
| 3. | Concrete Removal     | SY    | 700      | \$25.00      | \$17,500.00         |
| 4. | 8" Concrete Pavement | SY    | 700      | \$150.00     | \$105,000.00        |
| 5. | Curb and Gutter      | LF    | 0        | \$50.00      | \$0.00              |
| 6. | Pavement Marking     | LF    | 1,500    | \$0.50       | \$750.00            |
| 7. | Move Street Light    | EA    | 2        | \$10,000.00  | \$20,000.00         |
| 8. | Mobilization         | L Sum | 1        | \$10,000.00  | \$10,000.00         |
| 9. | Traffic Control      | L Sum | 1        | \$10,000.00  | \$10,000.00         |
|    |                      |       |          | <b>TOTAL</b> | <b>\$171,125.00</b> |

|                           |                     |
|---------------------------|---------------------|
| Construction Subtotal     | \$419,500.00        |
| Contingencies             | \$42,000.00         |
| <b>Total Construction</b> | <b>\$461,500.00</b> |

# HIGHWAY SAFETY IMPROVEMENT PROGRAM (HSIP) PROJECT APPLICATION

North Dakota Department of Transportation, Programming  
SFN 59959 (11-2019)

**23 USC § 409 Documents  
NDDOT Reserves All Objections**

Please attach a location map(s). You may use additional sheets to further describe your project.

|                                                                                                                                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                |
|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Agency Name<br>City of West Fargo                                                                                                                                                                                                                                                                                                                                                                                                                                          |                                                                                                                                                                      | NDDOT District<br>Fargo                                                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                                                                |
| Contact Name<br>Dustin Scott                                                                                                                                                                                                                                                                                                                                                                                                                                               |                                                                                                                                                                      | Current Date<br>11/19/21                                                                                                                                                                                                                                                                                                                                   |                                                                                                                                                                                                                                                                |
| Email Address<br>dustin.scott@westfargond.gov                                                                                                                                                                                                                                                                                                                                                                                                                              |                                                                                                                                                                      | Telephone Number<br>701-515-5100                                                                                                                                                                                                                                                                                                                           | Project Cost Estimate (attach detailed copy)<br>\$337,000.00                                                                                                                                                                                                   |
| Location Description<br>2 Intersections:<br>- Veterans Boulevard and<br>36th Ave E<br>- Veterans Boulevard and<br>40th Ave E                                                                                                                                                                                                                                                                                                                                               | Roadway Ownership<br><input type="checkbox"/> State<br><input type="checkbox"/> County<br><input checked="" type="checkbox"/> City<br><input type="checkbox"/> Tribe | Vision Zero Emphasis Area (check all that apply)<br><input type="checkbox"/> Younger Drivers<br><input type="checkbox"/> Speeding or Aggressive Drivers<br><input type="checkbox"/> Alcohol-Related<br><input type="checkbox"/> Unbelted Vehicle Occupants<br><input type="checkbox"/> Lane Departure<br><input checked="" type="checkbox"/> Intersections | Functional Class<br><input type="checkbox"/> Local Road or Street<br><input type="checkbox"/> Minor Collector<br><input type="checkbox"/> Major Collector<br><input type="checkbox"/> Minor Arterial<br><input checked="" type="checkbox"/> Principal Arterial |
| Improvement Category (check all that apply)                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                |
| <input type="checkbox"/> Access Management                                                                                                                                                                                                                                                                                                                                                                                                                                 | <input checked="" type="checkbox"/> Intersection Geometry                                                                                                            | <input type="checkbox"/> Parking                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> Roadway Delineation                                                                                                                                                                                                                   |
| <input type="checkbox"/> Advanced Technology & ITS                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/> Intersection Traffic Control                                                                                                                | <input type="checkbox"/> Pedestrians & Bicyclists                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Roadway Signs & Traffic Control                                                                                                                                                                                                       |
| <input type="checkbox"/> Alignment                                                                                                                                                                                                                                                                                                                                                                                                                                         | <input type="checkbox"/> Lighting                                                                                                                                    | <input type="checkbox"/> Railroad Grade Crossings                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Shoulder Treatments                                                                                                                                                                                                                   |
| <input type="checkbox"/> Animal Related                                                                                                                                                                                                                                                                                                                                                                                                                                    | <input type="checkbox"/> Miscellaneous                                                                                                                               | <input type="checkbox"/> Roadside                                                                                                                                                                                                                                                                                                                          | <input type="checkbox"/> Speed Management                                                                                                                                                                                                                      |
| <input type="checkbox"/> Interchange Design                                                                                                                                                                                                                                                                                                                                                                                                                                | <input type="checkbox"/> Non-infrastructure                                                                                                                          | <input type="checkbox"/> Roadway                                                                                                                                                                                                                                                                                                                           | <input type="checkbox"/> Work Zone                                                                                                                                                                                                                             |
| Describe Current Safety Issues<br>All the intersections currently have negative offset left turn lanes. This reduces sight distance at all intersections, which reduces safety for all left turns. Neither location is considered a high crash location. These geometric upgrades will allow for full implementation of 2024 HSIP project along Veterans Boulevard, such as pedestrian improvements. Intersections are owned by both City of Fargo and City of West Fargo. |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                |
| Describe Proposed Safety Improvements<br>Re-align the existing left turn lanes from a negative alignment to a neutral alignment or slightly positive alignment. This will require removing of the existing current curb median, relocating street lighting, and re-striping the turn lanes to a different geometry.                                                                                                                                                        |                                                                                                                                                                      |                                                                                                                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                |

