

Berlin Charter Township

8000 Swan View • Newport, MI 48166 • (734) 586-2187 • Fax (734) 586-8900



BERLIN CHARTER TOWNSHIP PLANNING COMMISSION NOTICE OF PUBLIC HEARING September 21, 2026

Public notice is hereby given that the Berlin Charter Township Planning Commission will hold a Public Hearing at 6:30 p.m. on Monday, September 21, 2026, at the new township building located at 7825 N. Dixie Highway, Lower Level, Newport, Michigan, to consider the following:

The purpose of this hearing is to consider a special land use for a wireless communication facility located at the vacant property located west of 4848 Newport Road, west of Armstrong Road, also known as parcel ID #5803-031-016-00.

Information regarding this matter may be inspected at the Township Clerk's Office during normal business hours or on the Township website www.berlinchartertwp.com. If you are unable to attend this hearing but wish to comment on this matter you may submit written comments to the Township Clerk's Office prior to close of business on September 21, 2026.

Written comments will be received until Monday, September 21, 2026, at 4:30 p.m. and can be mailed to or delivered to the Office of the Building Department, 8000 Swan View Drive, Monday through Friday during regular business hours, where a complete copy of the petition is also available for inspection.

A handwritten signature in black ink that reads "Hillary Haywood". The signature is written in a cursive, flowing style.

Hillary Haywood
Zoning Administrator

Berlin Charter Township Planning Commission
Special Land Use Application

Applicant Information:

Name: Kaden Yates (LCC Telecom Services) Address: 10700 W. Higgins Road, Suite 240

Telephone: (937) 712-2400 Rosemont, IL 60018

Fax: (847) 608-1299

Property Owner Information (if different from Applicant):

Name: Michael & Diana Masserant

Address: _____

Telephone: [REDACTED]

Fax: _____

Engineer/Architect Information:

Name: Westchester Services LCC

Address: 604 Fox Glen

Telephone: (847) 277-0070

Barrington, IL 60010

Fax: (847) 277-0080

Legal Council:

Name: _____

Address: _____

Telephone: _____

Site Information:

Address: 4811 Newport Rd, Newport, MI 48166

Parcel
Number: 03-031-016-00

Proposed Use: Personal Wireless Service Facility

Application Fee:

Amount Paid: _____

Date Paid: _____

Intent: Berlin Charter Township recommends that the applicant check off each item below as it is completed. This will assist in avoiding missing a required submittal item that could require resubmittal. The provisions below are intended to only be an outline of the requirements of the Ordinance. The application is not intended to be comprehensive. The appropriate sections of the Ordinance should be reviewed when developing the required information.

☐

Planning Commission Schedule Provided to Applicant

☒

Site Plan Submitted. Twelve (12) copies of the Site Plan must be submitted. The following information must be included on the Site Plan. A Site Plan which is not complete will not be accepted for review by the Township.

☒

Legal description of the property under consideration.

☒

A map indicating the gross land area of the development, the present zoning classification thereof and the zoning classification and land use of the area surrounding the proposed development.

☒

A fully dimensioned map of the land showing topographic information at a contour interval of two feet (2') or less.

☒

A vicinity map showing the location of the area in relation to surrounding properties, streets, freeways, schools, school sites and other significant features of the community where appropriate.

☒

A site development plan with at least the following details shown to scale and dimensional.

☒

The date, north arrow, and scale. The scale shall be not less than one inch (1") equals twenty feet (20'), for property under three (3) acres and at least one inch (1") equals one hundred feet (100') for those three (3) acres or more.

☒

Statistical data, including number of dwelling units, size of dwelling units, if any, and total gross acreage involved.

☒

The location and height of all existing and proposed structures on and within one hundred feet (100') of the subject property's boundary.

☒

All lot and/ or property lines are to be shown and dimensioned, including building setback lines on corner lots.

- ☒ The location and dimensions of all existing and proposed drives, sidewalks, curb openings, signs, exterior lighting, curbing, parking areas (show dimensions of a typical parking space), unloading areas and recreation areas.
- ☒ Vehicular traffic and pedestrian circulation features within and contiguous of the site.
- ☒ The location of all proposed landscaping, fences or walls should include any topographic alterations or changes in natural terrain.
- ☒ Size and location of existing and proposed utilities, including proposed connections to public sewer or water supply systems.
- ☒ The location and pavement width and right-of-way width of all abutting roads, streets, alleys or The location and size of all existing and proposed surface and subsurface water Drainage facilities.
- ☒ The plan shall show areas of marsh, swamp, and floodplains together with any other feature that is of significance to the use and to the site.
- ☒ The location of all free-standing signs.
- ☒ The location of any outdoor storage materials and the manner in which they shall be screened or covered.
- ☒ The names and addresses of the architect and/or engineer responsible for the preparation of the site plans.
- ☐ Other Agency Approvals. Prior to site plan approval by the Planning Commission, the Applicant/Property Owner shall have secured approval from all applicable government agencies and departments, as applicable, including bur not limited to:
 - ☐ Monroe County Road Commission approval.
 - ☐ Monroe County Drain Commission approval.
 - ☐ Monroe County Health Department/ Michigan Department of Public Health approval.
 - ☐ Michigan Department of Natural Resources approval.

Applicant/Property Owner should be prepared to address the following issues – that the proposed special land use:

- will meet all site plan standards and requirements;
- will be designed, constructed, operated and maintained to be harmonious with the character of the neighborhood;
- will be adequately served by essential public facilities and services;
- will not create excessive additional public costs for public facilities and services;
- will not be detrimental to any persons, property or the general welfare;
- will be consistent with the intent and purpose of the zoning district in which it is proposed to be located; and
- will protect the natural environment and preserve natural resources.

I, Applicant/Property Owner, have reviewed article 16, *Special Land Use* and *§18-316 Site Plan Review* of the Berlin Charter Township Zoning Ordinance, and have submitted all documents, data and other information as required, and further depose that this Application and accompanying documents, data and other information are true and accurate, and further grant permission to Berlin Charter Township to enter the above-described property for the purposes of gathering information related to this application.

Kaden Yates

Signature of Applicant/Property Owner

6/18/2026

Date

Berlin Charter Township Planning Commission

Preliminary Site Plan Review Application X

Final Site Plan Review Application X

Applicant Information:

Name: Kaden Yates (LCC Telecom Services) Address: 10700 W Higgins Rd, Suite 240

Telephone: (937) 712-2400 Rosemont, IL 6001

Fax: (847) 608-1299

Property Owner Information (if different from Applicant)

Name: Michael & Diana Masserant Address: _____

Telephone:

Fax: _____

Engineer/Architect Information:

Name: Westchester Services LLC Address: 604 Fox Glen

Barrington, IL 60010

Telephone: (847) 277-0070

Fax: (847) 277-0080

Legal Council:

Name: _____ Address: _____

Telephone: _____

Site Information:

Address: 4811 Newport Rd, Newport, MI 48166 Parcel
Number: 03-031-016-00

Proposed Use: Personal Wireless Service Facility

Application Fee:

Amount Paid: _____ Date Paid: _____

Intent: Berlin Charter Township recommends that the applicant check off each item below as it is completed. This will assist in avoiding missing a required submittal item that could require resubmittal. The provisions below are intended to only be an outline of the requirements of the Ordinance. The application is not intended to be comprehensive. The appropriate sections of the Ordinance should be reviewed when developing the required information.

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Planning Commission Schedule Provided to Applicant

☒

Site Plan Submitted. Twelve (12) copies of the Site Plan must be submitted. The following information must be included on the Site Plan. A Site Plan which is not complete will not be accepted for review by the Township.

☐

Conditional Use. Check the *Conditional Use Supplement to the Site Plan Review Application* to see whether the proposed use is a conditional use. If so, be sure to read the appropriate Ordinance subsection for any conditions that may apply.

☒

Legal description of the property under consideration.

☒

A map indicating the gross land area of the development, the present zoning classification thereof and the zoning classification and land use of the area surrounding the proposed development.

☒

A fully dimensioned map of the land showing topographic information at a contour interval of two feet (2') or less.

☒

A vicinity map showing the location of the area in relation to surrounding properties, streets, freeways, schools, school sites and other significant features of the community where appropriate.

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The date, north arrow, and scale. The scale shall be not less than one inch (1") equals twenty feet (20'), for property under three (3) acres and at least one inch (1") equals one hundred feet (100') for those three (3) acres or more.

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Statistical data, including number of dwelling units, size of dwelling units, if any, and total gross acreage involved.

☒

The location and height of all existing and proposed structures on and within one hundred feet (100') of the subject property's boundary.

- ☒ All lot and/ or property lines are to be shown and dimensioned, including building setback lines on corner lots.
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- ☒ The names and addresses of the architect and/ or engineer responsible for the preparation of the site plans.
- ☐ **Other Agency Approvals.** Prior to site plan approval by the Planning Commission, the Applicant/Property Owner shall have secured approval from all applicable government agencies and departments, as applicable, including bur not limited to:
 - ☐ Monroe County Road Commission approval.
 - ☐ Monroe County Drain Commission approval.
 - ☐ Monroe County Health Department/ Michigan Department of Public Health approval.

I, Applicant/Property Owner, have reviewed §18-316 *Site Plan Review* of the Berlin Charter Township Zoning Ordinance, and have submitted all documents, data and other information as required, and further depose that this Application and accompanying documents, data and other information are true and accurate, and further grant permission to Berlin Charter Township to enter the above-described property for the purposes of gathering information related to this application.

Kaden Yates

Signature of Applicant/Property Owner

6/18/2026

Date



THE INFORMATION CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO CARRIER SERVICES IS STRICTLY PROHIBITED.

TILLMAN

INFRASTRUCTURE

TILLMAN OPP NUMBER: TI-OPP-21206
TILLMAN SITE NAME: NEWPORT III - L_RELHR
SITE ADDRESS: 4811 NEWPORT RD
NEWPORT, MI 48166
PARCEL ID: 03-031-016-00

CONSTRUCTION APPROVAL

TILLMAN SITE ACQUISITION MANAGER: _____ DATE: _____
TILLMAN CONSTRUCTION MANAGER: _____ DATE: _____
RF PROJECT MANAGER: _____ DATE: _____
PROJECT MANAGER: _____ DATE: _____



JOHN M. BANKS
ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-212-8354



604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX: 847.277.0080
AE@WESTCHESTERSERVICES.COM

DRAWN BY: DS

CHECKED BY: MC

REV	DATE	DESCRIPTION
A	04/27/26	PRELIMINARY CD
B	05/21/26	PRELIMINARY CD

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF MICHIGAN

TILLMAN OPP# TI-OPP-21206
FUZE #: 16953676
SITE NAME:
NEWPORT III - L_RELHR
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

SITE INFORMATION

SITE ADDRESS: 4811 NEWPORT RD
NEWPORT, MI 48166

LATITUDE (NAD 83): 42°00'30.564"N (42.0084900°)
LONGITUDE (NAD 83): 83°17'36.881"W (-83.2935780°)

GROUND ELEVATION: 590' (AMSL)

JURISDICTION: BERLIN CHARTER TOWNSHIP

JURISDICTION CONTACT: PAUL DELISLE
8000 SWAN VIEW DRIVE,
NEWPORT, MI 48166
734-586-2187, EXT. 5

PARCEL/MAP NUMBER: 03-031-016-00

LANDLORD OWNER: MICHAEL MASSERANT
734-678-0481

TOWER OWNER: TILLMAN INFRASTRUCTURE
152 W. 57TH STREET
NEW YORK, NEW YORK 10019

STRUCTURE TYPE: SELF-SUPPORT

STRUCTURE HEIGHT: 155'-0" (AGL)

POWER SUPPLIER: DTE ENERGY
PHONE NUMBER: 734-241-4176

FIBER SUPPLIER: SPECTRUM
PHONE NUMBER: 888-406-7063

PROJECT TEAM

APPLICANT: TILLMAN INFRASTRUCTURE
152 W. 57TH STREET
NEW YORK, NEW YORK 10019

PROJECT
MANAGEMENT FIRM: LCC TELECOM SERVICES
10700 HIGGINS ROAD, SUITE 240
ROSEMONT, IL 60018
(847) 608-6300

ARCHITECT
ENGINEERING: JOHN M. BANKS
604 FOX GLEN
BARRINGTON, IL 60010
CONTACT: JOHN M. BANKS
PHONE: (847) 212-8354

VICINITY MAP



DRIVING DIRECTIONS



CODE COMPLIANCE

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THE LATEST EDITIONS OF THE FOLLOWING CODES.

- 2014 INDIANA BUILDING CODE
- 2017 NATIONAL ELECTRICAL CODE
- 2014 INDIANA MECHANICAL CODE
- 2014 INDIANA FIRE CODE
- AMERICAN CONCRETE INSTITUTE
- AMERICAN INSTITUTE OF STEEL CONSTRUCTION
- MANUAL OF STEEL CONSTRUCTION 13TH EDITION
- ANSI/TIA-222-H
- TIA 607
- INSTITUTE FOR ELECTRICAL & ELECTRONICS ENGINEERING 81
- IEEE C2 NATIONAL ELECTRIC SAFETY CODE
- LATEST EDITION
- TELECORDIA GR-1275

DRAWING INDEX

T-1 TITLE SHEET
1 OF 2 SITE SURVEY
2 OF 2 SITE SURVEY
C-0 FLOOD & WETLAND MAP
C-1 OVERALL SITE PLAN
C-2 ENLARGED SITE PLAN
C-3 ELEVATION
C-4 CONSTRUCTION DETAILS
C-5 FENCE DETAILS
C-5.1 SITE SIGNAGE
C-6 GRADING PLAN
C-7 EROSION CONTROL DETAILS
E-1 UTILITY PLAN
E-2 ENLARGED UTILITY PLAN
E-3 ELECTRICAL DIAGRAM
G-1 GROUNDING PLAN
G-2 GROUNDING DETAILS
G-3 GROUNDING DETAILS

DRAWING SCALE

THESE DRAWINGS ARE SCALED TO FULL SIZE AT 22"X34" AND HALF SIZE AT 11"X17". CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE DESIGNER / ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR MATERIAL ORDERS OR BE RESPONSIBLE FOR THE SAME. CONTRACTOR SHALL USE BEST MANAGEMENT PRACTICE TO PREVENT STORM WATER POLLUTION DURING CONSTRUCTION.

SCOPE OF WORK

THIS PROJECT CONSISTS OF :

- CONSTRUCTION OF A NEW UNMANNED TELECOMMUNICATIONS FACILITY
- SITE WORK: NEW TOWER, UNMANNED EQUIPMENT CABINET ON PLATFORM, AND UTILITY INSTALLATIONS



Know what's below.
Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN MICHIGAN, CALL MISS DIG

TOLL FREE: 1-800-482-7171 OR
www.missdig.org

MICHIGAN STATUTE
REQUIRES MIN OF 2
WORKING DAYS NOTICE
BEFORE YOU EXCAVATE

30' ACCESS & UTILITY EASEMENT:

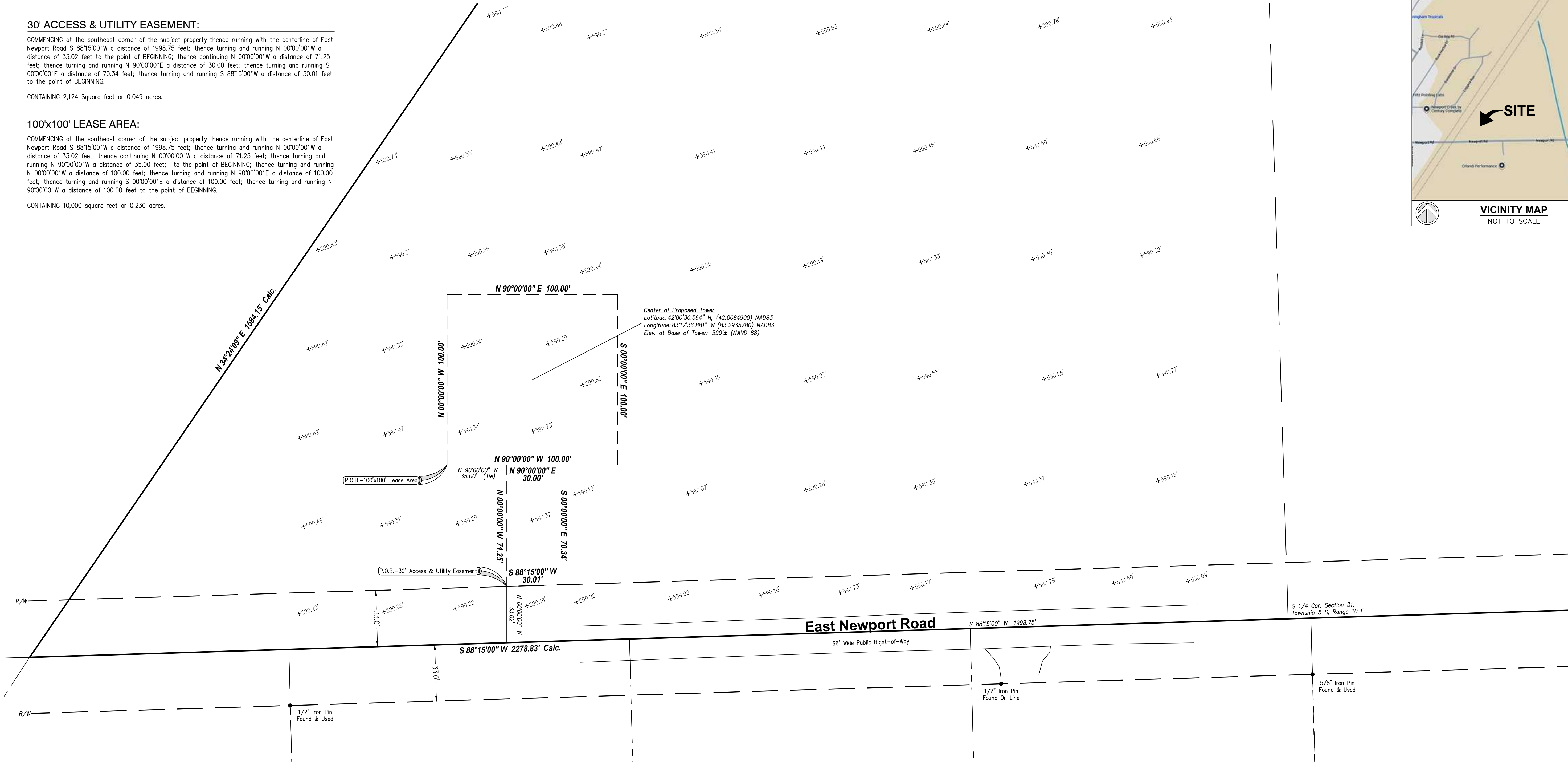
COMMENCING at the southeast corner of the subject property thence running with the centerline of East Newport Road S 88°15'00" W a distance of 1998.75 feet; thence turning and running N 00°00'00" W a distance of 33.02 feet to the point of BEGINNING; thence continuing N 00°00'00" W a distance of 71.25 feet; thence turning and running N 90°00'00" E a distance of 30.00 feet; thence turning and running S 00°00'00" E a distance of 70.34 feet; thence turning and running S 88°15'00" W a distance of 30.01 feet to the point of BEGINNING.

CONTAINING 2,124 Square feet or 0.049 acres.

100'x100' LEASE AREA:

COMMENCING at the southeast corner of the subject property thence running with the centerline of East Newport Road S 88°15'00" W a distance of 1998.75 feet; thence turning and running N 00°00'00" W a distance of 33.02 feet; thence continuing N 00°00'00" W a distance of 71.25 feet; thence turning and running N 90°00'00" W a distance of 35.00 feet; to the point of BEGINNING; thence turning and running N 00°00'00" W a distance of 100.00 feet; thence turning and running N 90°00'00" E a distance of 100.00 feet; thence turning and running S 00°00'00" E a distance of 100.00 feet; thence turning and running N 90°00'00" W a distance of 100.00 feet to the point of BEGINNING.

CONTAINING 10,000 square feet or 0.230 acres.



CBRE

CBRE Land Surveying
Affiliates PLLC

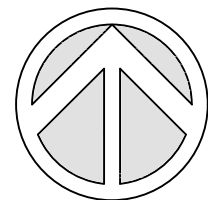
Transforming the Industry
Land Surveys
Zoning Compliance
Environmental Consulting
Property Condition Assessment
Seismic Risk Analysis
Appraisal

CBRE Land Surveying
Affiliates PLLC
4800 The Woods Road
Kitty Hawk, NC 27949
landsurveyors@cbre.com
Phone: 800-520-1010

SPECIAL PURPOSE SURVEY
PREPARED FOR:

**Westchester
Services, L.L.C.**

4811 Newport Road
City of Berlin Township
County of Monroe
State of Michigan
Zip Code 48166



NORTH
GRAPHIC SCALE
0 30' 60'
1 INCH = 30 FT.



Surveyor's Seal
Date Signed: 10/28/2025

Sheet No. **1** of **2**

MSI Project No. 61365
PC: TRM
PM: JAR Drafter: JAR

MISCELLANEOUS NOTES:

- There is direct access to the subject property via Newport Road, a public right-of-way.
- The locations of all utilities shown on the survey are from visible surface evidence only.
- The posted address on site is 4811 Newport Road, Berlin, Michigan 48166.
- At the time of this survey, there was no observable surface evidence of earth moving work, building construction or building additions within recent months.
- At the time of this survey, there was no observable evidence of the subject property being used as a solid waste dump, sump or sanitary landfill.
- At the time of this survey, there was no observable evidence of any recent changes in street right-of-way lines either completed or proposed, and available from the controlling jurisdiction.
- At the time of this survey, there was no observable evidence of any recent street or sidewalk construction or repairs.
- The Property surveyed and shown hereon is the same property described in Schedule A of Westcor Title Insurance Company Title Commitment No. TIL-212379-C with an effective date of June 11, 2025.

BASIS OF BEARING:

The basis for all bearings shown hereon is the center line of East Newport Road, assumed as being S 88°15'00" W, and is used to denote angles only.

SURVEYOR'S OBSERVATIONS:

At the time of this survey, there was no visible evidence of encroachments or violations.

FLOOD ZONE:

By scaled map location and graphic plotting only, the subject property appears to lie entirely in Zone X-Unshaded (Areas determined to be outside the 0.2% annual chance floodplain) according to the Federal Emergency Management Association Flood Insurance Rate Map for the County of Monroe, Community Panel No. 26115C0118E, Effective Date October 2, 2014.

WESTCOR LAND TITLE INSURANCE COMPANY
COMMITMENT NO. TIL-212379-C - SCHEDULE A:

That part of the Southeast quarter of Section 31, Town 5 South, Range 10 East, Berlin Township, Monroe County, Michigan, described as beginning at a point on the East line of Section 31, distant North 00 degrees 06 minutes 42 seconds West 1048.00 feet from the Southeast corner of Section 31 and proceeding thence due West 800.00 feet; thence North 00 degrees 06 minutes 42 seconds West 292.88 feet; thence North 89 degrees 35 minutes 08 seconds East 800.01 feet to the East line of Section 31; thence along said line South 00 degrees 06 minutes 42 seconds East 298.67 feet to the point of beginning, containing 5.432 acres, more or less, excepting therefrom that part of the following described land lying within the above described parcel: a part of the South half of the Southeast quarter of Section 31, Town 5 South, Range 10 East, Berlin Township, Monroe County, Michigan, containing 0.209 acres of land and described as follows: Commencing 1346.66 feet South 00 degrees 06 minutes 46 seconds East from the East quarter corner of Section 31, Town 5 South, Range 10 East; Proceeding thence South 00 degrees 06 minutes 46 seconds East 6.09 feet; thence South 89 degrees 41 minutes 48 seconds West 2444.30 feet; thence North 34 degrees 57 minutes 55 seconds East 1.66 feet; thence North 89 degrees 35 minutes 08 seconds East 2443.36 feet to the point of beginning.

Less and Except

That part of the Southeast quarter of Section 31, Town 5 South, Range 10 East, described as beginning at a point on the South line of said Section 31, distant due West along said South line, 800.00 feet from the Southeast corner of said Section 31; proceeding thence due West along said South line, 300.00 feet; thence North 0 degrees 06 minutes 52 seconds West 1048.00 feet; thence due East 300.00 feet; thence South 0 degrees 03 minutes 52 seconds East (recorded as South 0 degrees 06 minutes 42 seconds East) 1048.00 feet to the point of beginning, containing 7.2176 acres, more or less.

Parcel ID: 03-031-016-00

This being the same property conveyed to Michael Joseph Masserant and Diana Lynn Masserant, Trustees of The Michael Joseph Masserant and Diana Lynn Masserant Family Trust dated February 17, 1986 from Mark M. Masserant and Deborah L. Masserant, husband and wife, individually, and Mark M. Masserant and Deborah L. Masserant, as Trustees of the Mark M. and Deborah L. Masserant joint living trust dated April 14, 1998, dated June 1, 2005 and recorded June 30, 2005 in Book 2950 and Page 17, in the County of Monroe, State of Michigan.

WESTCOR LAND TITLE INSURANCE COMPANY
COMMITMENT NO. TIL-212379-C - SCHEDULE B, SECTION II:

Numbers correspond with survey-related Schedule B exception items contained in the above referenced Title Commitment.

10. Terms and conditions of an unrecorded agreement, as evidenced by a(n) Memorandum of Solar Power Easement Agreement between Michael Joseph Masserant and Diana Lynn Masserant, Trustees of the Michael Joseph Masserant and Diana Lynn Masserant Family Trust dated February 17, 1986, and Michael Masserant and Diana Masserant, husband and wife and DTE Electric Company, a Michigan corporation, dated January 4, 2022 and recorded January 6, 2022 in (Instrument) 2022R00552, in Monroe County, Michigan.

(AFFECTS THE SUBJECT PROPERTY - BLANKET IN NATURE)

ZONING:

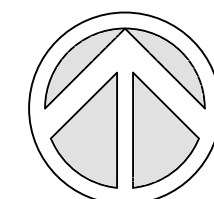
As of June 26, 2025, we have not yet received the current zoning information for the subject property.

PARKING:

There are no striped parking spaces on the subject property.

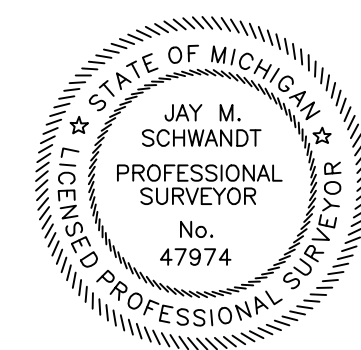
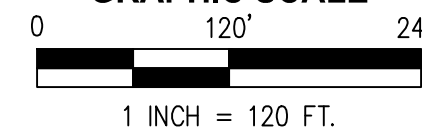
TOTAL LAND AREA:

2,580,277 Square Feet
59.235 Acres

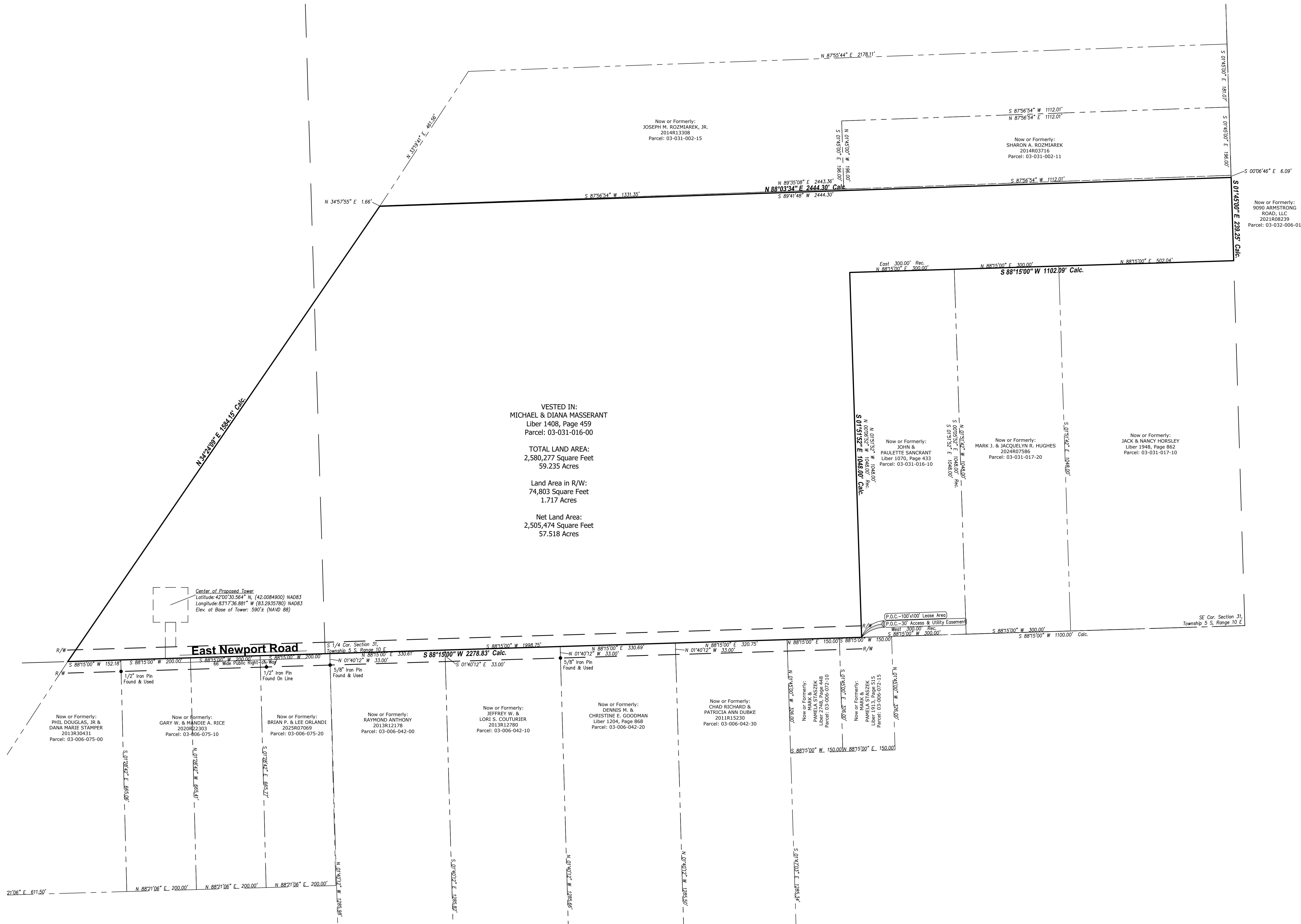
SPECIAL PURPOSE SURVEY
PREPARED FOR:Westchester
Services, L.L.C.4811 Newport Road
City of Berlin Township
County of Monroe
State of Michigan
Zip Code 48166

NORTH

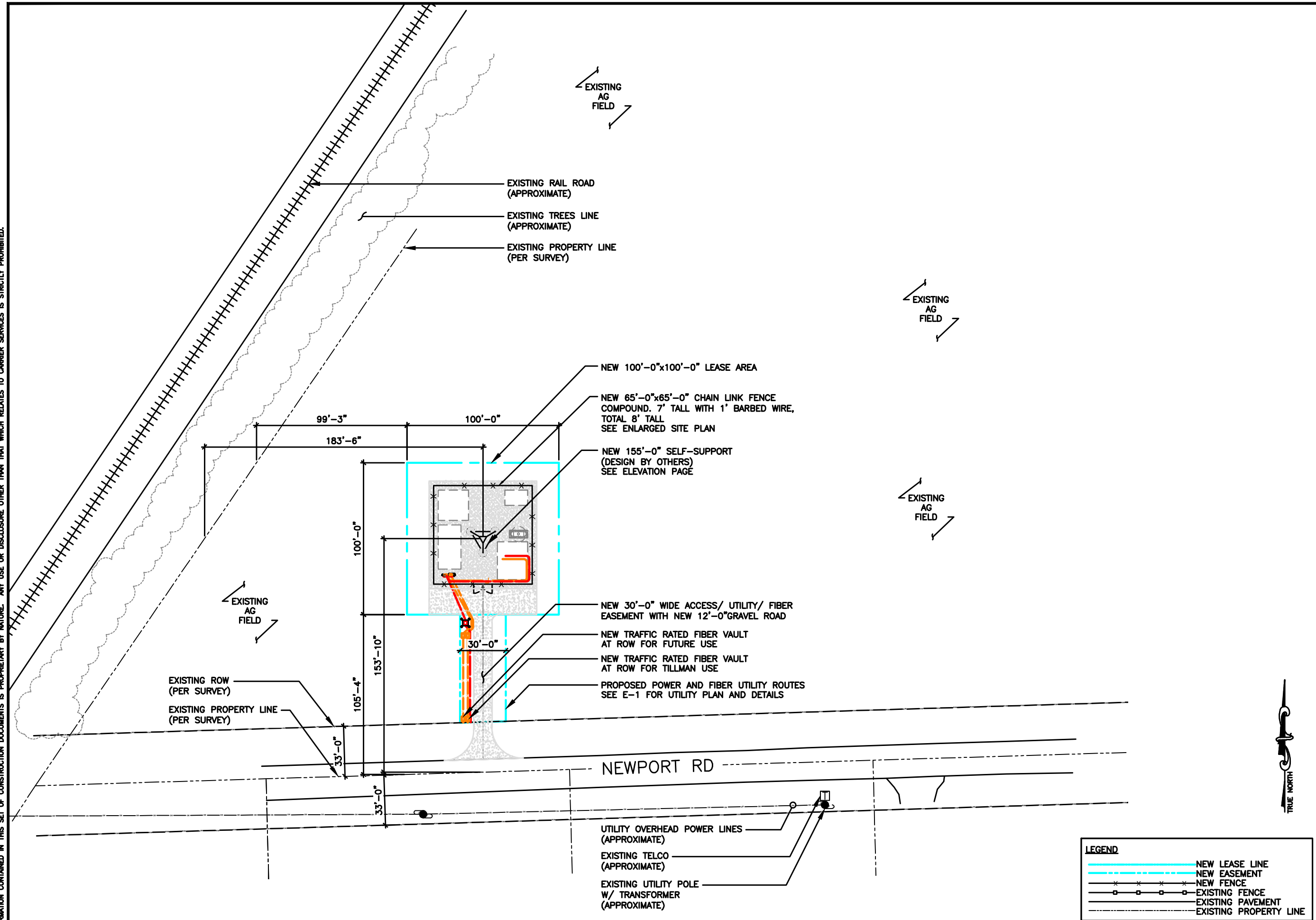
GRAPHIC SCALE

Surveyor's Seal
Date Signed: 10/28/2025Sheet No. **2** of **2**

MSI Project No. 61365

PC: TRM
PM: JAR Drafter: JAR

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LEGEND	
	NEW LEASE LINE
	NEW EASEMENT
	NEW FENCE
	EXISTING FENCE
	EXISTING PAVEMENT
	EXISTING PROPERTY LINE

30' 0 15' 30' SCALE: 1" = 30'-0" (24x36)
(OR) 1/2" = 30'-0" (11x17)

**TILLMAN
INFRASTRUCTURE**

LCC
TELECOM SERVICES

**JOHN M. BANKS
ARCHITECT**
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-212-8354

604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX: 847.277.0080
AEOWESTCHESTERSERVICES.COM

DRAWN BY:	DS
CHECKED BY:	MC

REV	DATE	DESCRIPTION
A	04/27/26	PRELIMINARY CD
B	05/21/26	PRELIMINARY CD

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF MICHIGAN

TILLMAN OPP# TI-OPP-21206
FUZE #: 16953676
SITE NAME:
NEWPORT III - L RELHR
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE
OVERALL SITE PLAN

SHEET NUMBER
C-1

OVERALL SITE PLAN

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GENERAL NOTES

1. ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS.
2. THE CONTRACTOR SHALL COMPLY WITH ALL APPLICABLE CODES ORDINANCES, LAWS AND REGULATIONS OF ALL MUNICIPALITIES, UTILITIES COMPANY OR OTHER PUBLIC AUTHORITIES.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS THAT MAY BE REQUIRED BY ANY FEDERAL, STATE, COUNTY OR MUNICIPAL AUTHORITIES.
4. THE CONTRACTOR SHALL NOTIFY THE TILLMAN CONSTRUCTION MANAGER, IN WRITING, OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF BIDS OR PERFORMANCE OF WORK. MINOR OMISSIONS OR ERRORS IN THE BID DOCUMENTS SHALL NOT RELIEVE THE CONTRACTOR FROM RESPONSIBILITY FOR THE OVERALL INTENT OF THESE DRAWINGS.
5. THE CONTRACTOR SHALL BE RESPONSIBLE FOR PROTECTING ALL EXISTING SITE IMPROVEMENTS PRIOR TO COMMENCING CONSTRUCTION. THE CONTRACTOR SHALL REPAIR ANY DAMAGE CAUSED AS A RESULT OF CONSTRUCTION OF THIS FACILITY.
6. THE SCOPE OF WORK FOR THIS PROJECT SHALL INCLUDE PROVIDING ALL MATERIALS, EQUIPMENT AND LABOR REQUIRED TO COMPLETE THIS PROJECT. ALL EQUIPMENT SHALL BE INSTALLED IN ACCORDANCE WITH THE MANUFACTURER'S RECOMMENDATIONS.
7. THE CONTRACTOR SHALL VISIT THE PROJECT SITE PRIOR TO SUBMITTING A BID TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
8. CONTRACTOR SHALL MAKE A UTILITY "ONE CALL" TO LOCATE ALL UTILITIES AND NOTIFY UNDERGROUND FACILITIES PROTECTIVE ORGANIZATION AT PRIOR TO EXCAVATION AT SITE.
9. ANY UNDERGROUND UTILITIES OR STRUCTURES THAT EXIST BENEATH THE PROJECT AREA, CONTRACTOR MUST LOCATE IT AND CONTACT THE APPLICANT & THE OWNER'S REPRESENTATIVE.
10. NO SIGNIFICANT NOISE, SMOKE, DUST, OR ODOR WILL RESULT FROM THIS FACILITY.
11. THE FACILITY IS UNMANNED AND NOT INTENDED FOR HUMAN HABITATION (NO HANDICAP ACCESS REQUIRED).
12. THE FACILITY IS UNMANNED AND DOES NOT REQUIRE POTABLE WATER OR SANITARY SERVICE.
13. POWER TO THE FACILITY WILL BE MONITORED BY A SEPARATE METER.
14. THERE ARE NO COMMERCIAL SIGNS NEW FOR THIS INSTALLATION.
15. 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.
16. THE SUBGRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO FINISHED SURFACE APPLICATION.
MAXIMUM SOIL LIFTS:
JUMPING JACK - 3"
CROWS FOOT TRENCH ROLLER - 6"
HOE OPERATED VIBRATORY PLATE - 8"
WHEELED VIBRATORY SOIL COMPACTOR - 12"
*LIFT HEIGHTS MAY NEED TO BE ADJUSTED DEPENDING ON SOIL TYPES AND MOISTURE CONTENT.
17. 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 UTILITY OWNER. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES.
18. THE AREAS DISTURBED DUE TO CONSTRUCTION ACTIVITY SHALL BE GRADED AND RESTORED PER CODE/LANDLORD REQUIREMENTS (REFER TO GRADING PLAN).
19. CONTRACTOR SHALL MINIMIZE DISTURBANCE TO EXISTING SITE DURING CONSTRUCTION. EROSION CONTROL MEASURES SHALL BE IN CONFORMANCE WITH THE LOCAL GUIDELINES FOR EROSION AND SEDIMENT CONTROL, AND COORDINATED WITH THE MUNICIPALITY.
20. UTILITY WARNING TAPE SHALL BE PLACED ABOVE ALL NEW CONDUITS AT MAX 18" DEPTH BELOW GRADE.

NEW 100'-0"x100'-0" LEASE AREA

PROPOSED GRAVEL COMPOUND
EXTEND 3'-0" PAST FENCE

NEW 65'-0"x65'-0" CHAIN LINK FENCE
COMPOUND. 7' TALL WITH 1' BARBED WIRE,
TOTAL 8' TALL
SEE ENLARGED SITE PLAN

NEW 155'-0" SELF-SUPPORT
(DESIGN BY OTHERS)
SEE ELEVATION PAGE

CLIMBING LEG
(DO NOT OBSTRUCT)

SEE CARRIER CONSTRUCTION
DRAWINGS FOR CARRIER
EQUIPMENT LAYOUT AND DETAILS

PROPOSED MULTI-TENANT 3 GANG
METER BANK ON PROPOSED
COMPOUND UTILITY H-FRAME

PROPOSED 12'-0" DOUBLE
SWING ACCESS GATE

PROPOSED UTILITY TRANSFORMER
(BY POWER COMPANY)

PROPOSED FENCE POST MARKER
(5'-0" O.C. & 6'-0" A.G.L.)

NEW TRAFFIC RATED FIBER VAULT
AT COMPOUND FOR VERIZON USE

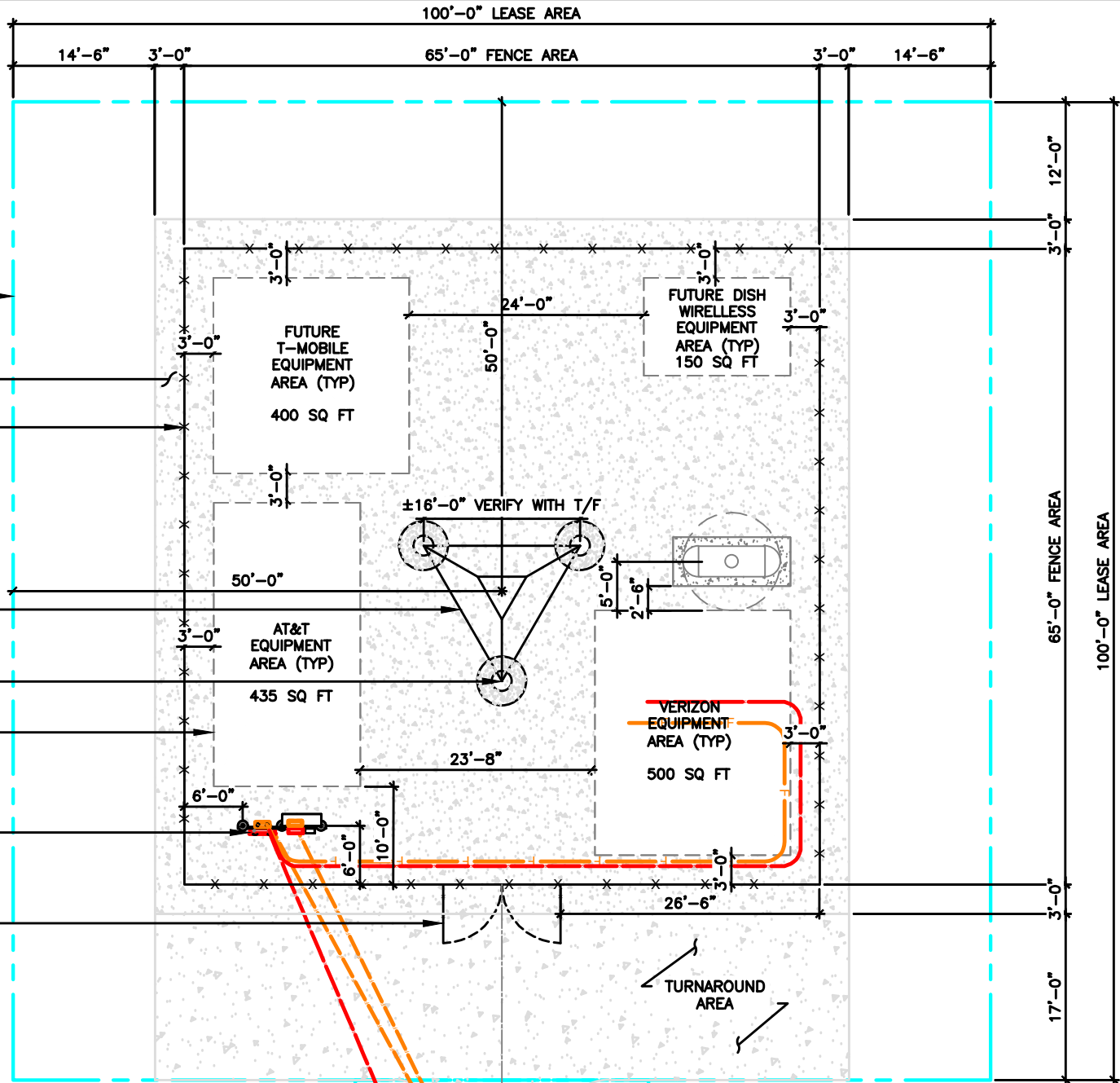
NEW TRAFFIC RATED FIBER VAULT
AT COMPOUND FOR TILLMAN USE

NEW UNDERGROUND ELECTRICAL SERVICE
FROM NEW UTILITY H-FRAME TO ROW
SEE E-1 FOR DETAILS

PROPOSED UNDERGROUND FIBER CONDUIT
FOR TILLMAN USE
SEE E-1 FOR UTILITY PLAN AND DETAILS

PROPOSED UNDERGROUND FIBER CONDUIT
FOR VERIZON USE
SEE E-1 FOR UTILITY PLAN AND DETAILS

PROPOSED 30'-0" WIDE
ACCESS/UTILITY/FIBER EASEMENT WITH
PROPOSED 12'-0" GRAVEL ROAD



NOTE:
CONTRACTOR TO CLEAR AND GRUB EXISTING
VEGETATION AND REMOVE TREES AS NEEDED
WITHIN NEW LEASE AREA AND 10' AROUND
ENTIRE LEASE AREA, ENSURE ALL OVERHANGING
LIMBS OF BRANCHES ARE REMOVED AS WELL.

LEGEND	
	NEW LEASE LINE
	NEW EASEMENT
	NEW FENCE
	EXISTING FENCE
	EXISTING PAVEMENT
	EXISTING PROPERTY LINE

0' 2' 4' 8'

SCALE: 1/8" = 1'-0" (24x36)
(OR) 1/16" = 1'-0" (11x17)

TRUE NORTH

TILLMAN
INFRASTRUCTURE

LCC
TELECOM SERVICES

JOHN M. BANKS
ARCHITECT

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BARRINGTON, IL 60010
TELEPHONE: 847-212-8354

WESTCHESTER

604 FOX GLEN
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FAX: 847.277.0080
AE@WESTCHESTERSERVICES.COM

DRAWN BY: DS

CHECKED BY: MC

REV	DATE	DESCRIPTION
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B	05/21/26	PRELIMINARY CD

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THE STATE OF MICHIGAN

TILLMAN OPP# TI-OPP-21206
FUZE #: 16953676
SITE NAME:
NEWPORT III - L RELHR
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

ENLARGED
SITE PLAN

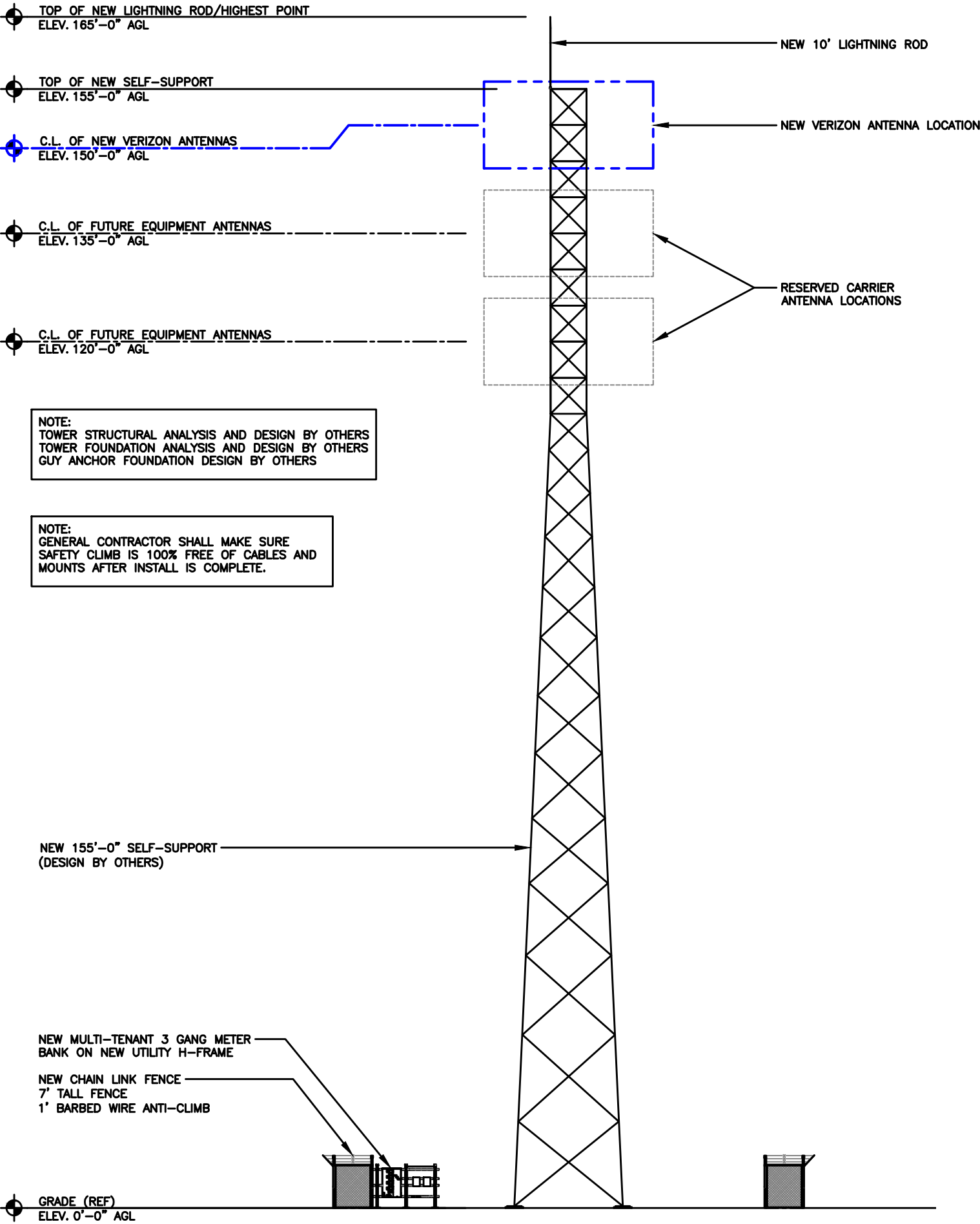
SHEET NUMBER

C-2

ENLARGED SITE PLAN

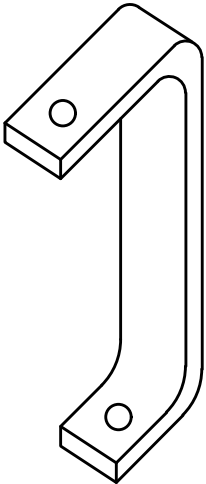
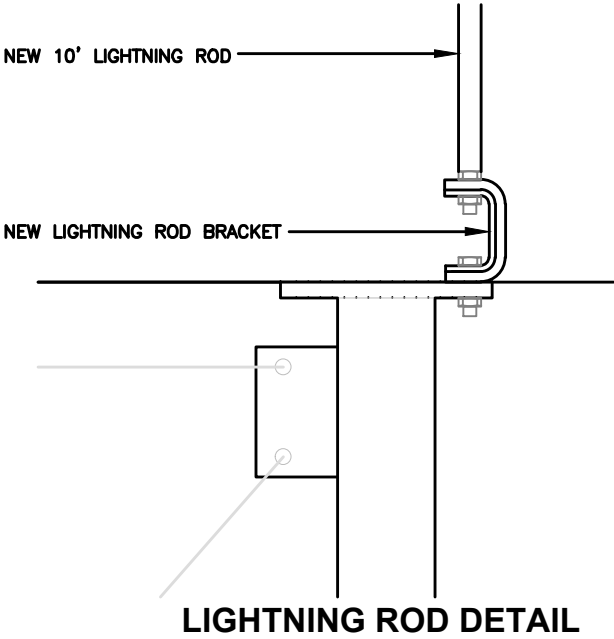
1

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NOTE:
TOWER STRUCTURAL ANALYSIS AND DESIGN BY OTHERS
TOWER FOUNDATION ANALYSIS AND DESIGN BY OTHERS
GUY ANCHOR FOUNDATION DESIGN BY OTHERS

NOTE:
GENERAL CONTRACTOR SHALL MAKE SURE
SAFETY CLIMB IS 100% FREE OF CABLES AND
MOUNTS AFTER INSTALL IS COMPLETE.