For questions or comments contact:

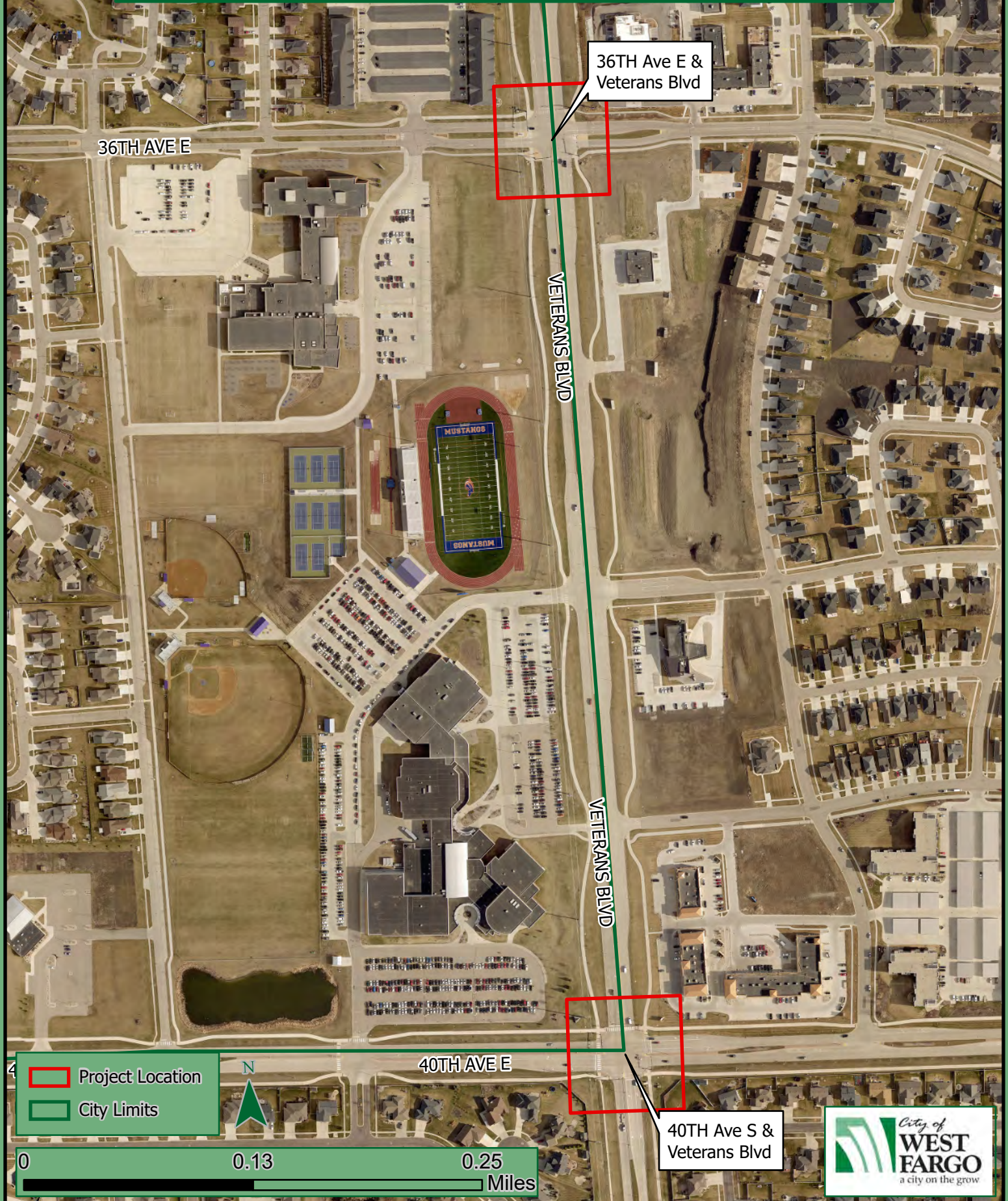
Justin Schlosser  
701-328-2673  
jjschlosser@nd.gov