LIGHTNING ROD BRACKET

TILLMAN
INFRASTRUCTURE



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AE@WESTCHESTERSERVICES.COM

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FUZE #: 16953676
SITE NAME:
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SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

ELEVATION

SHEET NUMBER

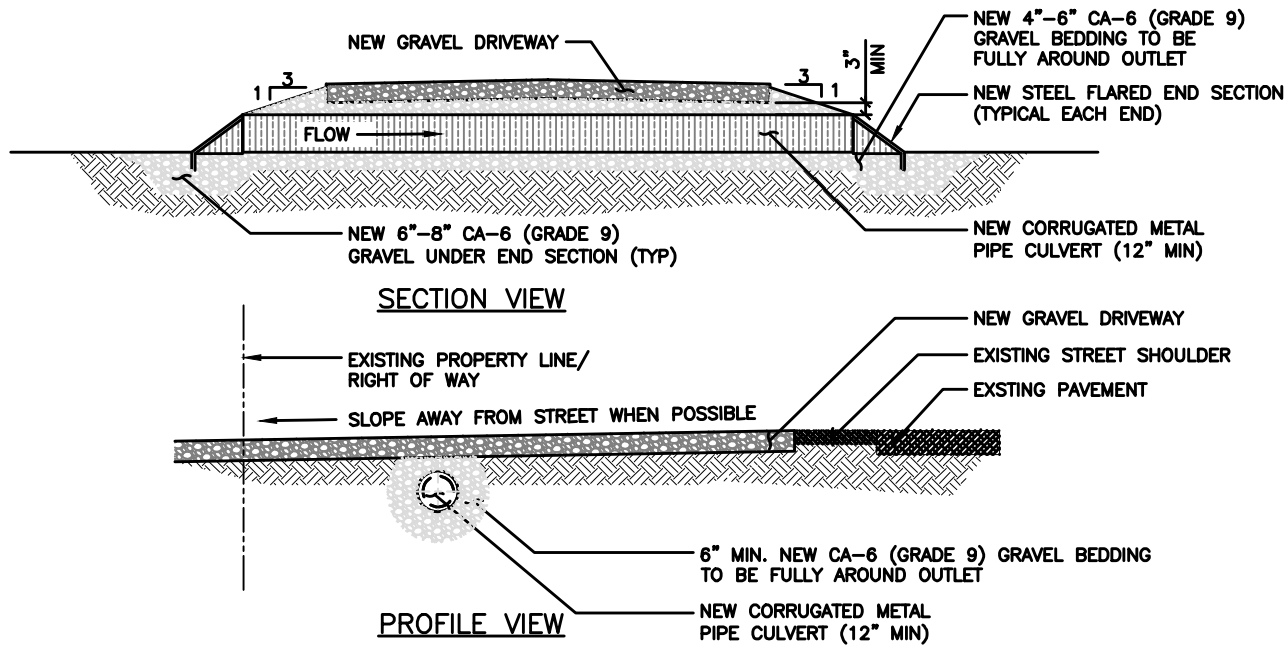
C-3

SCALE
N.T.S.

1

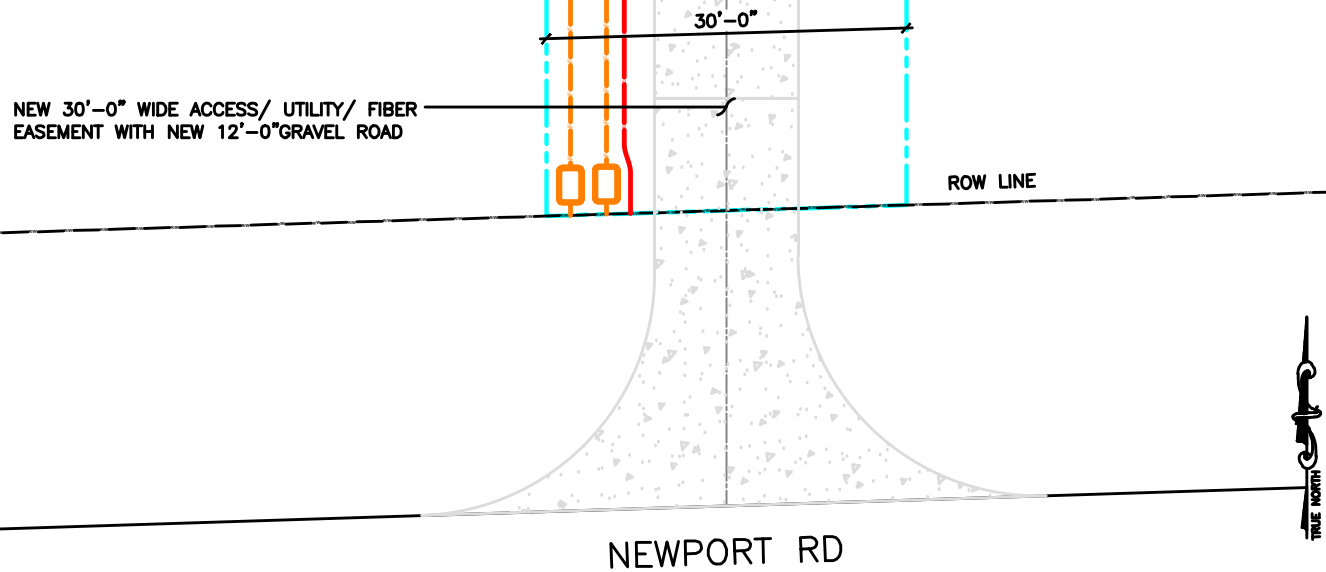
ELEVATION

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CULVERT DETAIL (IF REQUIRED)

SCALE
N.T.S. 6



ACCESS DRIVEWAY @ STREET DETAIL

SCALE
N.T.S. 4

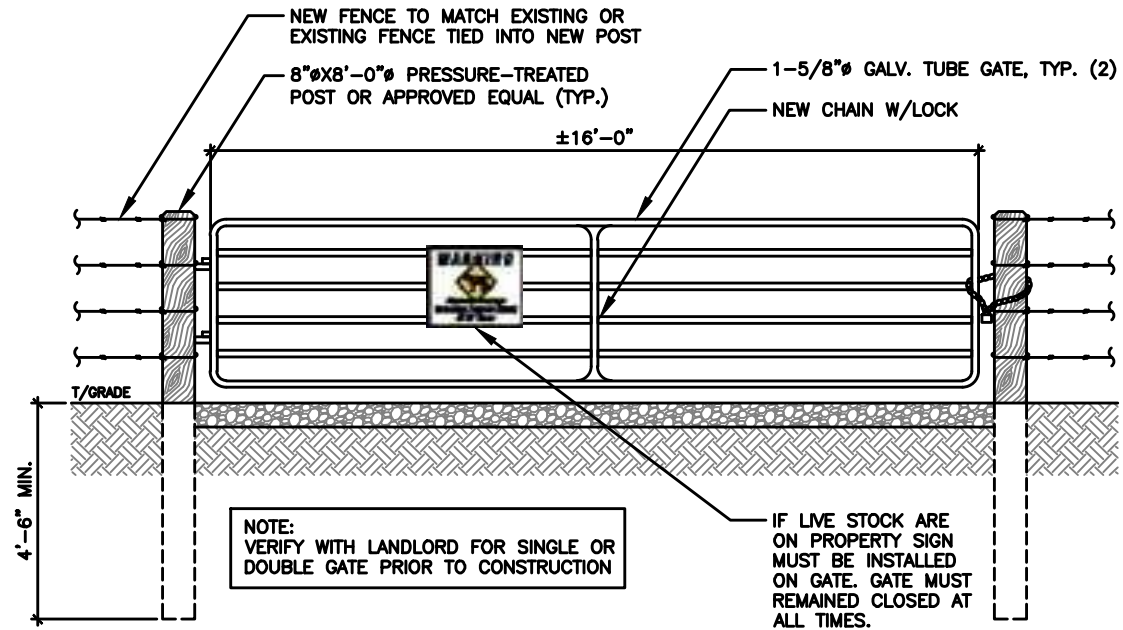
ASPHALT APRON- (IF REQUIRED)
8" OF 304 AGGREGATE STONE (2 LIFTS)
4" OF 404 BITUMINOUS ASPHALT (2 LIFTS)

CONCRETE APRON- (IF REQUIRED)
CLASS C CONCRETE IS REQUIRED FROM EDGE OF PAVEMENT TO R/W. THE SLAB MUST BE 5" THICK. ONE INCH EXPANSION MATERIAL REQUIRED AGAINST ANY EXISTING CONCRETE. NO MORE THAN 2% CALCIUM CHLORIDE ADDED TO MIX. NO MORE THAN 2 GALLONS OF WATER PER CUBIC YARD ADDED TO MIX AT THE BEGINNING OF LOAD. NO WATER SPRAY ON MIX AFTER MATERIAL IS PLACED IN FORMS. NO MORE THAN A 5" SLUMP IN THE CONCRETE MIX.

NOTE:
TILLMAN GC TO VERIFY WITH DRIVEWAY PERMIT/JURISDICTION

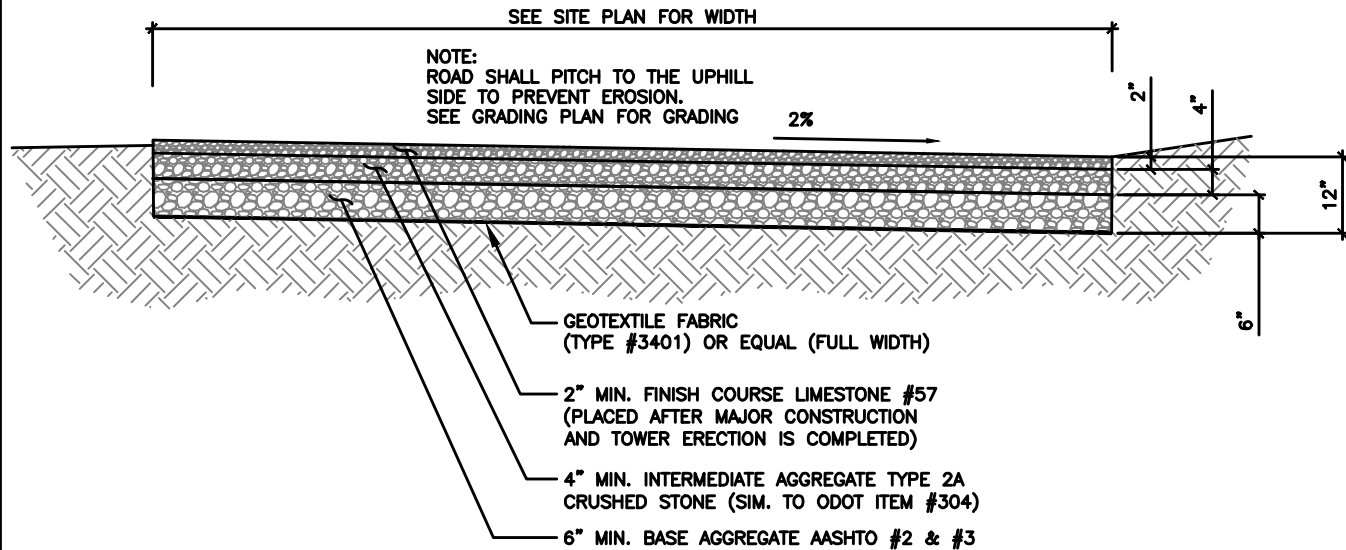
DRIVEWAY APRON NOTES

SCALE
N.T.S. 2



CATTLE/ STREET GATE DETAIL (IF REQUIRED)

SCALE
N.T.S. 5



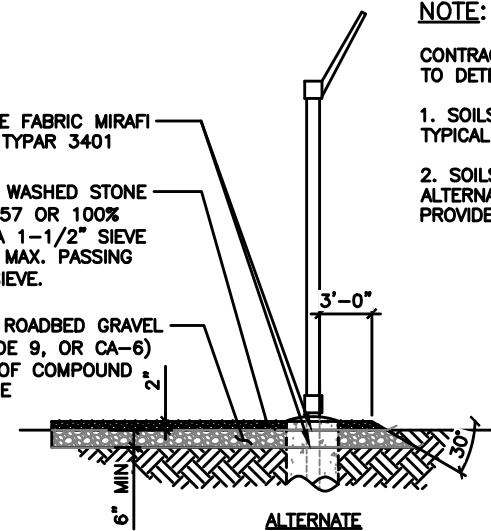
ACCESS DRIVE DETAIL

SCALE
N.T.S. 3

GEOTEXTILE FABRIC MIRAFI 500X OR TYPAR 3401

2" CLEAN WASHED STONE AASHTO #57 OR 100% PASSING A 1-1/2" SIEVE AND 10% MAX. PASSING THE #4 SIEVE.

CRUSHED ROADBED GRAVEL (AKA GRADE 9, OR CA-6) OVER 4" OF COMPOUND ROAD BASE



NOTE:

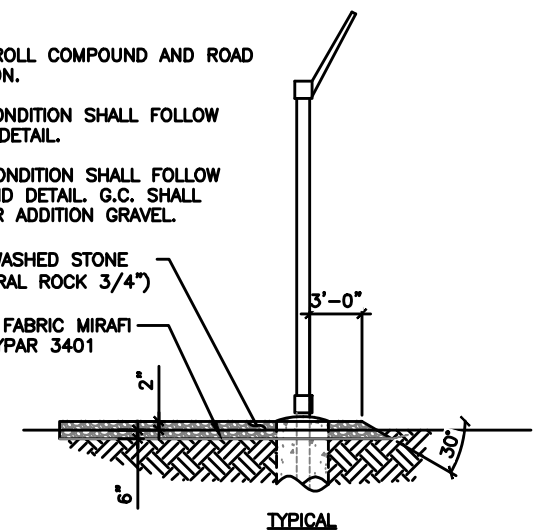
CONTRACTOR SHALL PROOF ROLL COMPOUND AND ROAD TO DETERMINE SOIL CONDITION.

1. SOILS FOUND IN GOOD CONDITION SHALL FOLLOW TYPICAL GRAVEL COMPOUND DETAIL.

2. SOILS FOUND IN POOR CONDITION SHALL FOLLOW ALTERNATE GRAVEL COMPOUND DETAIL. G.C. SHALL PROVIDE ITEM PER SQYD FOR ADDITION GRAVEL.

6" CLEAN WASHED STONE (#57, NATURAL ROCK 3/4")

GEOTEXTILE FABRIC MIRAFI 500X OR TYPAR 3401



GRAVEL COMPOUND DETAIL

SCALE
N.T.S. 1

TILLMAN
INFRASTRUCTURE

LCC
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TILLMAN OPP# TI-OPP-21206
FUZE #: 16953676
SITE NAME:
NEWPORT III - L RELHR
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE
CONSTRUCTION
DETAILS

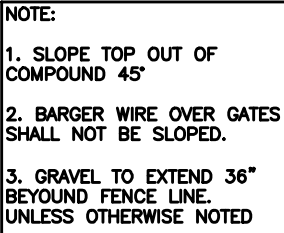
SHEET NUMBER

C-4

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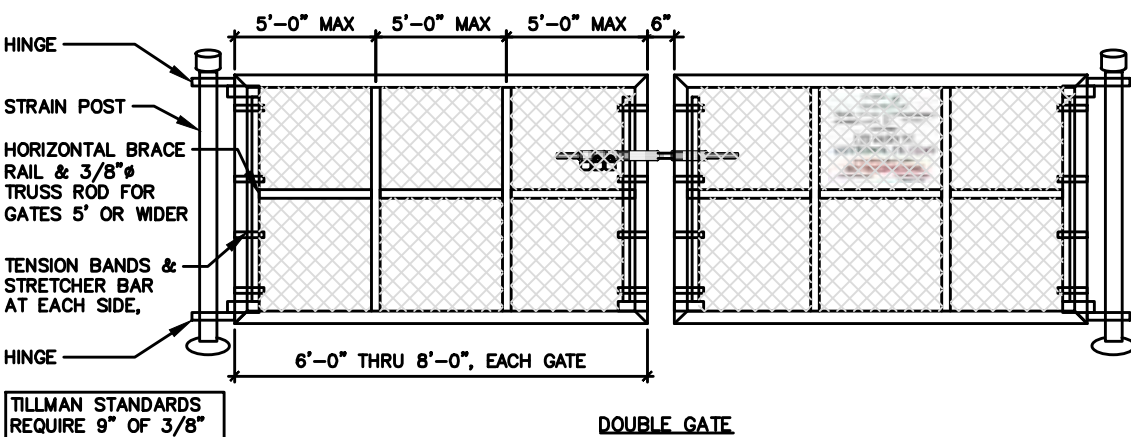
-
- INSIDE COMPOUND
- OUTSIDE COMPOUND
- 6°
- 6°
- 6°
- 12"
- 45°
- 10"
- BARBED WIRE
(TYP.)
SEE NOTE 8
- TOP RAIL
SEE NOTE 4

SCALE	3
N.T.S.	



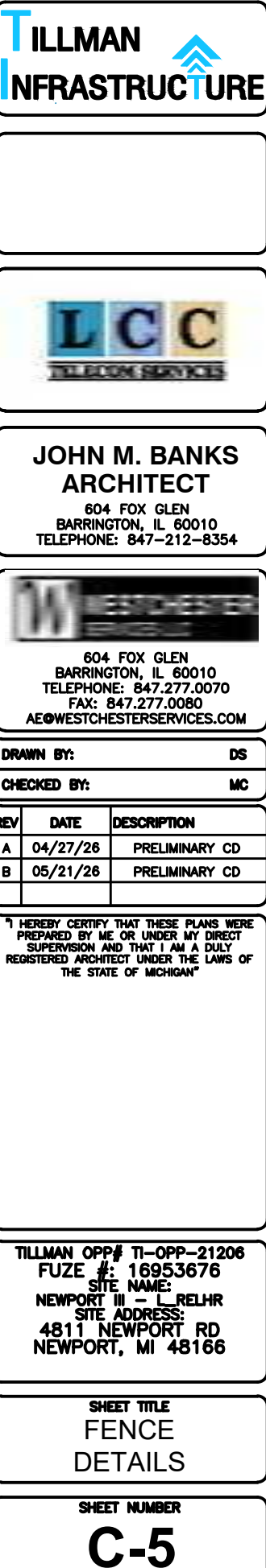
SCALE	4
NTS	

ALL STOPS AND DOUBLE GATES
SHALL HAVE A FULL HEIGHT PLUNGE
BAR WITH METAL DOME CAP.
INCLUDE MUSHROOM STOP.

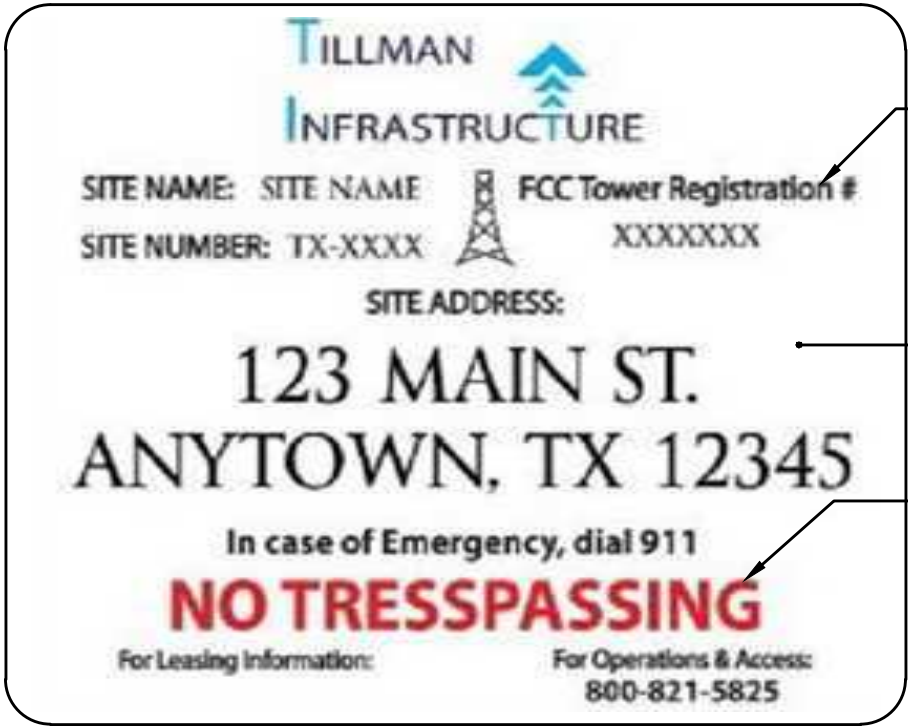


SCALE	2
N.T.S.	

SCALE	1
N.T.S.	



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BLACK TEXT

WHITE BACKGROUND

RED TEXT

WHITE BACKGROUND, RED/BLACK LETTERING
MOUNTING LOCATION: SHELTER OR TENANT IMPROVEMENT ROOM DOOR.
IF OUTDOOR CABINET SITE PLACE ON END CABINET CLOSEST TO SITE ACCESS POINT.
PLACE ON GENERATOR.
QUANTITY: 1 TO 2

SIGNAGE NOTES:

1. SIGNS SHALL BE FABRICATED FROM CORROSION RESISTANT PRESSED METAL & PAINTED WITH LONG LASTING UV RESISTANT COATING.
2. SIGNS (EXCEPT WHERE NOTED OTHERWISE) SHALL BE MOUNTED TO THE TOWER, GATE & FENCE USING A MINIMUM OF 9 GAUGE ALUMINUM WIRE, HOG RINGS (FENCE) OR BRACKETS, WHERE NECESSARY. BRACKETS SHALL BE OF SIMILAR METAL AS THE STRUCTURE TO AVOID GALVANIC CORROSION.
3. ADDITIONAL E911 ADDRESS & FCC REGISTRATION SIGNS SHALL BE MOUNTED AT EACH ACCESS ROAD GATE LEADING TO THE COMPOUND AS WELL AS THE COMPOUND GATE ITSELF.
4. SIGNS NEED NOT BE PLACED IF ACCURATE AND APPROPRIATE SIGNAGE ALREADY EXISTS.



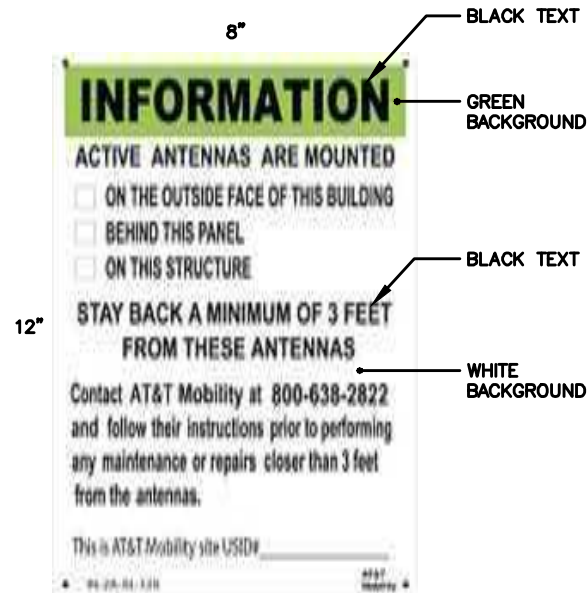
WHITE TEXT

GREEN BACKGROUND

WHITE BACKGROUND

BLACK TEXT

WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 2



BLACK TEXT

GREEN BACKGROUND

BLACK TEXT

WHITE BACKGROUND

WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 2

PROPERTY OF TILLMAN INFRASTRUCTURE

SCALE
N.T.S.

7

FCC REGISTRATION SIGN

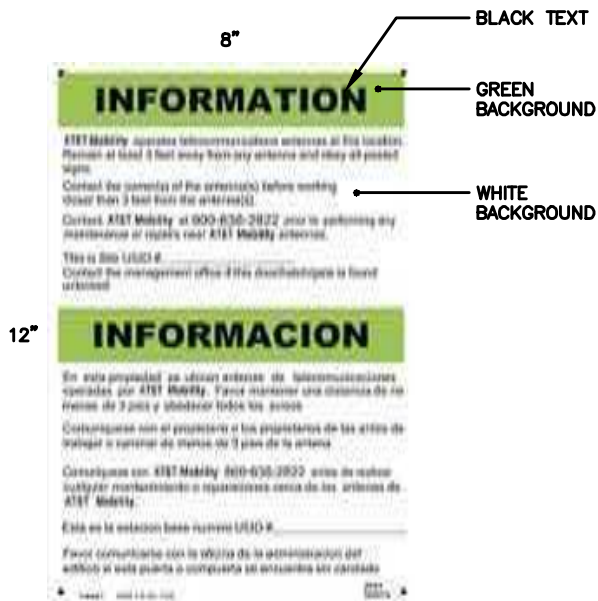
SCALE
N.T.S.

6

RF EXPOSURE INFORMATION SIGN

SCALE
N.T.S.

5

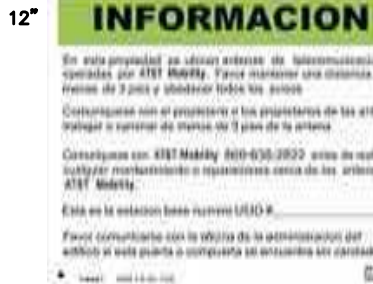


8"

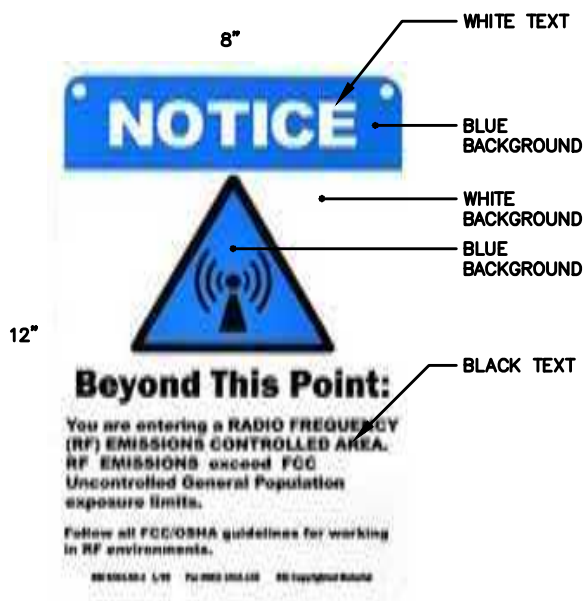
BLACK TEXT

GREEN BACKGROUND

WHITE BACKGROUND



WHITE/GREEN BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 2



8"

WHITE TEXT

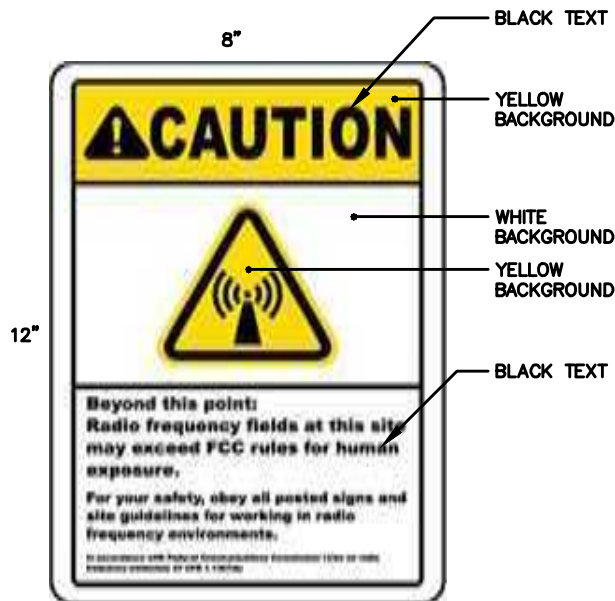
BLUE BACKGROUND

WHITE BACKGROUND

BLUE BACKGROUND

BLACK TEXT

WHITE/BLUE BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 1



8"

BLACK TEXT

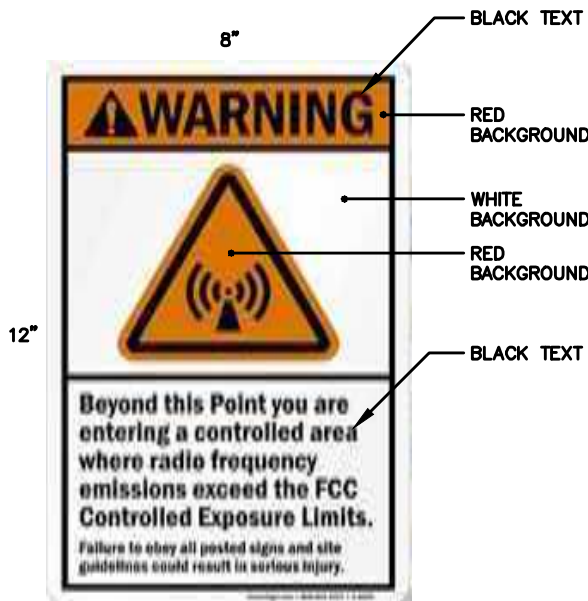
YELLOW BACKGROUND

WHITE BACKGROUND

YELLOW BACKGROUND

BLACK TEXT

WHITE/YELLOW BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 1



8"

BLACK TEXT

RED BACKGROUND

WHITE BACKGROUND

RED BACKGROUND

BLACK TEXT

WHITE/ORANGE BACKGROUND, WHITE/BLACK LETTERING
MOUNTING LOCATION: GATE & BASE OF TOWER
QUANTITY: 1

RF EXPOSURE INFORMATION SIGN

SCALE
N.T.S.

4

RF EXPOSURE NOTICE SIGN

SCALE
N.T.S.

3

RF EXPOSURE CAUTION SIGN

SCALE
N.T.S.

2

RF EXPOSURE WARNING SIGN

SCALE
N.T.S.

1

TILLMAN
INFRASTRUCTURE

LCC
TELECOM SERVICES

JOHN M. BANKS
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DRAWN BY: DS

CHECKED BY: MC

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B	05/21/26	PRELIMINARY CD

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FUZE #: 16953676
SITE NAME:
NEWPORT III - L RELHR
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

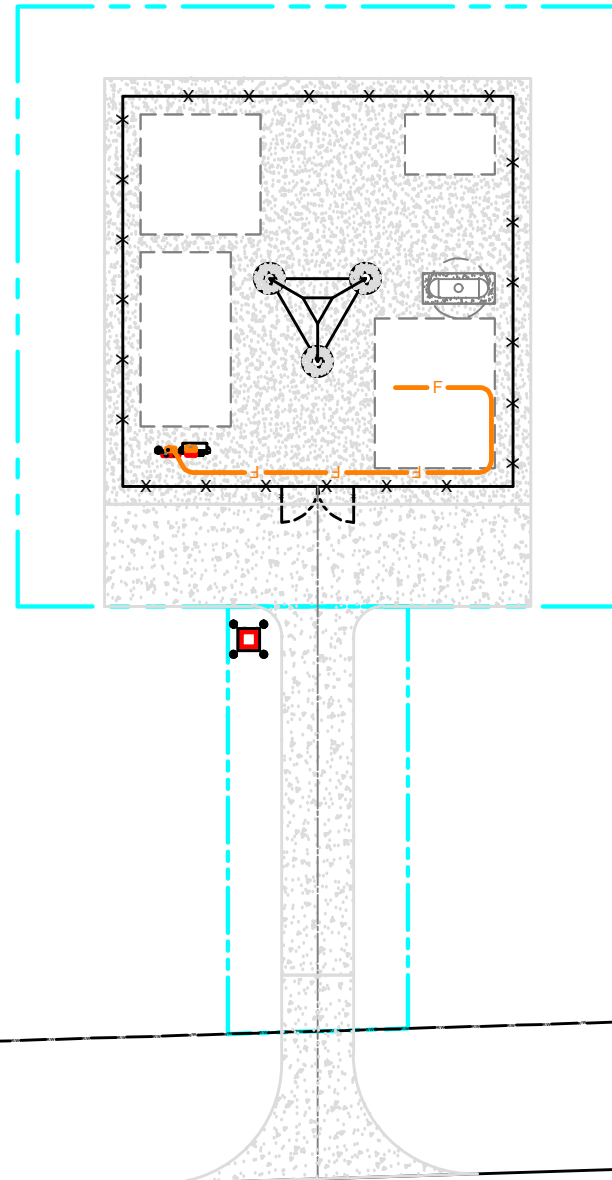
SHEET TITLE

SITE SIGNAGE

SHEET NUMBER

C-5.1

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**PENDING
DESIGN**

NOTE:
ALL EROSION CONTROL MEASURES SHALL BE IN PLACE PRIOR TO ANY EARTHWORK OR GRUBBING.

CONTRACTOR TO CLEAR AND GRUB EXISTING VEGETATION AND REMOVE TREES AS NEEDED WITHIN PROPOSED LEASE AREA AND 10' AROUND ENTIRE LEASE AREA, ENSURE ALL OVERHANGING LIMBS OF BRANCHES ARE REMOVED AS WELL.

CONTRACTOR TO ENSURE MINIMUM 2% AND MAXIMUM 5% SLOPE ACROSS SITE TO PROVIDE POSITIVE DRAINAGE.

FINAL RESTORATION SHALL BE COMPLETED PRIOR TO CLOSE, PROVIDE 6" OF TOP SOILD RAKED TO UNIFORM SURFACE.



**JOHN M. BANKS
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DRAWN BY:	DS
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FUZE #: 16953676
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SITE ADDRESS:
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NEWPORT, MI 48166

SHEET TITLE
GRADING
PLAN

SHEET NUMBER
C-6

GRADING PLAN

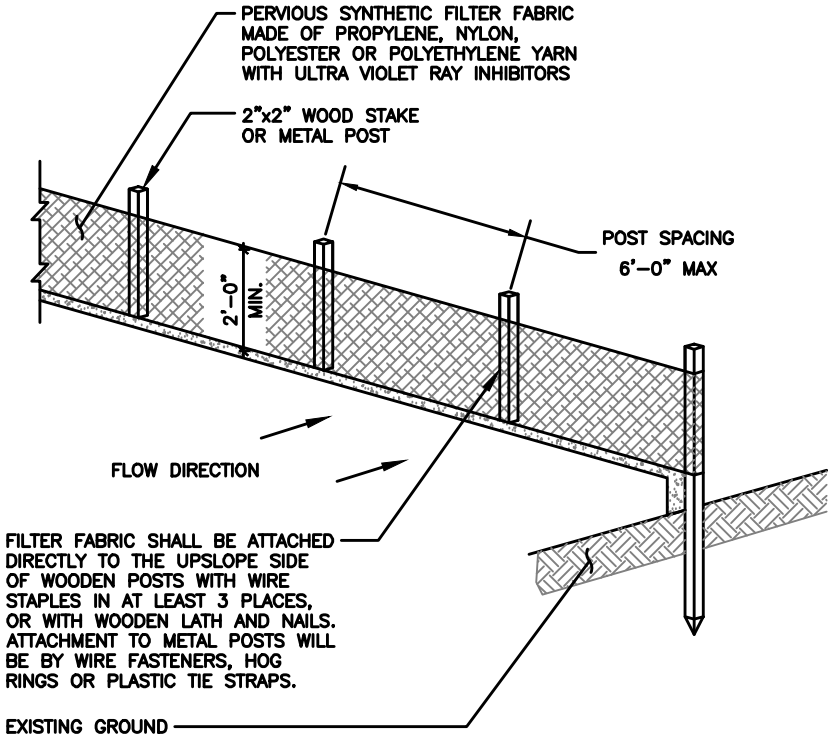
LEGEND	
	NEW SILT FENCE
	NEW GRADE
	EXISTING GRADE
	TOP OF PAVEMENT/PAD
	TOP OF FOUNDATION
	GRADE

0 4' 8' 16'	SCALE: 1/16" = 1'-0" (24x36)
	(OR) 1/32" = 1'-0" (11x17)

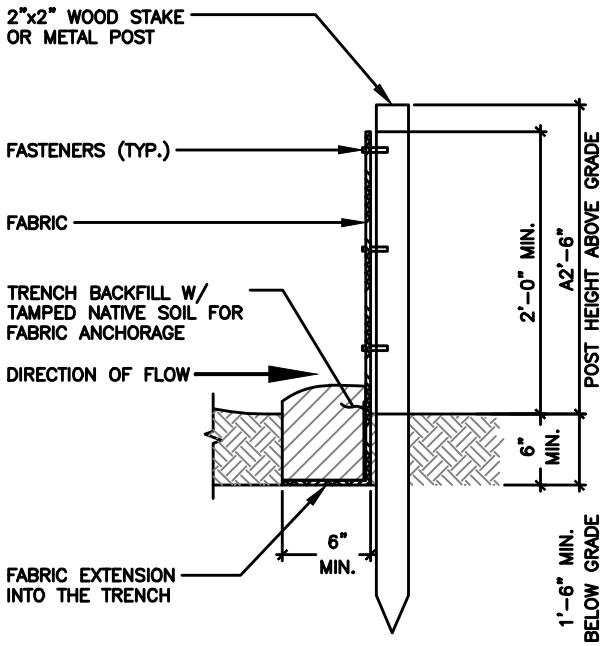
1

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1. ALL VEGETATIVE AND STRUCTURAL EROSION CONTROL PRACTICES SHALL BE CONSTRUCTED AND MAINTAINED IN ACCORDANCE WITH THE MINIMUM STANDARDS AND SPECIFICATIONS OF THE APPLICABLE STATE ADOPTED "PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL" AND THE "STANDARDS AND SPECIFICATIONS FOR SOIL EROSION AND SEDIMENT CONTROL" OF THE STATE ENVIRONMENTAL PROTECTION AGENCY.
2. A SOIL EROSION CONTROL FENCE SHALL BE INSTALLED BEFORE DISTURBING THE GROUND AND SHALL BE PROVIDED AS SHOWN ON THE PLAN. THE CONDITION OF THE FENCE SHALL BE INSPECTED REGULARLY AND AFTER EVERY RAINSTORM THAT MIGHT PRODUCE RUNOFF. DAMAGED OR DETERIORATED ITEMS SHALL BE REPLACED AND MAINTAINED IN AN EFFECTIVE CONDITION
3. SOIL EROSION CONTROL MEASURES SHALL BE INCLUDED IN CONTRACTOR BID AND PRICING
4. THE ENTIRE SITE SHALL BE GRADED SO THAT NO STORM WATER RUNOFF AND LIKEWISE SOIL SEDIMENT CAN FLOW UNRESTRICTED FROM THE SITE
5. ALL INLETS, STRUCTURES, PIPES, SWALES, AND ROADS SHALL BE KEPT CLEAN AND FREE OF DIRT AND SILT
6. MAINTAIN SOIL EROSION CONTROL MEASURES THROUGH THE DURATION OF THIS PROJECT
7. SEDIMENT DEPOSITS SHALL BE REMOVED WHEN REACHING ONE HALF THE HEIGHT OF THE BARRIER
8. ALL SOIL EROSION CONTROL MEASURES SHALL REMAIN IN PLACE UNTIL ALL DISTURBED EARTH HAS BEEN PAVED OR VEGETATED
9. ANY EXCESS TOPSOIL THAT IS TO BE STOCKPILED FOR A PERIOD LONGER THAN 2 WEEKS SHALL BE PROTECTED BY EXCAVATING A TRENCH COMPLETELY AROUND THE STOCKPILE TO PREVENT THE ESCAPE OF SOIL MATERIAL THROUGH STORM WATER RUNOFF. STOCKPILES THAT ARE TO REMAIN LONGER THAN 14 DAYS SHALL BE SEEDED WITH AN APPROPRIATE GROUND COVER
10. TO PREVENT SOIL FROM LEAVING THE SITE ON CONSTRUCTION VEHICLE WHEELS, TEMPORARY GRAVEL ROADS AT WORK ENTRANCES SHALL BE CONSTRUCTED AND SHALL EXTEND INTO JOB SITE. THE EXISTING PAVEMENT SURFACES SHALL BE INSPECTED DAILY FOR SOIL DEBRIS AND SHALL BE CLEANED WHEN NECESSARY
11. FINAL RESTORATION SHALL BE COMPLETED PRIOR TO CLOSEOUT, PROVIDING 6" OF TOPSOIL RAKED TO A UNIFORM SURFACE.
12. SOIL EROSION CONTROL MEASURES SHALL BE REMOVED AND PROPERLY DISPOSED OF WHEN PROJECT IS COMPLETED



ISOMETRIC VIEW



SECTION VIEW

SOIL EROSION & SEDIMENT CONTROL NOTES

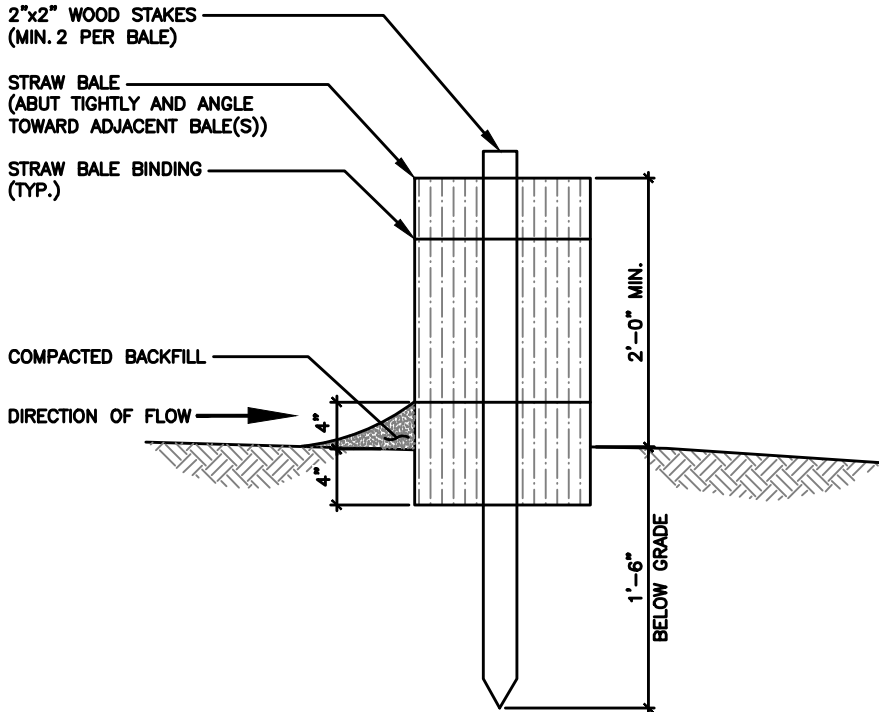
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4

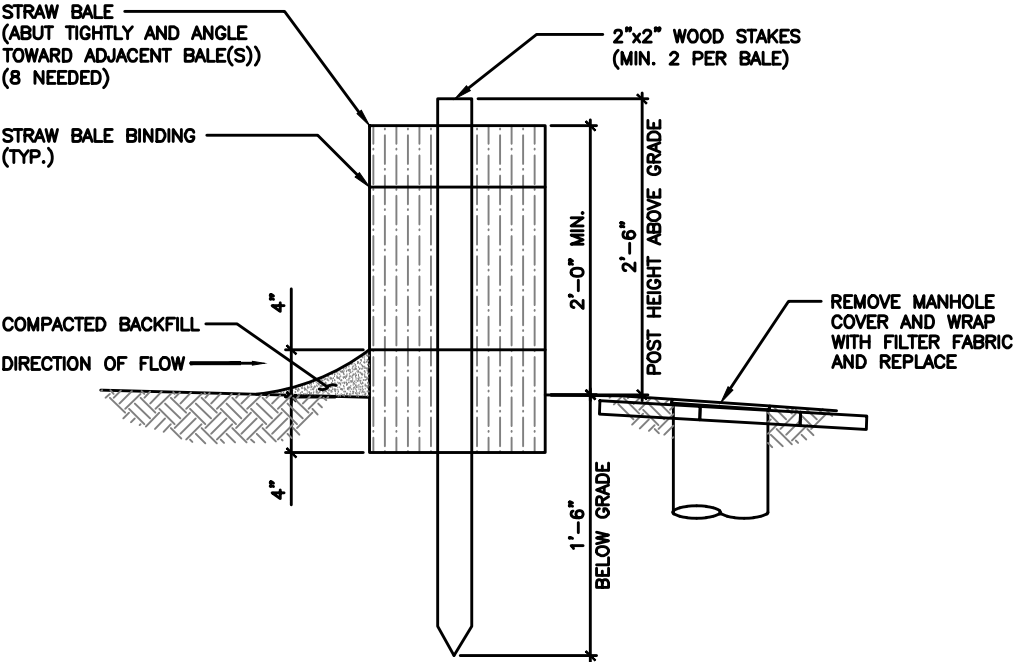
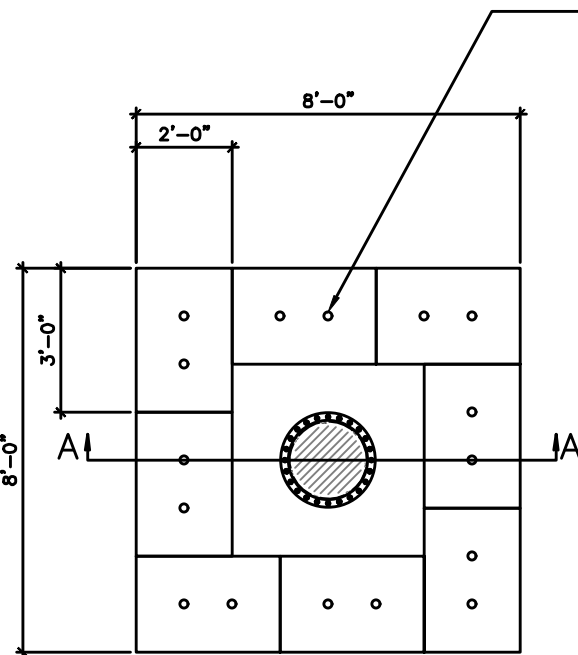
EROSION CONTROL - SILT FENCE

SCALE
N.T.S.

2



SECTION VIEW



SECTION VIEW A-A

EROSION CONTROL - STRAW BALE (OPTIONAL)

SCALE
N.T.S.

3

EROSION CONTROL - STRAW BALE AT STORM INLET MANHOLE (IF NEEDED SEE PLANS)

SCALE
N.T.S.

1

TILLMAN

INFRASTRUCTURE

LCC

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REV	DATE	DESCRIPTION
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TILLMAN OPP# TI-OPP-21206

FUZE #: 16953676

SITE NAME:

NEWPORT III - L RELHR

SITE ADDRESS:

4811 NEWPORT RD

NEWPORT, MI 48166

SHEET TITLE

EROSION CONTROL

DETAILS

SHEET NUMBER

C-7

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(3) NEW 3/0 AWG, (1) 2 AWG WITHIN TOWER
OWNER INSTALLED 2 1/2" PVC CONDUIT,
(1) NEW 2 1/2" PVC UNDERGROUND
ELECTRIC CONDUIT w/PULL TAPES
FROM NEW UTILITY H-FRAME TO VERIZON
FIBER BOX ON VERIZON H-FRAME
(BY VERIZON CONTRACTOR) (APPROX. ±100')

(2) NEW "VERIZON ONLY" 1-1/4" SMOOTHWALL
SDR-11 HDPE CONDUITS WITH w/PULLTAPES
FROM VERIZON HOFFMAN BOX ON COMPOUND
H-FRAME TO FIBER JUNCTION BOX ON
VERIZON H-FRAME (BY VERIZON CONTRACTOR)
(APPROX. ±100')

NEW MULTI-TENANT 3 GANG METER
BANK ON NEW UTILITY H-FRAME
SEE DETAIL #1/E-2

PROPOSED UTILITY TRANSFORMER
(BY POWER COMPANY)

PROPOSED FENCE POST MARKER
(5'-0" O.C. & 6'-0" A.G.L.)