Please email completed form to this address: hsip@nd.gov



# DOT Application A

## Intersections of 36th & Veterans and 40th & Veterans





**IMPROVEMENT PROJECT NO. XXXX**  
**Intersection Geometry Updates**  
**WEST FARGO ND**

*Engineer's Opinion of Probable Cost*

**Veterans Boulevard and 36th Ave E**

|              | ITEM                 | UNIT  | QUANTITY | UNIT PRICE  | TOTAL               |
|--------------|----------------------|-------|----------|-------------|---------------------|
| 1.           | Curb Removal         | LF    | 500      | \$15.00     | \$7,500.00          |
| 2.           | Saw Cut Concrete     | LF    | 50       | \$7.50      | \$375.00            |
| 3.           | Concrete Removal     | SY    | 650      | \$25.00     | \$16,250.00         |
| 4.           | 8" Concrete Pavement | SY    | 650      | \$150.00    | \$97,500.00         |
| 5.           | Curb and Gutter      | LF    | 0        | \$50.00     | \$0.00              |
| 6.           | Pavement Marking     | LF    | 1,500    | \$0.50      | \$750.00            |
| 7.           | Mobilization         | L Sum | 1        | \$10,000.00 | \$10,000.00         |
| 8.           | Traffic Control      | L Sum | 1        | \$10,000.00 | \$10,000.00         |
| <b>TOTAL</b> |                      |       |          |             | <b>\$142,375.00</b> |

**Veterans Boulevard and 40th Ave E**

|              | ITEM                 | UNIT  | QUANTITY | UNIT PRICE  |                     |
|--------------|----------------------|-------|----------|-------------|---------------------|
| 1.           | Curb Removal         | LF    | 500      | \$15.00     | \$7,500.00          |
| 2.           | Saw Cut Concrete     | LF    | 50       | \$7.50      | \$375.00            |
| 3.           | Concrete Removal     | SY    | 650      | \$25.00     | \$16,250.00         |
| 4.           | 8" Concrete Pavement | SY    | 650      | \$150.00    | \$97,500.00         |
| 5.           | Curb and Gutter      | LF    | 0        | \$50.00     | \$0.00              |
| 6.           | Pavement Marking     | LF    | 1,500    | \$0.50      | \$750.00            |
| 7.           | Move Street Lighting | EA    | 2        | \$10,000.00 | \$20,000.00         |
| 8.           | Mobilization         | L Sum | 1        | \$10,000.00 | \$10,000.00         |
| 9.           | Traffic Control      | L Sum | 1        | \$10,000.00 | \$10,000.00         |
| <b>TOTAL</b> |                      |       |          |             | <b>\$162,375.00</b> |

|                           |                     |
|---------------------------|---------------------|
| Construction Subtotal     | \$304,750.00        |
| Contingencies             | \$32,250.00         |
| <b>Total Construction</b> | <b>\$337,000.00</b> |



"Consent" or "Regular"  
Agenda Item?  
**[Regular]**

**Commission President**

Bernie Dardis

Primary Portfolio:

Administration/Finance

Secondary Portfolio:

Street, Water and  
Sewer

**Commission**

**Vice President**

Brad Olson

Primary Portfolio:

Street, Water and  
Sewer

Secondary Portfolio:

Sanitation

**Commissioner**

Eric Gjerdevig

Primary Portfolio:

Planning, Zoning and  
Engineering

Secondary Portfolio:

Administration/Finance

**Commissioner**

Mark Simmons

Primary Portfolio:

Police and Fire

Secondary Portfolio:

Planning, Zoning and  
Engineering

**Commissioner**

Mandy George

Primary Portfolio:

Sanitation

Secondary Portfolio:

Police and Fire

**City Administrator**

Tina Fisk

**Asst. City Administrator**

Tim Solberg

**To:** West Fargo City Commission

**From:** Dustin T. Scott, City Engineer

**Date:** December 6, 2021

**Subject:** Proposed traffic signal at Veterans Blvd and 37<sup>th</sup> Ave E.

**Action:** Add project to CIP and direct staff to submit request letter to City of Fargo for their support and participation.