NEW TRAFFIC RATED FIBER VAULT
AT COMPOUND FOR VERIZON USE

NEW TRAFFIC RATED FIBER VAULT
AT COMPOUND FOR TILLMAN USE

(1) NEW 4" UNDERGROUND CONDUIT
FOR NEW ELECTRICAL SERVICE FROM
NEW UTILITY H-FRAME TO ROW, STUB
UP AND CAP (BY TILLMAN CONTRACTOR)
(APPROX. ±120')
SEE DETAIL #2/E-2

(1) NEW 4" UNDERGROUND CONDUITS WITH
(2) 1-1/4" INNERDUCT AND PULL STRINGS
FOR NEW FIBER SERVICE FROM NEW UTILITY
H-FRAME TO ROW, STUB UP AND CAP
(BY TILLMAN CONTRACTOR (APPROX. ±120')

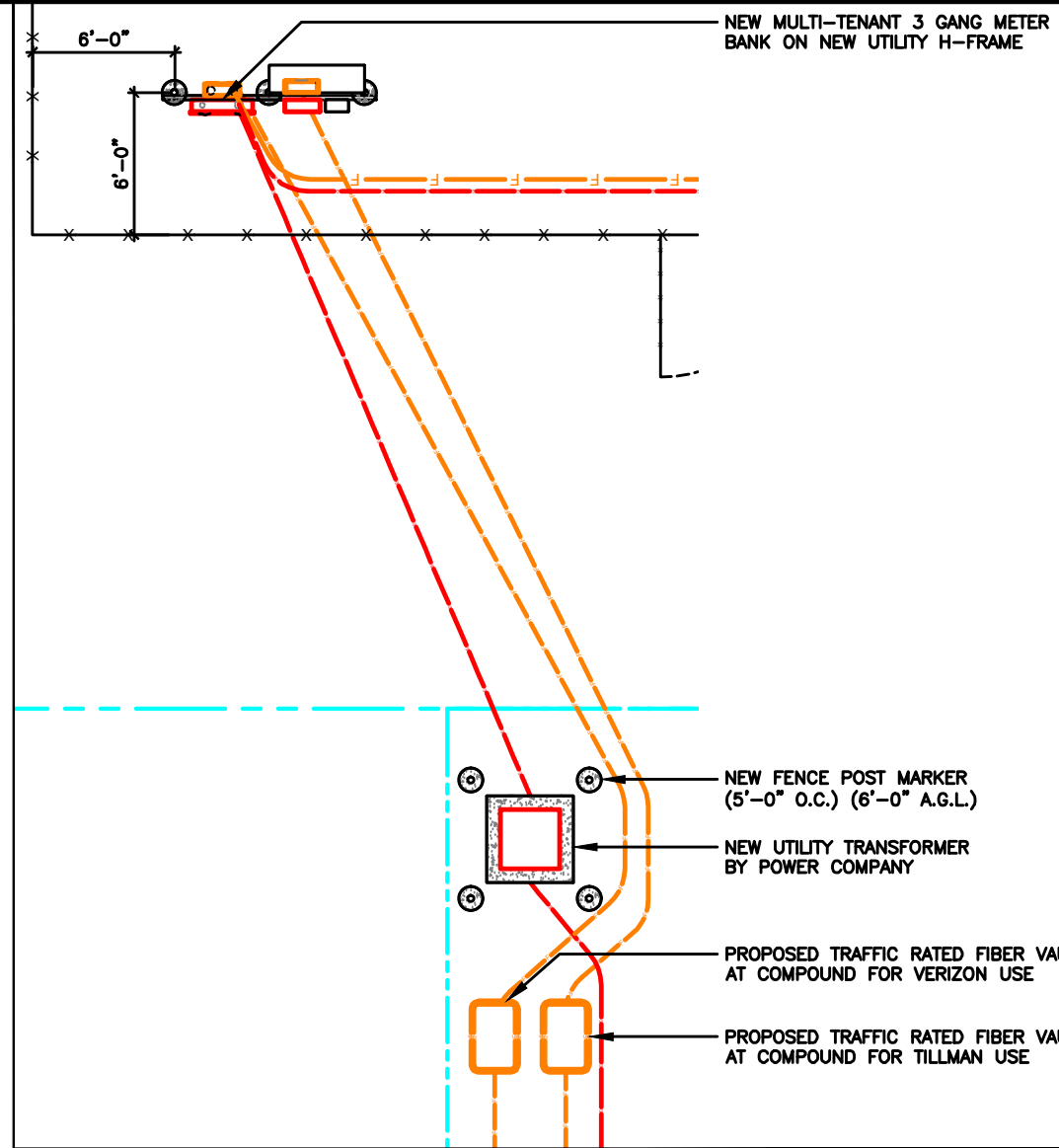
(3) NEW "VERIZON ONLY" 1.25" SMOOTHWALL
SDR-11 HDPE CONDUITS WITH w/PULLTAPES
(1) 4" SCH40 PVC CONDUIT OR AS
SPECIFIED BY THE TOWER OWNER
w/PULLTAPE (FUTURE SERVICE)
(BY VERIZON CONTRACTOR) (APPROX. ±120')
SEE DETAIL #2/E-2

NEW TRAFFIC RATED FIBER VAULT
AT ROW FOR VERIZON USE

NEW TRAFFIC RATED FIBER VAULT
AT ROW FOR TILLMAN USE

EXISTING PROPERTY LINE
(PER SURVEY)

NEWPORT RD



ENLARGED VIEW OF H-FRAME

SCALE
N.T.S. 2

HANDHOLES SHALL BE:
24x36x24" POLYMER CONCRETE WITH TIER 15/22 RATED LIDS LABELED AS
"TELECOMMUNICATIONS".
BOTTOM OF HANDHOLE SHALL BE LINED WITH 2" OF CLEAN #57 GRAVEL.
CONDUIT SHALL ENTER AT A 45° ANGLE AND BE 3" FROM THE TOP OF
GRAVEL. (PROVIDE AT LEAST 18" CLEARANCE TO BOTTOM OF LID)
(1) HANDHOLE SHALL BE STENCILED "TILLMAN" WITH 3" LETTERS
(1) HANDHOLE SHALL BE STENCILED "VERIZON" WITH 3" LETTERS

NOTE:
FIBER HANDHOLE REQUIRED EVERY 500' MAXIMUM.
POWER HANDHOLE REQUIRED EVERY 300' MAXIMUM.
GENERAL CONTRACTOR SHALL VERIFY AND CONFIRM
ADDITIONAL REQUIREMENTS WITH LOCAL JURISDICTION
PRIOR TO INSTALLATION.

NOTE:
EXACT SOURCE AND ROUTING OF POWER AND FIBER
TO BE DETERMINED UPON COORDINATION WITH POWER
AND FIBER COMPANIES. GENERAL CONTRACTOR TO
CONFIRM & OBTAIN COPY OF THE UTILITY
COORDINATION WITH TILLMAN CONSTRUCTION MANAGER
PRIOR TO INSTALLATION



Know what's below.
Call before you dig.



UTILITY PLAN

SCALE: 1/16" = 1'-0" (24x36)
(OR) 1/32" = 1'-0" (11x17)

1

TILLMAN
INFRASTRUCTURE



JOHN M. BANKS
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FUZE #: 16953676
SITE NAME:
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SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

UTILITY PLAN

SHEET NUMBER

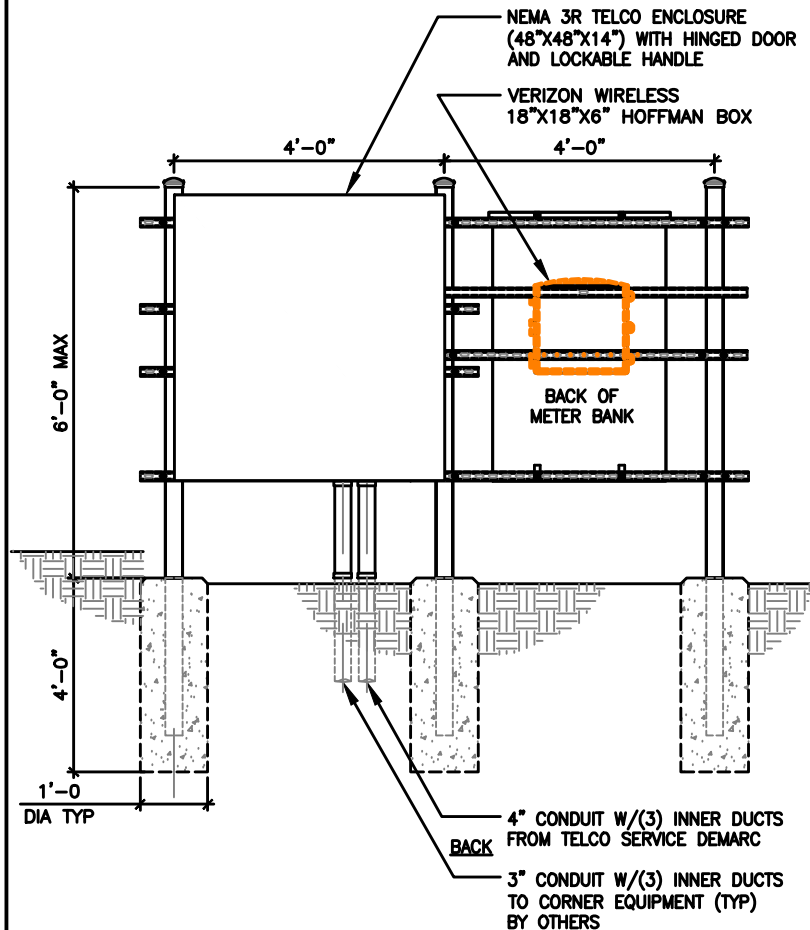
E-1

1. SUBMITTAL OF BID INDICATES THAT THE CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
2. CONTRACTOR SHALL PERFORM ALL VERIFICATIONS, OBSERVATION TESTS, AND EXAMINATION WORK PRIOR TO ORDERING OF ANY EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE PROJECT MANAGER LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
3. VERIFY HEIGHTS WITH PROJECT MANAGER PRIOR TO INSTALLATION.
4. THESE PLANS ARE DIAGRAMMATIC ONLY, FOLLOW AS CLOSELY AS POSSIBLE.
5. CONTRACTOR SHALL COORDINATE ALL WORK BETWEEN TRADES AND ALL OTHER SCHEDULING AND PROVISIONARY CIRCUMSTANCES SURROUNDING THE PROJECT.
6. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR COMPLETE AND FUNCTIONALLY OPERATING SYSTEMS ENERGIZED AND READY FOR USE THROUGHOUT AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
7. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN PERFECT CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. ELECTRICAL MATERIALS SHALL BE LISTED AND APPROVED BY UNDERWRITER'S LABORATORIES AND SHALL BEAR THE INSPECTION LABEL "J" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION OVER THE CONSTRUCTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH ALL CURRENT APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU. ALL MATERIALS AND EQUIPMENT SHALL BE APPROVED FOR THEIR INTENDED USE AND LOCATION.
8. ALL WORK SHALL COMPLY WITH ALL APPLICABLE GOVERNING STATE, COUNTY AND CITY CODES & OSHA, NFPA, NEC & ASHRAE REQUIREMENTS.
9. ENTIRE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE. ALL WORK, MATERIAL AND EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
10. PROPERLY SEAL ALL PENETRATIONS. PROVIDE UL LISTED FIRE-STOPS WHERE PENETRATIONS ARE MADE THROUGH FIRE-RATED ASSEMBLIES. WATER-TIGHT USING SILICONE SEALANT.
11. DELIVER ALL BROCHURES, OPERATING MANUALS, CATALOGS AND SHOP DRAWINGS TO THE PROJECT MANAGER AT JOB COMPLETION. PROVIDE MAINTENANCE MANUALS FOR MECHANICAL EQUIPMENT. AFFIX MAINTENANCE LABELS TO MECHANICAL EQUIPMENT.
12. ALL CONDUCTORS SHALL BE COPPER. MINIMUM CONDUCTOR SIZE SHALL BE #12 AWG., UNLESS OTHERWISE NOTED. CONDUCTORS SHALL BE TYPE THHW, RATED IN ACCORDANCE WITH NEC 110-14(C).
13. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING RATING NOT LESS THE MAXIMUM INTERRUPTING CURRENT TO WHICH THEY MAY BE SUBJECTED.
14. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE; ARTICLES 250 & 810 AND THE UTILITY COMPANY STANDARDS.
15. CONDUIT:
- A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH ZINC INTERIOR AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS, IN CONTACT WITH THE EARTH, UNDER PUBLIC ROADWAYS, IN MASONRY WALLS OR EXPOSED ON BUILDING EXTERIOR. RIGID CONDUIT IN CONTACT WITH EARTH SHALL BE 1/2 LAPPED WRAPPED WITH HUNTS WRAP PROCESS NO. 3.
- B. ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTINGS SHALL BE GLAND RING COMPRESSION TYPE. EMT SHALL BE USED ONLY FOR INTERIOR RUNS.
- C. LIQUID-TIGHT FLEXIBLE METAL CONDUIT SHALL BE U.L. LISTED AND SHALL BE USED AT FINAL CONNECTIONS TO MECHANICAL EQUIPMENT & RECTIFIERS AND WHERE PERMITTED BY CODE. ALL CONDUIT IN EXCESS OF SIX FEET IN LENGTH SHALL CONTAIN A FULL-SIZE GROUND CONDUCTOR.
- D. CONDUIT RUNS SHALL BE SURFACE MOUNTED ON CEILINGS OR WALLS UNLESS NOTED OTHERWISE. ALL CONDUIT SHALL RUN PARALLEL OR PERPENDICULAR TO WALLS, FLOOR, CEILING, OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE PROJECT MANAGER PRIOR TO INSTALLING.
- E. PVC CONDUIT MAY BE PROVIDED ONLY WHERE SHOWN, OR IN UNDERGROUND INSTALLATIONS. PROVIDE UV-RESISTANT CONDUIT WHERE EXPOSED TO THE ATMOSPHERE. PROVIDE GROUND CONDUCTOR IN ALL PVC RUNS; EXCEPT WHERE PERMITTED BY CODE TO OMIT.
17. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS. BACKGROUND SHALL BE BLACK WITH WHITE LETTERS; EXCEPT AS REQUIRED BY CODE TO FOLLOW A DIFFERENT SCHEME.
18. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUNDING TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. GROUNDING SYSTEM RESISTANCE SHALL NOT EXCEED 5 OHMS. IF THE RESISTANCE VALUE IS EXCEEDED, NOTIFY THE PROJECT MANAGER FOR FURTHER INSTRUCTION ON METHODS FOR REDUCING THE RESISTANCE VALUE.
19. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION. LEGALLY DISPOSE OF ALL REMOVED, UNUSED AND EXCESS MATERIAL GENERATED BY THE WORK OF THIS CONTRACT. DELIVER ITEMS INDICATED ON THE DRAWINGS TO THE OWNER IN GOOD CONDITION. OBTAIN SIGNED RECEIPT UPON DELIVERY.
20. COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS SHALL BE PAID BY THE CONTRACTOR.
21. VERIFY ALL EXISTING CIRCUITRY PRIOR TO REMOVAL AND NEW WORK. MAINTAIN POWER TO ALL OTHER AREAS & CIRCUITS NOT SCHEDULED FOR REMOVAL.
22. RED LINED AS-BUILT PLANS SHALL BE PROVIDED TO THE CONSTRUCTION MANAGER.

ELECTRICAL NOTES

4

UTILITY FRAME DETAIL



NEW 200A, 240V, 1Ø, 3W UTILITY METER SOCKET & BREAKER PER UTILITY STANDARD. PROVIDE ENGRAVED NAME PLATE INDICATING "VERIZON" METER. CAN BE MECHANICAL CONNECTION OR QUALITY TWO-SIDED TAPE

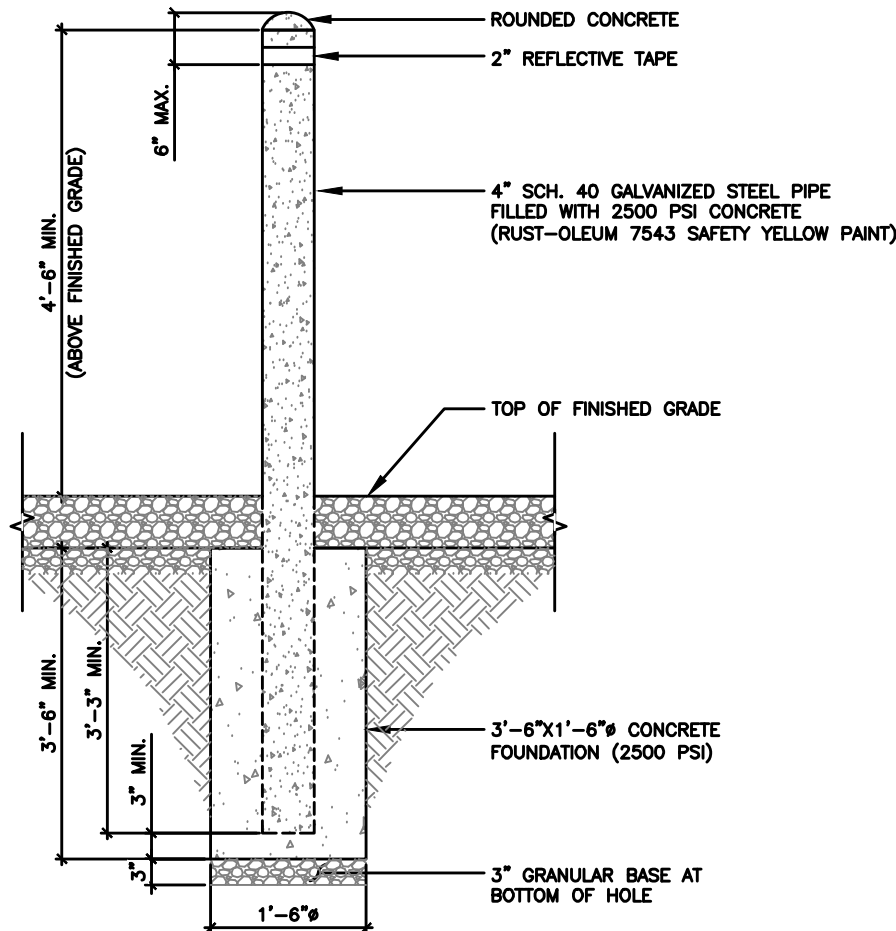
P1000 UNISTRUT U-BOLTED TO POST (TYP)

NEW 3-GANG MULTI-TENANT METER CENTER, 600A, 240/120V, 1Ø, 3W NEMA 3R ENCLOSURE. SQUARE D OR APPROVED EQUAL

FENCE POST MARKER DETAIL

SCALE
N.T.S.

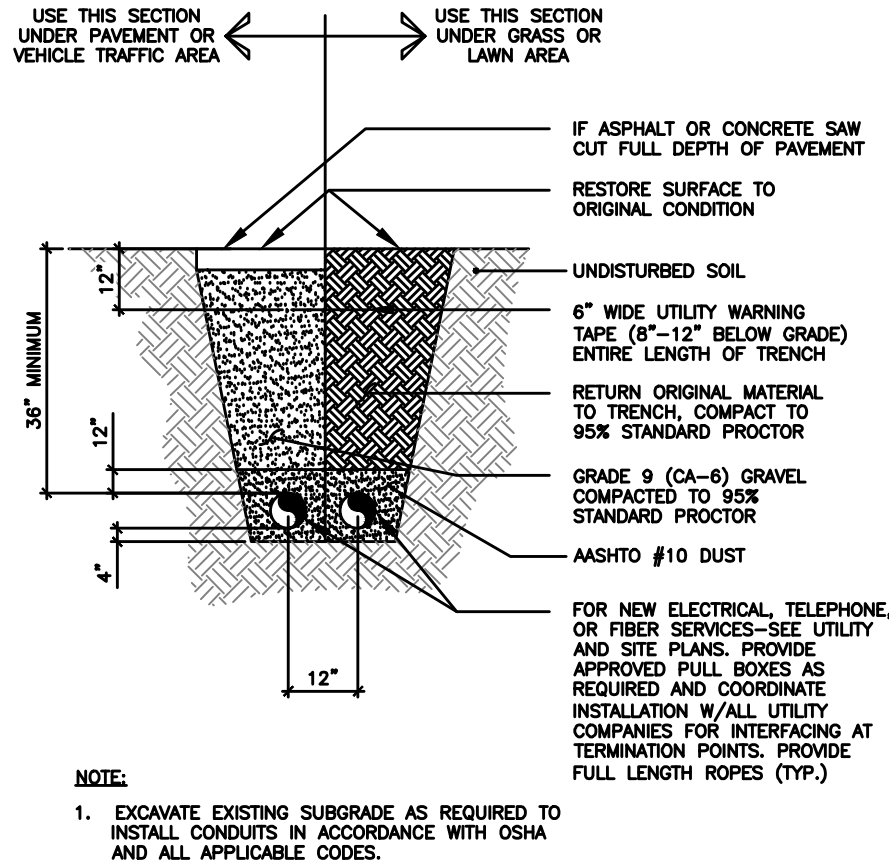
3



TYPICAL TRENCH DETAIL

SCALE
N.T.S.

2



NOTE:

1. EXCAVATE EXISTING SUBGRADE AS REQUIRED TO INSTALL CONDUITS IN ACCORDANCE WITH OSHA AND ALL APPLICABLE CODES.

TILLMAN
INFRASTRUCTURE

LCC
TELECOM SERVICES

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TILLMAN OPP# TI-OPP-21206
FUZE #: 16953676
SITE NAME:
NEWPORT III - L RELHR
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE
ENLARGED
UTILITY PLAN

SHEET NUMBER
E-2

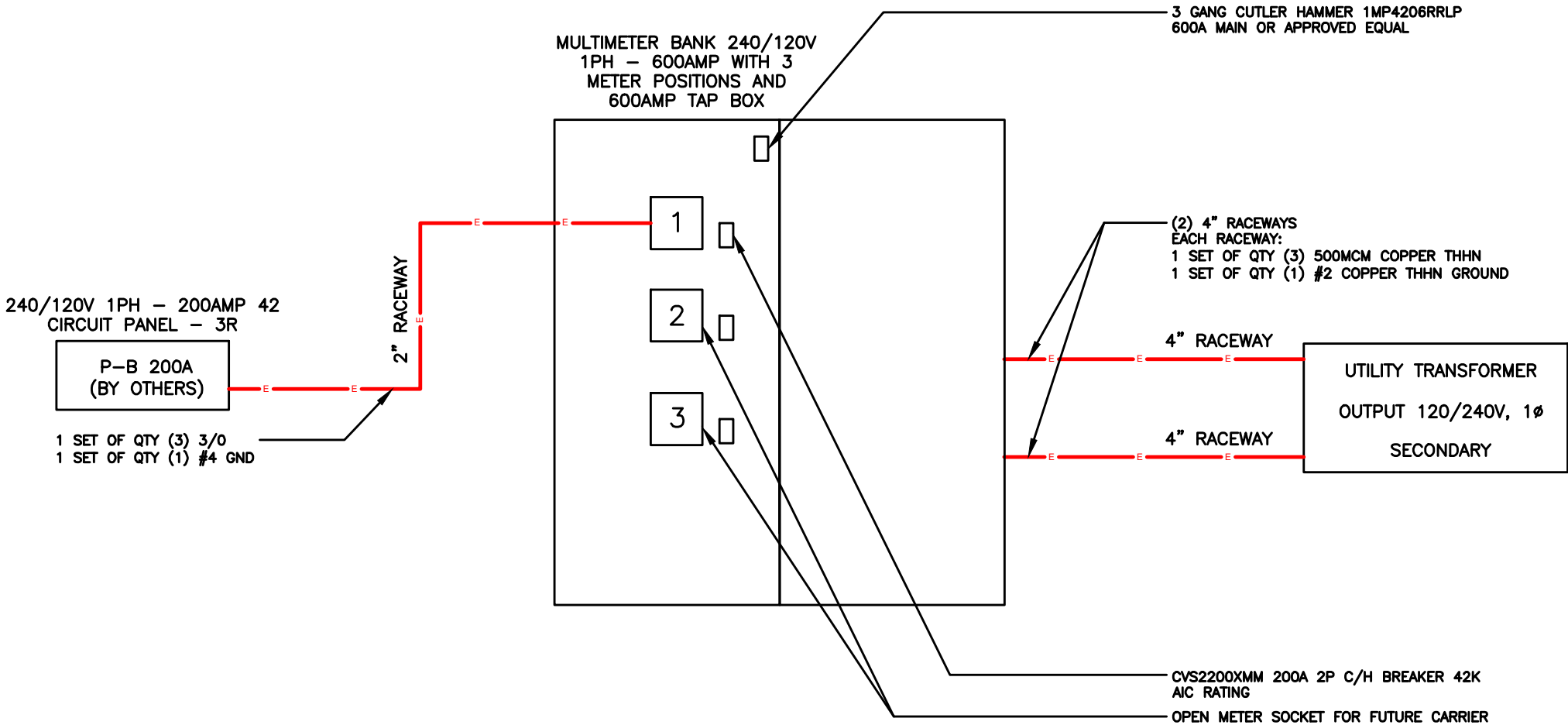
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N.T.S.

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METER POSITION 1 – TILLMAN LOAD CENTER (P-A)																												
LOAD				LOAD PER PHASE (VA)				WIRE COLOR	LOADS CONTINUOUS	LOADS NON-CONTINUOUS	LOADS SUB-PANEL	WIRE SIZE	GROUNDING WIRE SIZE	TRIP	TRIP	GROUNDING WIRE SIZE	WIRE SIZE	LOADS SUB-PANEL	LOADS NON-CONTINUOUS	LOADS CONTINUOUS	WIRE COLOR	LOAD PER PHASE (VA)		LOAD				
DESCRIPTION	QTY.	UNIT V.A.	PHASE		PHASE		UNIT V.A.															QTY.	DESCRIPTION					
			A	B	A	B																						
1	GFCI RECEPTACLES	1	600			BLK																X		10	10	20		
3	SPARE					RED	X			8	10	20									RED				1	SPARE	4	
5	SPARE					BLK	X			8	10	20									BLK				1	SPARE	6	
7	SPARE	1				RED															RED				1	SPARE	8	
9	SPARE	1				BLK															BLK				1	SPARE	10	
11	SPARE	1				RED															RED				1	SPARE	12	
		SUBTOTAL CONTINUOUS																						SUBTOTAL CONTINUOUS	TOTAL AMPS CONTINUOUS x 1.25	4000		
		SUBTOTAL NON-CONTINUOUS	600	-																		-	-	SUBTOTAL NON-CONTINUOUS	TOTAL AMPS NON-CONTINUOUS	600		
																						-	-	SUBTOTAL SUB-PANEL	TOTAL AMPS SUB-PANEL	4600		
PANEL DESIGNATION: ELECTRICAL PANEL (PA)																												
MAIN LUGS: N/A		MAIN BREAKER: 100 AMP																BRANCH BREAKER TYPE: SIEMENS – BL								TOTAL KVA		4.60
VOLTAGE: 120/240		CYCLE: 60		PHASE: 1		WIRES: 3		MAIN COPPER BUS: 100 AMPS				NEUTRAL: 100 AMPS										TOTAL AMPS		19.16				

TILLMAN P - A PANEL SCHEDULE



ELECTRICAL SINGLE LINE DIAGRAM



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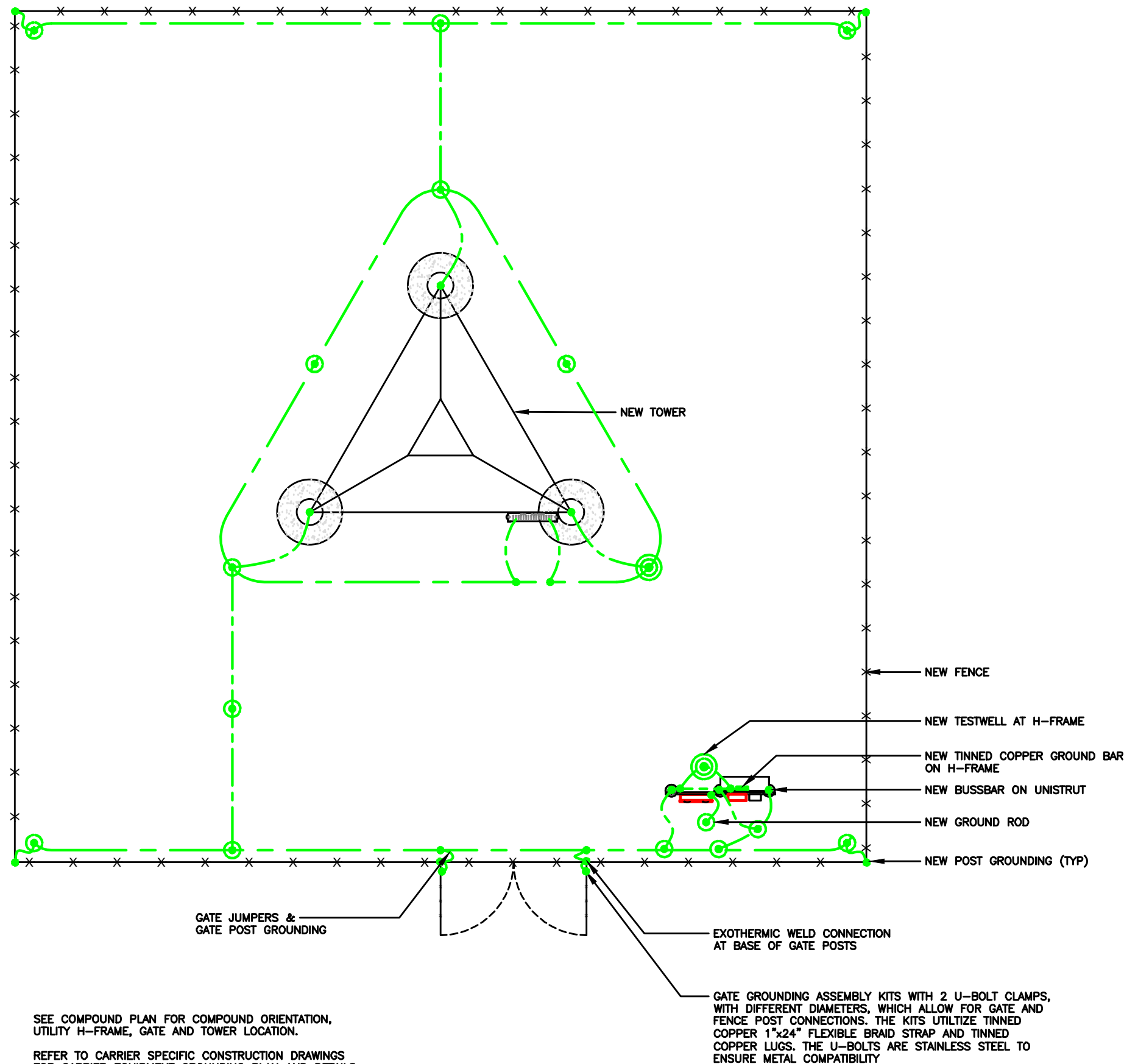
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NEWPORT, MI 48166

SHEET TITLE
ELECTRICAL
DIAGRAM

SHEET NUMBER
E-3

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SEE COMPOUND PLAN FOR COMPOUND ORIENTATION,
UTILITY H-FRAME, GATE AND TOWER LOCATION.

REFER TO CARRIER SPECIFIC CONSTRUCTION DRAWINGS
FOR CARRIER EQUIPMENT GROUNDING PLAN AND DETAILS.

GROUNDING LEGEND	
	MECHANICAL CONNECTION
	COMPRESSION FITTING CONNECTION
	EXOTHERMIC WELD CONNECTION
	5/8"x10' COPPER-CLAD STEEL GROUND ROD
	5/8"x10' COPPER-CLAD STEEL GROUND ROD WITH INSPECTION WELL
	NEW GROUND WIRING
	EXISTING GROUND WIRING
	TINNED COPPER GROUND BAR
	1/4"x4"x12" OR 1/4"x4"x20"
CGB	COLLECTOR GROUND BAR
MGB	MAIN GROUND BAR

GENERAL NOTES:

1. ALL GROUND WIRES SHOWN BELOW GRADE SHALL BE #2 SOLID TIN PLATED COPPER UNLESS OTHERWISE IDENTIFIED.
2. ALL EXPOSED GROUND LEADS TO BE IN 1/2" SEAL TIGHT W/ SILICONE.
3. PROVIDE CHEMICAL RODS WHEN DRIVEN ROADS ARE NOT PRACTICAL OR WHERE A STANDARD 5 OHMS RESISTANCE CANNOT BE OBTAINED AT THE SITE. LOCATION SHALL BE DETERMINED BY PROJECT MANAGER.
4. ALL GROUNDING COMPONENTS LOCATIONS AND QUANTITIES ARE TO BE FIELD VERIFIED DURING INSTALLATION.
5. AFTER SITE GROUNDING IS COMPLETED THE GROUNDING INSTALLATION SHALL TEST AT 5 OHMS OR LESS.

ADDITIONAL NOTES:

- OBJECTIVE:
- RING AROUND TOWER WITH ALL TOWER LEGS GROUNDED, MONOPOLE SHALL HAVE AT LEAST TWO GROUNDS TO EARTH.
 - CONNECTION TO FENCE POSTS AT ALL CORNERS OR CHANGES IN FENCE DIRECTION GREATER THE 45°.
 - CONNECTIONS TO EACH SIDE OF ANY GATE POSTS.
 - CONNECTIONS TO UTILITY H-FRAME.
 - INSTALL ENOUGH GROUND RODS TO ENSURE 5 OHMS OR LESS RESISTANCE.



Know what's below.
Call before you dig.

SCALE
N.T.S.

1

TILLMAN
INFRASTRUCTURE



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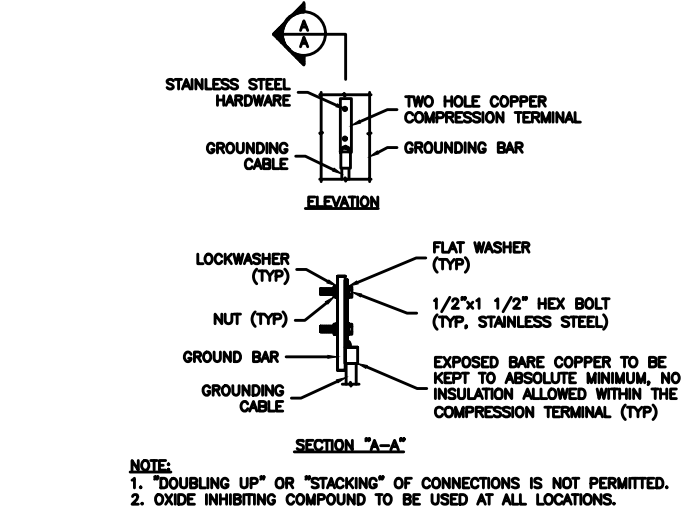
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SHEET TITLE
GROUNDING PLAN

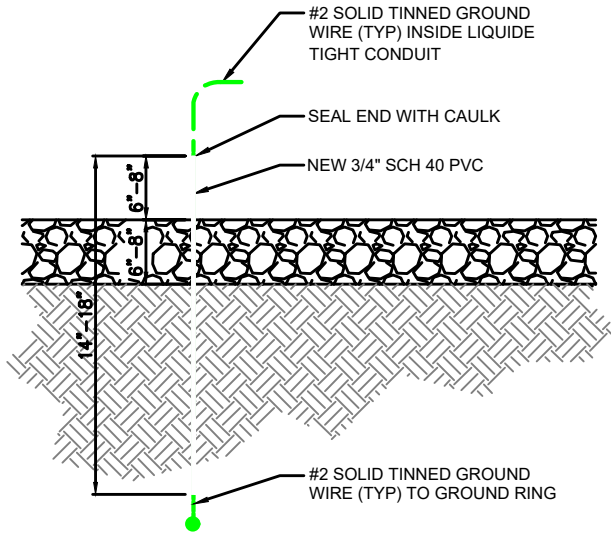
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G-1

GROUNDING NOTES:

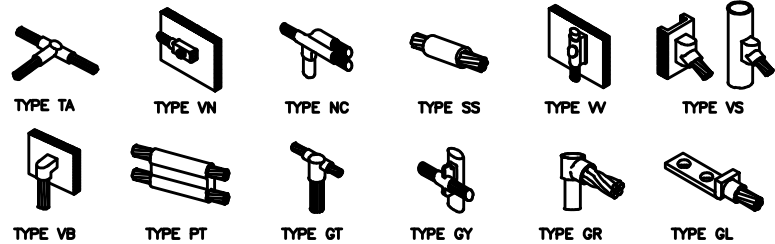
- GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
- ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
- ALL WIRES SHALL BE AWG THHN/THWN COPPER UNLESS NOTED OTHERWISE.
- GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE AND FENCE POSTS SHALL BE EXOTHERMIC ("CADWELDS") UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY CADWELD WITH GALVANIZING PAINT.
- GROUNDING CONNECTIONS TO GROUND BARS ARE TO BE TWO-HOLE BRASS MECHANICAL CONNECTORS WITH STAINLESS STEEL HARDWARE (INCLUDING SCREW SET) CLEAN GROUND BAR TO SHINY METAL. AFTER MECHANICAL CONNECTION, TREAT WITH PROTECTIVE ANTIOXIDANT COATING.
- GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH MANUFACTURER'S GROUNDING KITS.
- ROUTE GROUNDING CONDUCTORS THE SHORTEST AND STRAIGHTEST PATH POSSIBLE. BEND GROUNDING LEADS WITH A MINIMUM 12" RADIUS.
- INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 BARE TINNED COPPER WIRE FOR BELOW GRADE GROUNDING UNLESS OTHERWISE NOTED.
- REFER TO GROUNDING PLAN FOR GROUND BAR LOCATIONS. GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("CADWELDS") TO ANTENNA MOUNTS AND GROUND RING. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS. CONNECTIONS TO GROUND BARS SHALL BE MADE WITH TWO-HOLE LUGS.
- THE GROUND ELECTRODE SYSTEM SHALL CONSIST OF DRIVEN GROUND RODS POSITION ACCORDING TO GROUNDING PLAN. THE GROUND RODS SHALL BE 5/8"x10'-0" COPPER CLAD STEEL INTERCONNECTED WITH #2 BARE TINNED COPPER WIRE BURIED 36" BELOW GRADE. BURY GROUND RODS A MAXIMUM OF 15' APART, AND A MINIMUM OF 8' APART.
- IF ROCK IS ENCOUNTERED GROUND RODS SHALL BE PLACED AT AN OBLIQUE ANGLE NOT TO EXCEED 45°.
- EXOTHERMIC WELDS SHALL BE MADE IN ACCORDANCE WITH ERICO PRODUCTS BULLETIN A-AT.
- CONSTRUCTION OF GROUND RING AND CONNECTIONS TO EXISTING GROUND RING SYSTEM SHALL BE DOCUMENTED WITH PHOTOGRAPHS PRIOR TO BACKFILLING SITE. PROVIDE PHOTOS TO THE VERIZON WIRELESS CONSTRUCTION MANAGER.
- ALL GROUND LEADS EXCEPT THOSE TO THE EQUIPMENT ARE TO BE #2 BARE TINNED COPPER WIRE. ALL EXTERIOR GROUND BARS TINNED COPPER.
- PRIOR TO INSTALLING LUGS ON GROUND WIRES, APPLY THOMAS & BETTS KOPR-SHIELD (TM OF JET LUBE INC.). PRIOR TO BOLTING GROUND WIRE LUGS TO GROUND BARS, APPLY KOPR-SHIELD OR EQUAL.
- ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT IMPEDANCE DOES NOT EXCEED FIVE OHMS TO GROUND BY MEANS OF "FALL OF POTENTIAL TEST". TEST SHALL BE WITNESSED BY A METROPCS REPRESENTATIVE, AND RECORDED ON THE "GROUND RESISTANCE TEST" FORM.
- WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN LIQUID TIGHT CONDUITS AND SHOULD BE MINIMUM OF 6"-8" ABOVE/BELOW GRADE/GRAVEL AND RUN TO AT LEAST BELOW THE SURFACE WITH A TOTAL LENGTH OF 14"-18".
- PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.
- ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITHIN 6 FEET OF METAL FENCING, THE GROUND RING SHALL BE BONDED TO THE NEAREST FENCE POST USING (3) RUNS OF #2 BARE TINNED COPPER WIRE.



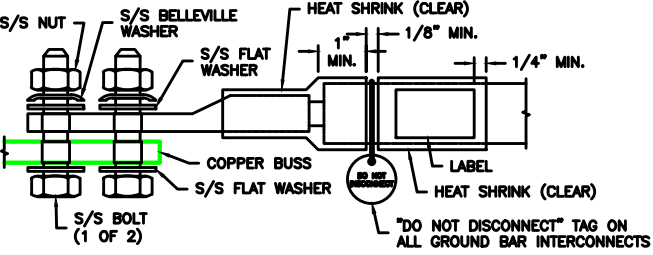
1 TYPICAL GROUND BAR CONNECTION DETAIL
G-1 SCALE: N.T.S.



3 GROUNDING DETAIL
G-1 SCALE: N.T.S.

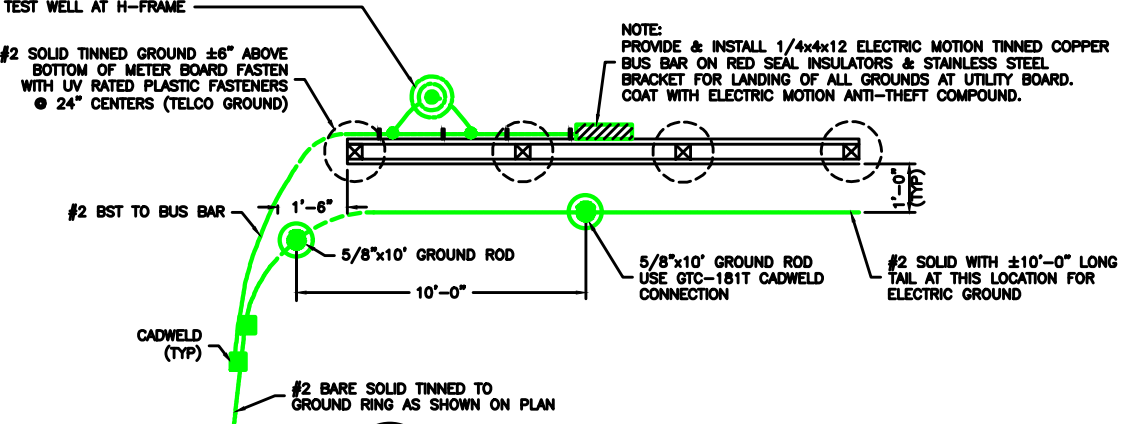


6 CADWELD GROUNDING CONNECTION DETAILS
G-1 SCALE: N.T.S.

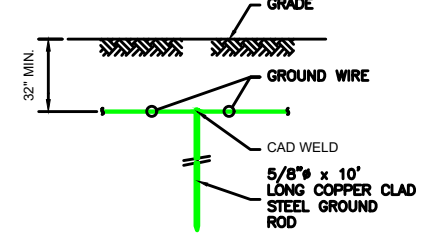


- NOTES:
- ALL HARDWARE 18-8 STAINLESS STEEL INCLUDING BELLEVILLES. COAT ALL SURFACES WITH ANTI-OXIDATION COMPOUND BEFORE MATING.
 - FOR GROUND BOND TO STEEL ONLY: INSERT A DRAGON TOOTH WASHER BETWEEN LUG AND STEEL, COAT ALL SURFACES WITH ANTI-OXIDATION COMPOUND.
 - COAT ALL BARRELS WITH ANTI-OXIDATION COMPOUND BEFORE CRIMPING.

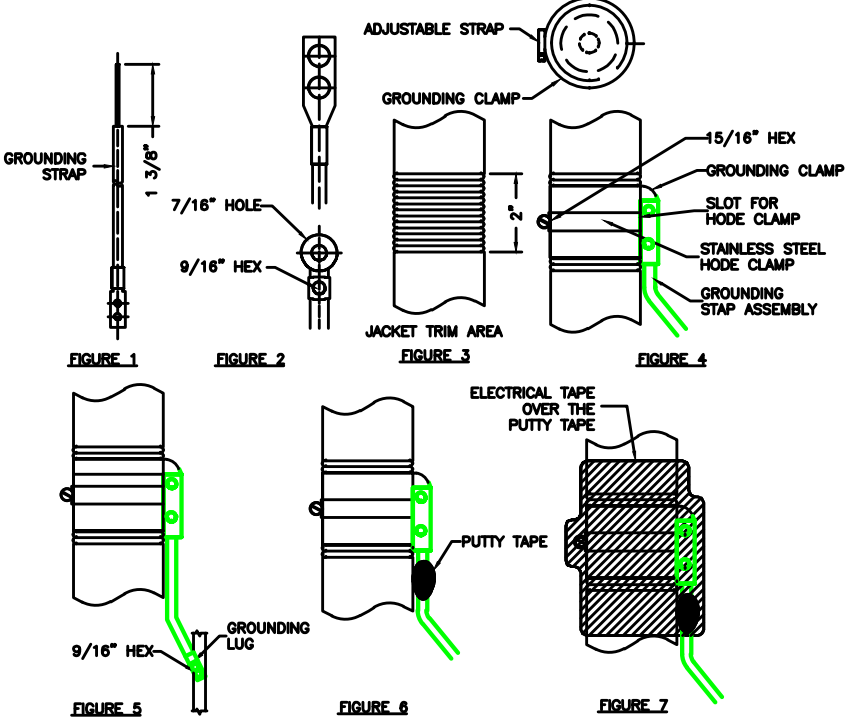
4 GENERAL LUG DETAIL
G-1 SCALE: N.T.S.



2 METER BOARD UTILITY GROUNDING DETAIL
G-1 SCALE: N.T.S.



5 GROUNDING ROD DETAIL
G-1 SCALE: N.T.S.



7 GROUNDING STRAP WEATHERPROOFING DETAIL
G-1 SCALE: N.T.S.

TILLMAN
INFRASTRUCTURE

LCC
TELECOM SERVICES

JOHN M. BANKS
ARCHITECT
604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847-212-8354

604 FOX GLEN
BARRINGTON, IL 60010
TELEPHONE: 847.277.0070
FAX: 847.277.0080
AE@WESTCHESTERSERVICES.COM

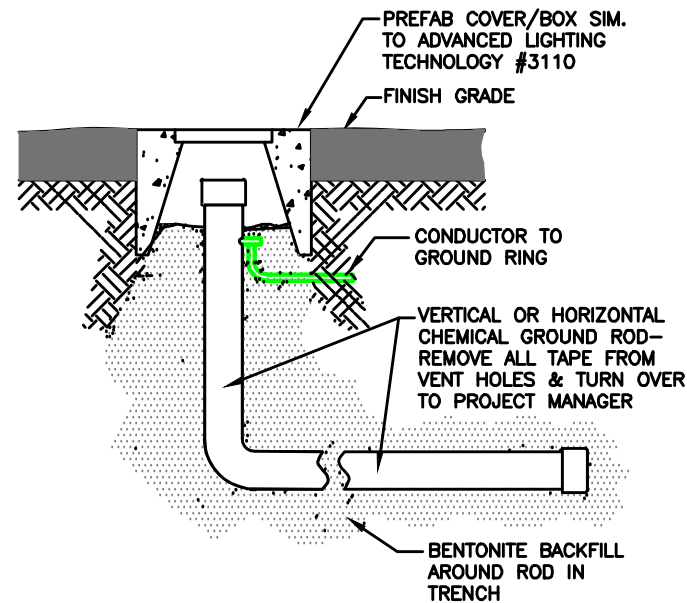
DRAWN BY:		DS
CHECKED BY:		MC
REV	DATE	DESCRIPTION
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B	05/21/26	PRELIMINARY CD

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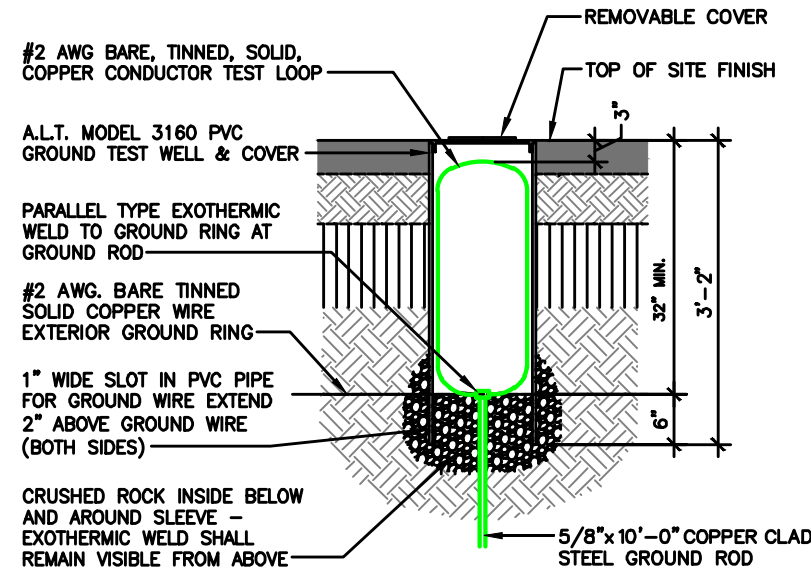
TILLMAN OPP# TI-OPP-21206
FUZE #: 16953676
SITE NAME:
NEWPORT III - L RELHR
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE
GROUNDING
DETAILS