**Summary and Recommendation:**

West Fargo and Fargo have each seen substantial growth south of I-94 over the past decade. As expected, traffic volumes have increased significantly on arterial streets such as Veterans Blvd, which is a shared roadway between the two cities. The increase in traffic has raised concerns with function and safety at the 37<sup>th</sup> Avenue intersection. 37<sup>th</sup> Avenue provides a full access into Sheyenne High School and extends a half mile east into Fargo where it connects to Independence Elementary School.

In February 2021, West Fargo Public Schools submitted letters to both Fargo and West Fargo city staff requesting a traffic signal be installed at 37<sup>th</sup> Avenue. During a meeting with engineering staff, they noted several complaints filed in recent years regarding safety, especially when making a left-turn out of the high school onto Veterans Blvd. City staff have also received calls from the public with similar concerns and asking for a traffic signal at this location.

A traffic study was recently completed that included a traffic signal analysis at Veterans Blvd and 37<sup>th</sup> Avenue. The study indicated that east/west traffic volumes are not high enough to warrant signalization. However, the study supported a traffic signal primarily due to safety concerns with young drivers navigating this wide intersection as well as providing a safe pedestrian crossing.

I have met with Fargo's engineering staff and we collectively agreed that this intersection should be signalized along with considering other street modifications in the area. I asked if their team could take the lead with design and construction as they have done with prior signal projects. Though we would pay an engineering fee, it would be less expensive than hiring a consultant. They agreed and asked that a formal request be sent from West Fargo's City Commission to Fargo's City Commission. Once their commission accepts the request, we would start the joint project by drafting a Memorandum of Understanding between the two cities. The MOU will establish terms for cost-sharing, operation and maintenance, etc.

Staff Recommendation: Add project to CIP and direct staff to submit request letter to City of Fargo for their support and participation.  
*This item was reviewed by the city's Review Committee on November 23<sup>rd</sup> and they voted unanimously in favor of the project and sending the request letter to the City of Fargo.*

**Financial Analysis:**

A project estimate has not been prepared but I propose starting with a budget of \$300,000 in the CIP for West Fargo's share.



**To:** West Fargo City Commission  
**From:** West Fargo Public Library Board of Directors  
**Date:** Monday, December 6, 2021  
**Subject:** Request for funds transfer to cover 2022 COLA for library staff  
**Action:** Approve transfer of funds to cover COLA for library staff

**Commission President**

Bernie Dardis

*Primary Portfolio:*  
Administration/Finance

*Secondary Portfolio:*  
Street, Water and Sewer

**Commission Vice President**

Brad Olson

*Primary Portfolio:*  
Street, Water and Sewer

*Secondary Portfolio:*  
Sanitation

**Commissioner**

Eric Gjerdevig

*Primary Portfolio:*  
Planning, Zoning and Engineering

*Secondary Portfolio:*  
Administration/Finance

**Commissioner**

Mark Simmons

*Primary Portfolio:*  
Police and Fire

*Secondary Portfolio:*  
Planning, Zoning and Engineering

**Commissioner**

Mandy George

*Primary Portfolio:*  
Sanitation

*Secondary Portfolio:*  
Police and Fire

**Administration**

Tina Fisk, Administrator

Tim Solberg, Assistant Administrator

**Summary and Recommendation:**

At the November 1, 2021 City Commission meeting, the Commission approved a 4% cost of living adjustment (COLA) for City of West Fargo employees in 2022, up from 1% as originally approved in the 2022 city budget.

The Library Board is now requesting a transfer of funds from city general funds or other sources to cover the COLA increase for library staff due to the library's mill reduction and subsequent depletion of its cash reserves in recent years.

The Library Board asks the Commission to support this request. It is crucial for equitable pay among library staff and other city staff, and supports our employees as inflation continues to rise. Our staff are always the library's greatest asset – they make the services provided to the public in accordance with the library's strategic plan possible.

**Financial Analysis:**

Total transfer requested to cover COLA increase: \$35,811

Estimate end of year 2021 library cash balance after draw for 2021 deficit: \$150,000-\$250,000

**2022 Revenues & Expenditures**

- Budgeted expenditures with 4% COLA: \$1,725,276
- Budgeted revenues: \$1,681,478
- Estimate net deficit in 2022 with 4% COLA: \$43,798

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**Process/Timeline:**

| <b>Process</b>           | <b>Action</b>                                                                                              |
|--------------------------|------------------------------------------------------------------------------------------------------------|
| City Commission approval | 11/1 Approved COLA increase for West Fargo staff                                                           |
| Library Board approval   | 11/18 Approved COLA increase for library staff but deferred based on Commission approval to transfer funds |
| City Commission approval | 12/3 Library Board requests transfer of funds to cover 2022 COLA increase for library staff                |