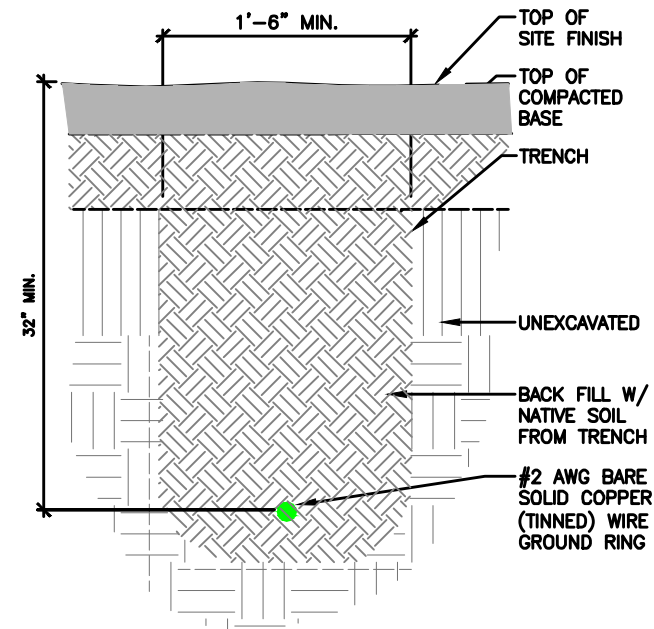
SHEET NUMBER
G-2



1 CHEMICAL GROUND ROD/INSPECTION WELL
G-2 SCALE: NTS



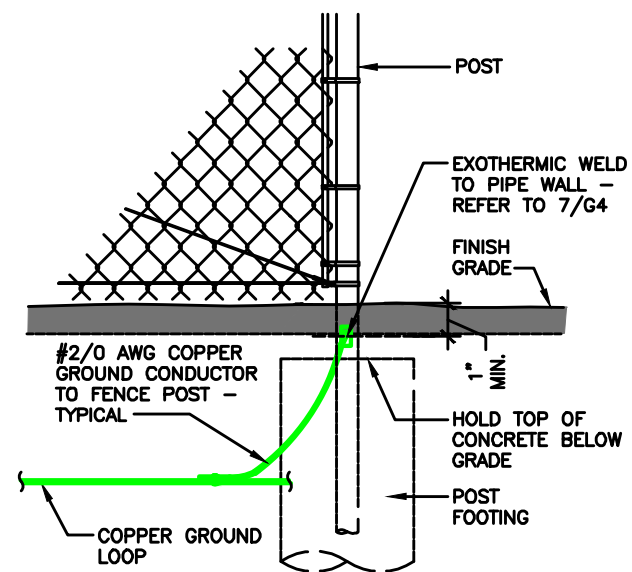
2 GALVANIZED STEEL GROUND ROD INSPECTION WELL
G-2 SCALE: NTS



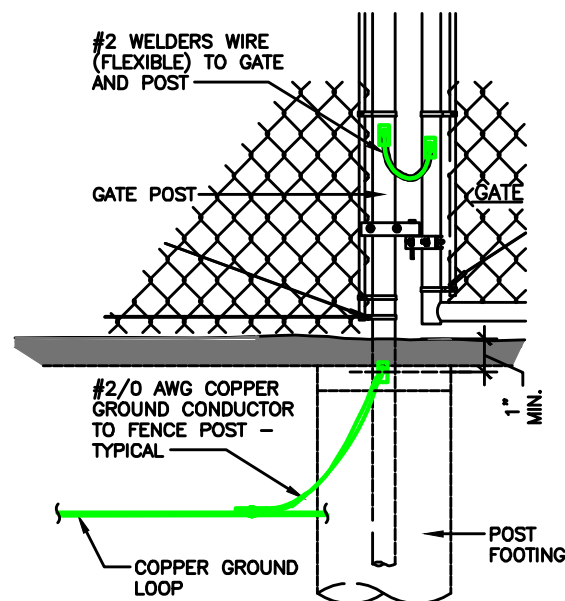
3 GROUNDING RING TRENCH
G-2 SCALE: NTS

GROUNDING NOTES:

- GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE.
- ALL GROUNDING DEVICES SHALL BE U.L. APPROVED OR LISTED FOR THEIR INTENDED USE.
- ALL WIRES SHALL BE AWG THIN/THWN COPPER UNLESS NOTED OTHERWISE.
- GROUNDING CONNECTIONS TO GROUND RODS, GROUND RING WIRE, TOWER BASE AND FENCE POSTS SHALL BE EXOTHERMIC ("CADWELDS") UNLESS NOTED OTHERWISE. CLEAN SURFACES TO SHINY METAL. WHERE GROUND WIRES ARE CADWELDED TO GALVANIZED SURFACES, SPRAY CADWELD WITH GALVANIZING PAINT.
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- INSTALL #2 AWG GREEN-INSULATED STRANDED WIRE FOR ABOVE GRADE GROUNDING AND #2 BARE TINNED COPPER WIRE FOR BELOW GRADE GROUNDING UNLESS OTHERWISE NOTED.
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- IF ROCK IS ENCOUNTERED GROUND RODS SHALL BE PLACED AT AN OBLIQUE ANGLE NOT TO EXCEED 45°.
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- ALL GROUND LEADS EXCEPT THOSE TO THE EQUIPMENT ARE TO BE #2 BARE TINNED COPPER WIRE. ALL EXTERIOR GROUND BARS TINNED COPPER.
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- WHERE BARE COPPER GROUND WIRES ARE ROUTED FROM ANY CONNECTION ABOVE GRADE TO GROUND RING, INSTALL WIRE IN LIQUID TIGHT CONDUITS A MINIMUM OF 6"-8" ABOVE AND BELOW GRADE/GRAVEL SURFACE FOR A TOTAL OF 12"-16".
- PREPARE ALL BONDING SURFACES FOR GROUNDING CONNECTIONS BY REMOVING ALL PAINT AND CORROSION DOWN TO SHINY METAL. FOLLOWING CONNECTION, APPLY APPROPRIATE ANTI-OXIDIZATION PAINT.
- ANY SITE WHERE THE EQUIPMENT (BTS, CABLE BRIDGE, PPC, GENERATOR, ETC.) IS LOCATED WITHIN 6 FEET OF METAL FENCING, THE GROUND RING SHALL BE BONDED TO THE NEAREST FENCE POST USING (3) RUNS OF #2 BARE TINNED COPPER WIRE.



4 FENCE POST GROUNDING
G-2 SCALE: NTS



5 GATE POST GROUNDING
G-2 SCALE: NTS

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TILLMAN
INFRASTRUCTURE

152 W. 57TH STREET
NEW YORK, NEW YORK 10019

NEW 155'-0" SELF-SUPPORT TOWER
w/10' LIGHTNING ROD
TOTAL TOWER HEIGHT 165'-0"

TOWER OWNER SITE

NEWPORT III - L_RELHR
SITE #: TI-OPP-21206

VERIZON WIRELESS SITE

NEWPORT III - L_RELHR
PROJECT#: 16953676
MARKET ID: TBD
MDG#: TBD

SITE ADDRESS

4811 NEWPORT RD
NEWPORT, MI 48166
MONROE COUNTY
E911 ADDRESS: TBD

TOWER OWNER

TILLMAN INFRASTRUCTURE
152 W. 57TH STREET
NEW YORK, NEW YORK 10019
CONTACT: NAME
PHONE: 000-000-0000
MOBILE: 000-000-0000
E-MAIL: name@towerowner.com

PROPERTY OWNER

MICHAEL MASSERANT
STREET ADDRESS
CITY, ST ZIP
CONTACT: MICHAEL MASSERANT
PHONE: 734-678-0481
E-MAIL: TBD

POLICE

TUSCARORA TOWNSHIP POLICE DEPT.
3546 S. STRAITS HWY
INDIAN RIVER, MI 48749
PHONE: 231-238-9481

FIRE

FIRE DEPT.
STREET ADDRESS
CITY, ST ZIP
PHONE: 000-000-0000

GENERAL INFORMATION

LATITUDE - 42°00'30.564"N
(42.0084900°)
LONGITUDE - 83°17'36.881"W
1983 (NAD83) (-83.2935780°)
ELEVATION - 590' AMSL
1988 (NAVD88)

TOWER OWNER LEASE AREA

100'-0"x100'-0"
(10000 SF)

VERIZON WIRELESS LEASE AREA

30'-0" x 16'-8"
(500 SF)

PROJECT TOTAL DISTURBED AREA

COMPOUND: (00000 SF) = (00 ACRE)
ACCESS DRIVE: (00000 SF) = (00 ACRE)
GROSS AREA: (00000 SF) = (00 ACRE)

PROJECT DESCRIPTION:

NOTE: ALL ITEMS WITHIN THESE CONSTRUCTION DOCUMENTS ARE BY TOWER OWNER'S GENERAL CONTRACTOR AND HIS SUB-CONTRACTORS UNLESS NOTED AS (VZW GC) WHICH SHALL INCLUDE VERIZON WIRELESS GENERAL CONTRACTOR AND HIS SUB-CONTRACTORS. GENERALLY DESCRIBED BELOW:

TOWER OWNER SCOPE:

- INSTALL A NEW 155'-0" SELF-SUPPORT w/ 10' LIGHTNING ROD (TOTAL 165'-0")
- INSTALL A NEW TOWER FOUNDATION SYSTEM
- INSTALL A NEW 65'-0"x65'-0" FENCED GRAVEL COMPOUND
- INSTALL A NEW ELECTRICAL SERVICE RUN TO SITE UTILITY H-FRAME
- INSTALL A NEW GRAVEL ACCESS DRIVE
- NO WATER OR SEWAGE SERVICES RUN TO SITE
- INSTALL NEW TOWER & SITE GROUNDING SYSTEM
- INSTALL ELECTRICAL SERVICE CONDUIT WITH PULL TAPES FROM ILC ENCLOSURE STUB-UP TO UTILITY H-FRAME
- INSTALL NEW CONDUITS WITH PULL TAPES FROM VZW ILC STUB-UP LOCATION TO THE GENERATOR STUB-UP AT VZW GENERATOR PAD
- INSTALL (1) NEW "VERIZON WIRELESS ONLY" FIBER OPTIC CONDUIT WITH INTEGRAL (3) 1-1/4" INNERDUCTS WITH PULL TAPES AND TRACER WIRE FROM VZW EQUIPMENT TO NEW "VERIZON WIRELESS ONLY" 24"x36" HAND HOLE OUTSIDE COMPOUND THEN TO NEW "VERIZON WIRELESS ONLY" 24"x36" HAND HOLE AT R.O.W.
- PERMANENT ELECTRIC POWER MUST BE AVAILABLE FOR VERIZON WIRELESS AT THE METER BASE PRIOR TO THE SITE BEING RELEASED AS TENANT READY

VERIZON WIRELESS SCOPE (VZW GC):

- INSTALL NEW VZW SUBSURFACE GROUNDING SYSTEM
- INSTALL A NEW VZW CONCRETE EQUIPMENT AND GENERATOR PAD
- INSTALL VZW ICE BRIDGE AND FOUNDATIONS
- INSTALL VZW EQUIPMENT H-FRAME AND FOUNDATIONS
- INSTALL VZW PREFABRICATED CANOPY AND FOUNDATIONS
- INSTALL VZW ANTENNA MOUNTING SUPPORT STRUCTURE ON TOWER
- INSTALL VZW ANTENNAS, LINES, COAX, GPS ANTENNA AND RADIO EQUIPMENT
- INSTALL EXISTING SUBSURFACE GROUND LEADS TO VZW EQUIPMENT & FACILITIES
- INSTALL VZW ELECTRIC SERVICE CONDUCTORS FROM UTILITY H-FRAME TO VZW ILC ENCLOSURE
- INSTALL NEW CONDUITS WITH PULL TAPES FROM RF CABINET TO OVP H-FRAME LIT FIBER LOCATION
- INSTALL NEW CONDUITS AND CIRCUITS FROM VZW ILC ENCLOSURE TO EQUIPMENT ENCLOSURES AT VZW EQUIPMENT PAD
- INSTALL VZW GENERATOR CIRCUITS FROM VZW ILC & EQUIPMENT ENCLOSURES TO VZW GENERATOR
- INSTALL NEW OUTDOOR OVPs AND CABLING ON VERIZON EQUIPMENT H-FRAME

ALL WORK AND MATERIALS SHALL BE PERFORMED AND INSTALLED IN ACCORDANCE WITH THE INTERNATIONAL BUILDING CODE (IBC) AND THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUCTED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

BUILDING CODE MICHIGAN BUILDING CODE ADOPTED EDITION (IBC)
STRUCTURAL CODE TIA/EA-222 - REVISION H
MECHANICAL CODE MICHIGAN MECHANICAL CODE ADOPTED EDITION (IMC)
PLUMBING CODE MICHIGAN PLUMBING CODE ADOPTED ADDITION (IPC)
ELECTRICAL CODE 2017 NATIONAL ELECTRICAL CODE (NEC) - NFPA 70
FIRE/LIFE SAFETY CODE MICHIGAN LIFE SAFETY CODE (2021 NFPA 101)

ACCESSIBILITY REQUIREMENTS:

FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. BARRIER FREE ACCESS REQUIREMENTS ARE NOT REQUIRED IN ACCORDANCE WITH THE MICHIGAN (IBC) BUILDING CODE.

APPLICABLE CODES

SURVEYOR

SURVEYING FIRM: CBRE
STREET ADDRESS: 4800 THE WOODS ROAD
CITY, ST ZIP CODE: KITTY HAWK, NC 27949
PHONE: 800-520-1010
EMAIL: LANDSURVEYORS@CBRE.COM

ARCHITECTURAL

JOHN M. BANKS ARCHITECT
604 FOX GLEN CT.
BARRINGTON, IL 60010
CONTACT: JOHN M. BANKS
PHONE: 847-212-8354

ELECTRICAL

POWER COMPANY: DTE ENERGY
ADDRESS: STREET ADDRESS
CITY, ST ZIP CODE
CONTACT: NAME
PHONE: 734-241-4176
EMAIL: TBD

ELECTRICAL UTILITY COORDINATION
IS NOT FINALIZED. DO NOT PROCEED
WITH CONSTRUCTION.

CONSULTANT TEAM

PROJECT SUMMARY



VICINITY MAP

PROJECT DESCRIPTION



LOCATION MAP



AERIAL

NEWPORT III - L_RELHR

TI-OPP-21206

4811 NEWPORT RD

NEWPORT, MI 48166

MONROE COUNTY

TENANT: LEGAL BUSINESS ENTITY d/b/a VERIZON WIRELESS

"NEWPORT III - L_RELHR"

BUILDING #:

VERIZON SITE NUMBER: TBD

FROM -----MTSO:-----: Get (SOUTH/ WEST) on I-96 E from John J Oostema Blvd SE, I-96 E in Cascade Township from 36th St SE (2.3 MI.). Head (EAST) toward Patterson Ave SE (0.31 MI.). left onto Ostrander Rd (1 MI.). Turn (NORTH) left onto Patterson Ave SE (1 MI.). Turn (EAST) right onto 36th St SE (1.4 MI.). Use (NORTH) the 2nd from the left lane to turn left. (436 FT.). Use the right lane to merge onto I-96 E via the ramp to Lansing (EAST) (0.4 MI.). Merge onto I-96 E (SOUTH/ EAST) (51.8 MI.). Keep (SOUTH) left to stay on I-96 E (66.8 MI.). Use (EAST) the right 2 lanes to take the I-96/I-275 exit toward Detroit/Toledo (1.6 MI.). Continue (SOUTH) onto I-275 S/I-96 E (5.5 MI.). Keep (SOUTH) right to continue on I-275 S, follow signs for Toledo/M-14 W/Ann Arbor (29.8 MI.). Take (SOUTH/ EAST) the exit onto I-75 N toward Detroit (2.2 MI.). Take (SOUTH/ EAST) exit 21 for Swan Creek Rd toward Newport (0.3 MI.) At (EAST) the traffic circle, take the 1st exit onto Swan Creek Rd (0.2 MI.). Turn (NORTH/ EAST) left onto Brandon Rd (0.2 MI.). Turn (EAST) right onto Newport Rd (0.4 MI.). SITE WILL BE LOCATED ON RIGHT SIDE OF ROAD.

SHEET NUMBER

T-1

DESCRIPTION

PROJECT INFORMATION, SITE MAPS,
SHEET INDEX
SURVEY PLAN
REVISION LOG

R-1

CIVIL

C-0

ENVIRONMENTAL EVALUATION "NOTICE TO CONTRACTOR" (REFERENCE ONLY)

C-1

OVERALL SITE PLAN w/AERIAL OVERLAY

C-1A

OVERALL SITE PLAN w/PLATFORM DISTANCE TO PROPERTY LINES

C-1B

TOWER DISTANCE TO RESIDENTIAL STRUCTURES

C-2

GRADING AND E&S CONTROL PLAN

C-3

DETAILED SITE PLAN

C-4

DIMENSIONED SITE PLAN

C-5

DETAILED EQUIPMENT PAD PLAN

C-6

GENERAL SITE CONSTRUCTION NOTES

C-7

BEST MANAGEMENT PRACTICES & EROSION CONTROL DETAILS AND NOTES

SITE DETAILS

D-1

FENCE DETAILS AND NOTES

D-2

SITE DETAILS

D-3

EQUIPMENT PAD & CANOPY ELEVATIONS

D-4

VERIZON WIRELESS SIGNAGE (REFERENCE ONLY)

D-5

TOWER OWNER SITE FENCE SIGNAGE (REFERENCE ONLY)

STRUCTURAL

S-1

EQUIPMENT PAD FOUNDATION PLAN, DETAILS AND STRUCTURAL NOTES

S-2

ICE BRIDGE PLAN AND DETAILS

S-3

FOUNDATION PLAN AND DETAILS

TOWER ELEVATION

TE-1

TOWER ELEVATION

ELECTRICAL

E-1

SITE UTILITY PLAN

E-2

EQUIPMENT PAD UTILITY PLAN & EQUIPMENT PAD TRENCH SECTIONS

E-3

PANEL SCHEDULE, ONE LINE DIAGRAM, ELECTRICAL NOTES AND DETAILS

E-4

ELECTRICAL DETAILS

E-5

OVP & INTEGRATED LOAD CENTER H-FRAME ELEVATIONS AND DETAILS

E-6

EQUIPMENT CABINET ELEVATIONS

E-7

EQUIPMENT PAD LIGHTING PLAN

E-8

ALARMING TABLE AND DETAILS (REFERENCE ONLY)

E-9

ALARMING DIAGRAMS AND DETAILS (REFERENCE ONLY)

GROUNDING

G-1

GROUNDING SITE PLAN

G-2

GROUNDING NOTES

G-3

VERIZON WIRELESS GROUNDING PLAN AND NOTES

G-4

GROUNDING DETAILS

G-5

GROUNDING DETAILS

G-6

GROUNDING DETAILS

REFERENCE DRAWINGS

RF-1

ANTENNA PLAN AND DETAILS (REFERENCE ONLY)

REF-1

GENERATOR SPECIFICATIONS (REFERENCE ONLY)

TOWER (BY OTHERS)

TW-1

TOWER DETAILS (REFERENCE ONLY)

TILLMAN
INFRASTRUCTURE

verizon

LCC
TELECOM SERVICES

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CHECKED BY: MC

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SHEET TITLE

TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT III - L_RELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

TITLE SHEET

SHEET NUMBER

T-1

THE INFORMATION CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO CARRIER SERVICES IS STRICTLY PROHIBITED.

PENDING



DRAWN BY:	DS
CHECKED BY:	MC

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TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - L_RELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

ENVIRONMENTAL
EVALUATION "NOTICE
TO CONTRACTOR"
(REFERENCE ONLY)

SHEET NUMBER

C-0



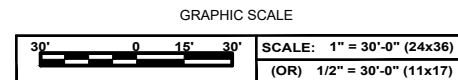
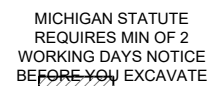
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REGISTERED ARCHITECT UNDER THE LAWS OF
THE STATE OF MICHIGAN

TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

OVERALL SITE PLAN
W/ AERIAL OVERLAY

C-1



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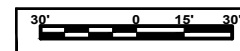


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MICHIGAN STATUTE
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BEFORE YOU EXCAVATE

OVERALL SITE PLAN w/PLATFORM
DISTANCE TO PROPERTY LINES

SCALE: 1" = 30'-0"



SCALE: 1" = 30'-0" (24x36)
(OR) 1/2" = 30'-0" (11x17)



(3) "VERIZON ONLY" 1.25" SMOOTHWALL
SDR-11 HDPE CONDUITS WITH w/PULLTAPES
(±200 L.F.)
(1) 4" SCH40 PVC CONDUIT OR AS SPECIFIED
BY THE TOWER OWNER w/PULLTAPE (FUTURE
SERVICE)
- SEE GENERAL NOTE 6 & 10 ON SHEET C-6

24"x36" VEHICLE RATED VERIZON WIRELESS ONLY
FIBER SERVICE HAND HOLE

EXISTING ROW
(PER SURVEY)

5
D-2

EXISTING RAIL ROAD
(APPROXIMATE)

EXISTING TREES LINE
(APPROXIMATE)

EXISTING PROPERTY LINE
(PER SURVEY)

MICHAEL MASSERANT
03-031-016-00

EXISTING
AG
FIELD

EXISTING
AG
FIELD

EXISTING
AG
FIELD

100'-0"x100'-0" TOWER OWNER
LEASE AREA
- SEE SURVEY FOR DESCRIPTION

155'-0" SELF SUPPORT TOWER
w/10' LIGHTNING ROD
-TOTAL TOWER HEIGHT 165'-0"

VERIZON WIRELESS 4'-0"x9'-6"
CONCRETE GENERATOR PAD

VERIZON WIRELESS
12'-0"x30'-0" LEASE AREA

VERIZON WIRELESS 6'-6" 1/2x10'-6" 1/2"
RADIO EQUIPMENT CANOPY (VZW GC)

VERIZON WIRELESS 7'-6"x11'-6"
CONCRETE RADIO EQUIPMENT PAD

30'-0" WIDE ACCESS/UTILITY EASEMENT
- SEE SURVEY FOR LOCATION

2
D-2
GENERAL CONTRACTOR SHALL INSTALL
NEW 12'-0" GRAVEL ACCESS DRIVE
- SEE NOTE 4 ON SHEET C-6
- NEW DRIVE @ ±70 L.F.T.
- SEE SURVEY FOR LOCATION

1
C-7
TEMPORARY CONSTRUCTION
STABILIZED ENTRANCE

UTILITY OVERHEAD POWER LINES
(APPROXIMATE)

EXISTING TELCO
(APPROXIMATE)

EXISTING UTILITY POLE
W/ TRANSFORMER
(APPROXIMATE)

TILLMAN
INFRASTRUCTURE

verizon

LCC
TRADES SERVICES

DRAWN BY: DS
CHECKED BY: MC

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A	04/27/26	PRELIMINARY CD
B	05/21/26	PRELIMINARY CD

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SHEET TITLE

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VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

OVERALL SITE PLAN
w/PLATFORM
DISTANCE TO
PROPERTY LINES

SHEET NUMBER

C-1A



REV	DATE	DESCRIPTION
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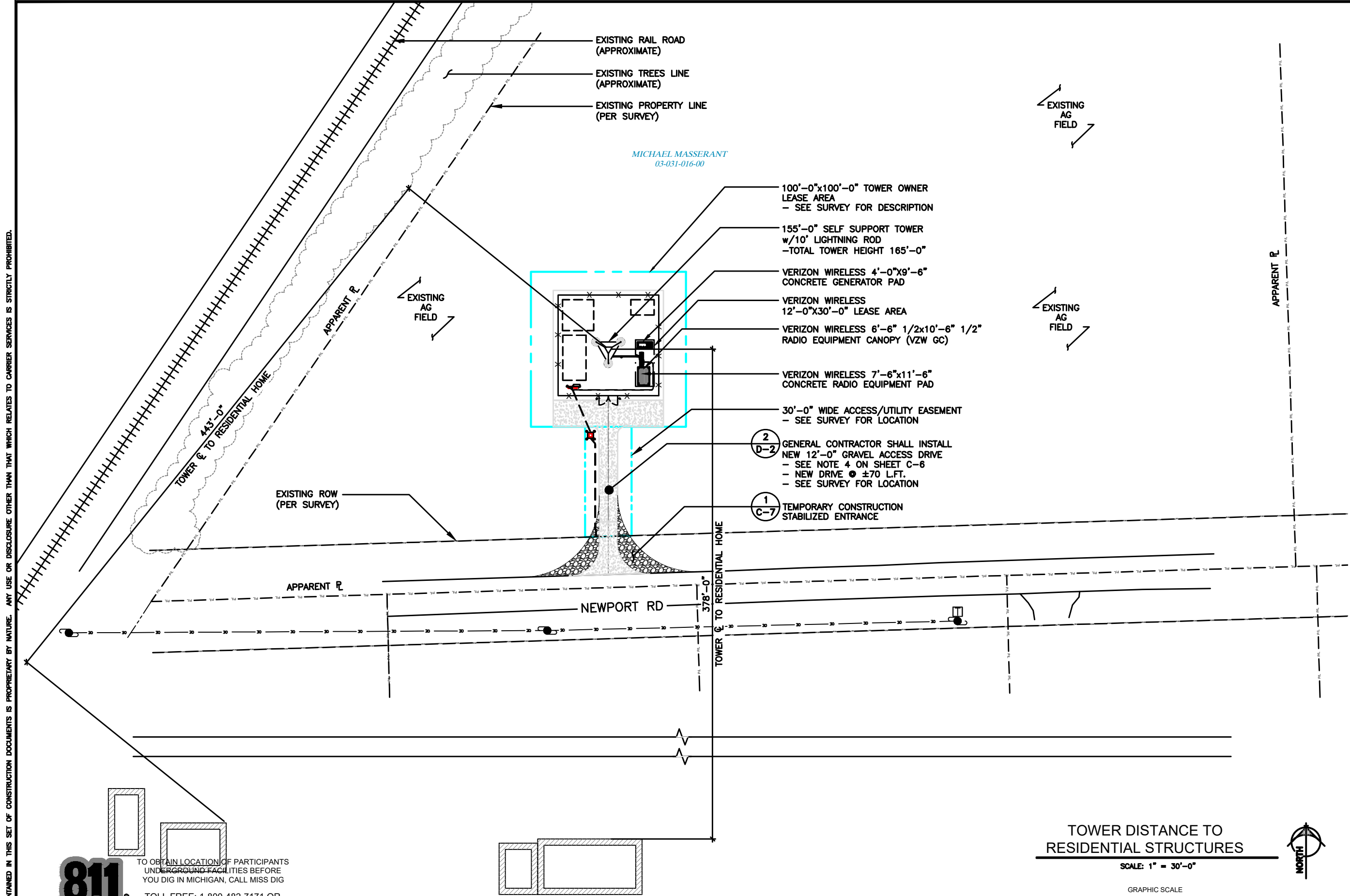
**TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166**

SHEET TITLE

TOWER DISTANCE TO RESIDENTIAL STRUCTURES

SHEET NUMBER

C-1B



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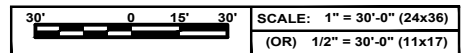
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TOWER DISTANCE TO RESIDENTIAL STRUCTURES

SCALE: 1" = 30'-0"



GRAPHIC SCALE



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4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

GRADING & A&S
CONTROL PLAN

SHEET NUMBER

C-2

PENDING
DESIGN

PAD MOUNTED TRANSFORMER
-VERIFY LOCATION WITH UTILITY
24"x36" VEHICLE RATED HAND
HOLE FOR VZW FIBER SERVICE

50' RADIUS (TEMP.)
20' RADIUS (FINAL)

PROPOSED SILT FENCE LINE
(TYP.)

1
D-2 GRAVEL COMPOUND

7'-0" TALL CHAIN LINK FENCE WITH 3
ROWS OF BARBED WIRE ATOP
- 8'-0" OVERALL HEIGHT
- 392 L.F.

CONTRACTOR SHALL RAISE OR GRADE
SITE TO ENSURE POSITIVE DRAINAGE
AWAY FROM TOWER & PAD

30'-0" WIDE ACCESS/UTILITY EASEMENT
- SEE SHEET C-1 FOR CONTINUATION
- SEE SURVEY FOR LOCATION

2
D-2 GENERAL CONTRACTOR SHALL INSTALL
NEW 12'-0" GRAVEL ACCESS DRIVE
- SEE NOTE 4 ON SHEET C-6
- NEW DRIVE @ ±170 L.F.
- SEE SURVEY FOR LOCATION

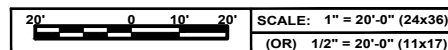
50' RADIUS (TEMP.)
20' RADIUS (FINAL)

EXISTING UTILITY POLE
W/ TRANSFORMER
(APPROXIMATE)

GRADING & A&S CONTROL PLAN

SCALE: 1" = 30'-0"

GRAPHIC SCALE



LEGEND

SEF
T/P
T/F
XXXXX

PROPOSED SILT FENCE
PROPOSED GRADE
EXISTING GRADE
TOP OF PAVEMENT/PAD
TOP OF FOUNDATION
GRADE



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NEWPORT, MI 48166

SHEET TITLE

DETAILED
SITE PLAN

SHEET NUMBER

C-3

7'-0" TALL CHAIN LINK FENCE WITH 3
ROWS OF BARBED WIRE ATOP
- 8'-0" OVERALL HEIGHT
- 260 L.F.

GRAVEL COMPOUND
D-2

155'-0" TALL SELF-SUPPORT

LIMITS OF UNDERGROUND
TOWER FOUNDATION PIER
-SEE TOWER AND
FOUNDATION DRAWINGS FOR
DIMENSIONS

18"x18"x6" VERIZON WIRELESS ONLY
FIBER SERVICE PULL BOX

POWER & TELCO METER BOARD STRUCTURE
- INSTALLED BY G.C.

GATE KEEPER
(TYP. OF 2)
D-1

12'-0" WIDE ACCESS GATE
D-1

PAD MOUNTED TRANSFORMER
-FURNISHED & INSTALLED BY ELECTRIC PROVIDER
-COORDINATE LOCATION AND PAD REQUIREMENTS
WITH PROVIDER

PIPE BOLLARD (TYP. OF 4)
D-2

30'-0" WIDE ACCESS/UTILITY EASEMENT
- SEE SURVEY FOR LOCATION

GENERAL CONTRACTOR SHALL INSTALL
NEW 12'-0" GRAVEL ACCESS DRIVE
- SEE NOTE 4 ON SHEET C-6
- NEW DRIVE @ ±70 L.F.
- SEE SURVEY FOR LOCATION

DETAILED SITE PLAN

SCALE: 1/8" = 1'-0"

GRAPHIC SCALE

0 2' 4' 8'
SCALE: 1/8" = 1'-0" (24x36)
(OR) 1/16" = 1'-0" (11x17)



LEGEND

	IRON PIN
	DRAINAGE LINE
	SPOT ELEVATION
	GRAVEL COMPOUND
	CENTER LINE
	NEW FENCE LINE
	NEW SILT FENCE LINE
	POWER POLEw/OVERHEAD ELEC./TELE.
	EDGE OF NEW DRIVE
	UNDERGROUND ELECTRICAL CONDUIT
	UNDERGROUND TELEPHONE CONDUIT
	EXISTING CONTOURS
	NEW CONTOURS
	NEW LEASE AREA AND EASEMENT
	FENCED COMPOUND
	CONCRETE
	ACCESS DRIVE



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*NOTE:
GENERAL CONTRACTOR IS TO ENSURE
THERE IS NO OBSTRUCTION OF
PROPERTY, SOIL, ETC. OUTSIDE OF
THE STAKED LEASE AREA WITHOUT
APPROVAL FROM VERIZON WIRELESS
CONSTRUCTION MANAGER

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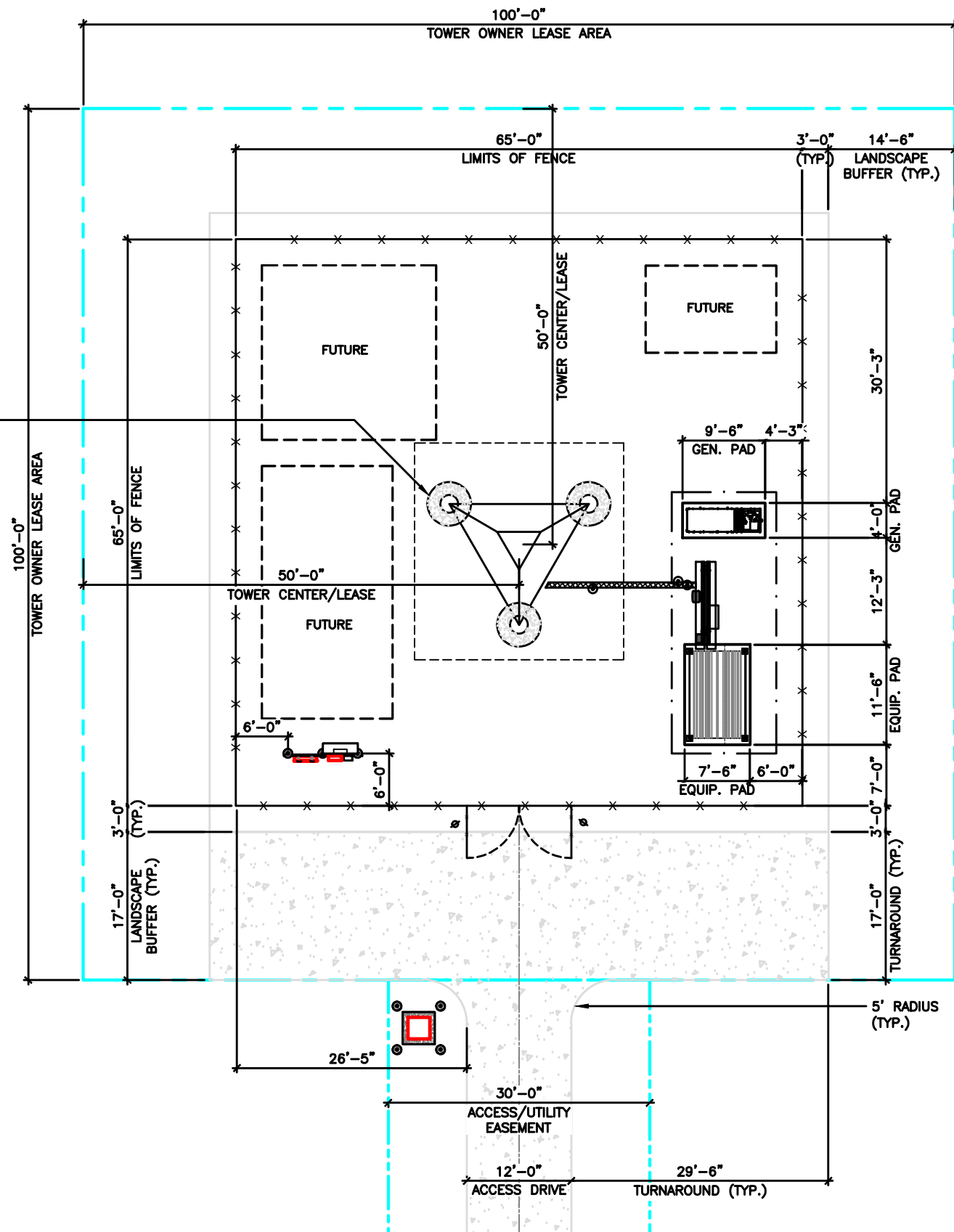
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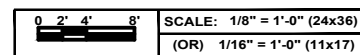
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CONSTRUCTION MANAGER



DIMENSIONED SITE PLAN

SCALE: 1/8" = 1'-0"

GRAPHIC SCALE



LEGEND

	IRON PIN
	DRAINAGE LINE
	SPOT ELEVATION
	GRAVEL COMPOUND
	CENTER LINE
	NEW FENCE LINE
	NEW SILT FENCE LINE
	POWER POLEw/OVERHEAD ELEC./TELE.
	EDGE OF NEW DRIVE
	UNDERGROUND ELECTRICAL CONDUIT
	UNDERGROUND TELEPHONE CONDUIT
	EXISTING CONTOURS
	NEW CONTOURS
	NEW LEASE AREA AND EASEMENT
	FENCED COMPOUND
	CONCRETE
	ACCESS DRIVE

TILLMAN
INFRASTRUCTURE

verizon

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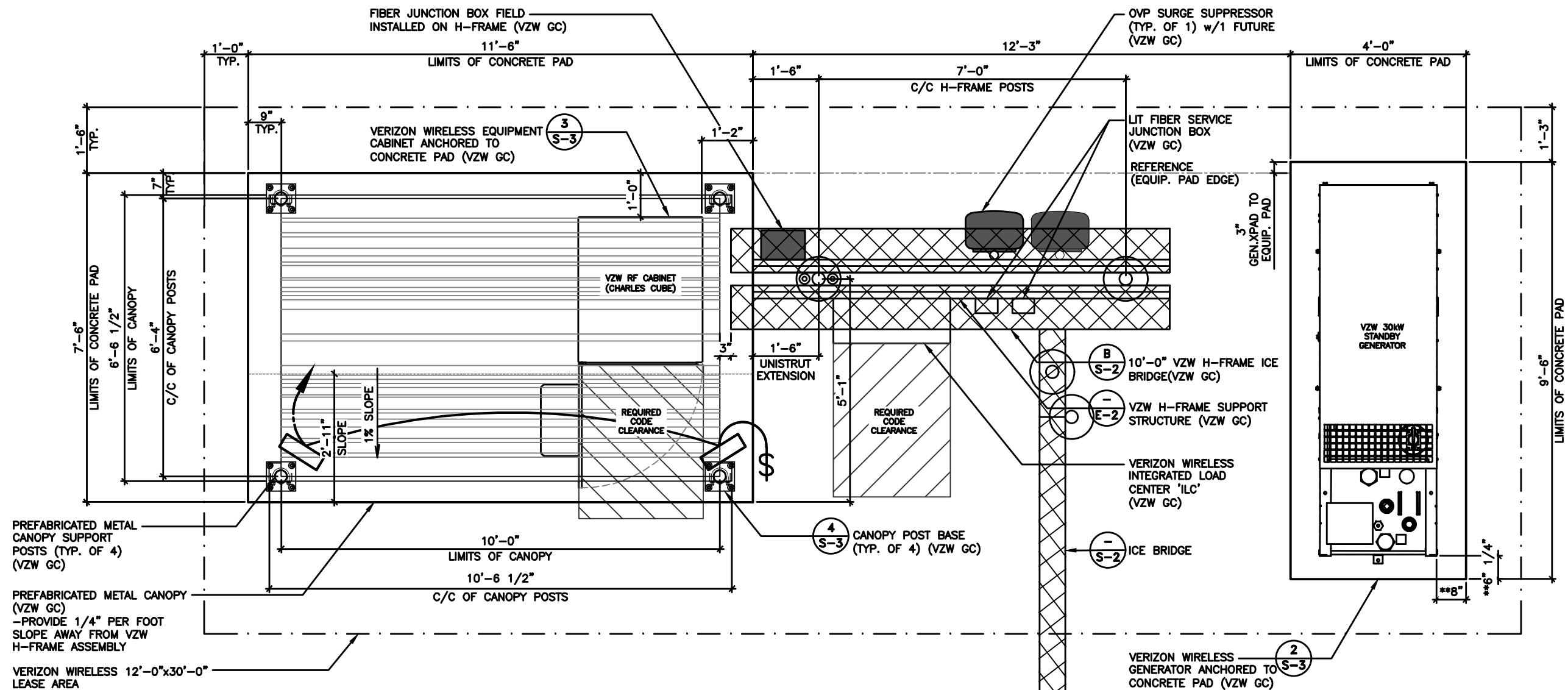
SHEET TITLE

DIMENSIONED
SITE PLAN

SHEET NUMBER

C-4

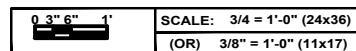
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DETAILED VZW EQUIPMENT PLAN

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

GRAPHIC SCALE



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PROPERTY, SOIL, ETC. OUTSIDE OF
THE STAKED LEASE AREA WITHOUT
APPROVAL FROM VERIZON WIRELESS
CONSTRUCTION MANAGER

TILLMAN
INFRASTRUCTURE

verizon

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NEWPORT, MI 48166

SHEET TITLE

DETAILED VZW
EQUIPMENT PLAN

SHEET NUMBER

C-5

GENERAL SITE CONSTRUCTION NOTES

1. SCHEDULE:

THE CONSTRUCTION OF THE SITE REQUIRES A CERTAIN SEQUENCE OF EVENTS TO MINIMIZE CONSTRUCTION TIME REQUIRED UNTIL AVAILABILITY OF CELLULAR TELEPHONE SERVICE. VERIFY SCHEDULE DURING BID WALK.

2. TOWER OWNER REPRESENTATIVE:

TILLMAN INFRASTRUCTURE
152 W. 57TH STREET
NEW YORK, NEW YORK 10019
CONTACT: LARRY MATTHEWS
PHONE: 913-999-0077
E-MAIL:
LMATTHEWS@TILLMANINFRASTRUTURE.COM

PROPERTY OWNER REPRESENTATIVE:

MICHAEL MASSERANT
CONTACT: TBD
MOBILE: 734-678-0481
E-MAIL: TBD

3. ANTENNA INSTALLATION:

THE VERIZON WIRELESS CONTRACTOR (VZW GC) INSTALLING THE FRAME/PLATFORM SHALL ENSURE THAT THE PLATFORM IS ALIGNED BASED ON THE VERIZON WIRELESS RF PLAN. DURING THIS WORK, THE GENERAL CONTRACTOR SHALL BE LIMITED TO THE WORK WHICH CAN BE PERFORMED OUTSIDE THE VICINITY OF THE TOWER.

4. ACCESS DRIVEWAY:

THE GENERAL CONTRACTOR SHALL CONSTRUCT THE ACCESS DRIVE PER THE ALIGNMENT AS SHOWN ON THESE DRAWINGS. IF ANY AREA OF CONSTRUCTION REQUIRES ADDITIONAL FILL OF AGGREGATE STONE THAN SHOWN ON THE DRAWINGS, THE GENERAL CONTRACTOR SHALL NOTIFY THE ENGINEER FOR APPROVAL OF THE SIZE, TYPE AND QUANTITY OF STONE/FILL NECESSARY AND SHALL NOT BE USED UNTIL APPROVAL BY THE ENGINEER. THE GENERAL CONTRACTOR SHALL ALSO OBTAIN DRIVE PERMIT FOR NEW ACCESS DRIVE.

5. PREFABRICATED EQUIPMENT CABINETS, CANOPY AND GENERATOR:

THIS VERIZON WIRELESS CONTRACTOR (VZW GC) SHALL PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS FOR THE PROPER LIFTING, TRANSPORTING AND ASSEMBLY OF THE PREFABRICATED EQUIPMENT CANOPY FROM THE TRANSPORT TRUCK BED TO THE FINAL POSITION. THE EQUIPMENT CABINETS SHALL BE LIFTED INTO PLACE ON THE CONCRETE EQUIPMENT PAD. THE GENERATOR SHALL BE LIFTED INTO PLACE BY USING TWO SPREADER BAR ASSEMBLIES. EACH SPREADER BAR SHALL BE A MINIMUM 3' WIDE (RATED TO CARRY 3 TONS). THE GENERATOR WEIGHT IS 1,425# WITH TANK PEDESTAL. VERIZON WIRELESS CONTRACTOR (VZW GC) SHALL ANCHOR THE EQUIPMENT CABINETS AND GENERATOR BASE TO THE CONCRETE SLAB USING ANCHOR BOLTS. EXTREME CAUTION SHALL BE TAKEN IN THE INSTALLATION OF ALL EQUIPMENT TO AVOID CONTACT WITH EXISTING OVERHEAD UTILITY LINES.

THE VERIZON WIRELESS CONTRACTOR (VZW GC) IS RESPONSIBLE FOR ATTACHING, SECURING OR ASSEMBLING ANY ACCESSORY OR LOOSE ITEMS THAT ARE SHIPPED WITH THE PREFABRICATED EQUIPMENT CABINETS, CANOPY AND GENERATOR AND SHALL INCLUDE THIS WORK IN THE VZW EQUIPMENT INSTALLATION PORTION OF THE BID.

6. UTILITIES:

THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXCAVATION AND PROPER BACKFILLING OF TRENCHES AND SUPPLY CONDUIT REQUIRED FOR UNDERGROUND TELEPHONE & ELECTRICAL UTILITIES. ALL TRENCHING SHALL BE COMPACTED TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE W/ASTM D-1557.

THE TOWER OWNER SHALL ENSURE ELECTRIC METER BASE IS COMPLETELY INSTALLED FOR VERIZON WIRELESS PRIOR TO THE SITE BEING RELEASED TO VERIZON WIRELESS AS TENANT READY.

THE VERIZON WIRELESS GENERAL CONTRACTOR (VZW GC) SHALL RUN ELECTRICAL CONDUCTORS FROM NEW METER CENTER TO NEW VZW INTEGRATED LOAD CENTER WITHIN TOWER OWNER INSTALLED 2 1/2" CONDUIT CONTACT ELECTRIC PROVIDER TO HAVE NEW METER INSTALLED.

THE VERIZON WIRELESS GENERAL CONTRACTOR (VZW GC) SHALL BE RESPONSIBLE FOR THE ORDERING AND COORDINATING THE DELIVERY OF A FIBER OPTIC SERVICE LINE TO THE RADIO EQUIPMENT ENCLOSURE. COORDINATE WITH THE FIBER PROVIDER AND THE VERIZON WIRELESS FACILITY ENGINEER.

- TWO 4" SIDR-11.5 HDPE FIBER CONDUITS w/INTEGRATED INNERDUCTS SHALL BE INSTALLED FROM H-FRAME HOFFMAN BOX TO HANDHOLE MEET POINT AT THE PUBLIC RIGHT-OF-WAY WITH TWO (2) PULL TAPES PER CONDUIT. EACH FIBER CONDUIT SHALL HAVE ITS OWN DEDICATED HANDHOLE WITH THE HANDHOLE MODEL AS FOLLOWS:
 - THE VERIZON FIBER CONDUIT HANDHOLES SHALL BE OLDCASTLE INFRASTRUCTURE MODEL 24381480 PC2438-30 T22 - VERIZON LOGO OR QUAZITE/HUBBELL POWER SYSTEMS MODEL PG2436Z1857B4 ASSY T22 SW OB 24x36x30 VERIZON V, OR APPROVED EQUALS. ALTERNATIVE HANDHOLES MAY BE USED IF MEETING THE DESIGNATED LOADING AND HAVING DIMENSIONS OF AT LEAST 2'x3'x2.5'. ALL VERIZON HANDHOLES TO HAVE "VERIZON" LOGO ON COVER.
 - THE GENERAL USE FIBER CONDUIT HANDHOLE SHALL BE A MODEL AS APPROVED BY THE CONSTRUCTION MANAGER.
- GENERAL CONTRACTOR SHALL PLACE ADDITIONAL HANDHOLES ALONG ROUTE, AS NECESSARY, SO THAT SPACING BETWEEN HANDHOLES IS NO GREATER THAN 500 FEET.
- GENERAL CONTRACTOR SHALL PLACE (1) COPPERHEAD INDUSTRIES ORANGE TRACER WIRE (PART NO. 1230N-HS) OR APPROVED EQUIVALENT ABOVE PROPOSED FIBER CONDUIT(S)
- ONE 4" SIDR-11.5 HDPE FIBER CONDUIT w/INTEGRATED INNERDUCTS SHALL BE INSTALLED FROM H-FRAME HOFFMAN BOX TO VERIZON WIRELESS EQUIPMENT PAD LOCATION (PER PLANS)

7. SITE GRADING

A. UNIFORMLY GRADE AREA TO BE SMOOTH SURFACE FREE FROM IRREGULAR SURFACE CHANGES. COMPLY WITH COMPACTION REQUIREMENTS AND GRADE TO CROSS SECTION, TOPO LINES AND ELEVATIONS INDICATED.

1. COMPOUND SURFACE GRADES ARE TO BE SLOPED TO DIRECT WATER AWAY FROM EQUIPMENT PAD AND TOWER TO PREVENT STANDING AND PONDING WATER.

2. COMPOUND SURFACE SHALL BE COMPACTED TO A 95% MAXIMUM DRY DENSITY TO ALLOW PROPER STERILIZATION FOR ACCESS TO ALL CUSTOMERS DENSITY TESTING MAY BE REQUIRED AT VERIZON WIRELESS' DISCRETION DUE TO QUESTIONABLE COMPACTION OF FINISH SURFACE GRADE OR SUB-GRADE.

3. DITCHES/SWALES AROUND THE COMPOUND AREA AND ALONG ACCESS ROAD SHALL BE CONSTRUCTED SO TO PROVIDE A SMOOTH TRANSITION BETWEEN EXISTING GRADES/SLOPE AND NEW PROPOSED GRADES.

4. SITE GRADING AND DRAINAGE SHOULD BE CONSTRUCTED TO PREVENT WATER FROM ENTERING THE COMPOUND SURFACE OR THE ACCESS ROAD SUB-GRADE.

B. MOISTURE CONTROL - UNIFORMLY MOISTEN OR AERATE SUB-GRADE AND EACH SUBSEQUENT FILL OR BACK FILL LAYER BEFORE COMPACTION TO WITHIN 90% OF OPTIMUM MOISTURE CONTENT. DO NOT PLACE BACK FILL OR FILL MATERIAL ON SURFACES THAT ARE MUDDY, FROZEN OR CONTAIN FROST, SNOW OR ICE.

C. STOCKPILING MATERIAL (TOP SOIL OR FILL DIRT) - SHOULD BE PLACED IN AN AREA THAT CAN BE CONTROLLED TO PREVENT WATER, SNOW, OR ICE FROM EFFECTING MOISTURE CONTENT. STOCKPILES MAY HAVE TO BE COVERED TO PREVENT ADDITIONAL MOISTURE FROM ACCUMULATING SO ACCEPTABLE FILL CAN BE USED.

D. DE-WATERING - PREVENT SURFACE WATER AND SUBSURFACE OR GROUND WATER FROM ENTERING EXCAVATIONS, FROM PONDING ON PREPARED SUB-GRADE, AND FROM FLOODING PROJECT OR BUILD AREA.

E. EROSION CONTROL - MEASURES SHALL BE MAINTAINED THROUGHOUT THE DURATION OF THE PROJECT.

1. ALL INLETS, DRAINS, PIPES, SWELLS, AND ROADS SHALL BE KEPT CLEAN AND FREE OF DIRT AND SILT.

F. GEOTEXTILE FABRIC - AFTER PLACEMENT AND COMPACTION OF FILL WITHIN THE WORK AREA AND BEFORE THE PLACEMENT OF LIMESTONE AGGREGATE, (SEE SITE AREA SURFACING DETAIL ON D-1), THE ENTIRE DISTURBED WORK AREA SHALL BE COVERED WITH A GEOTEXTILE FABRIC. THIS FABRIC SHALL BE "TENCATE (MIRAFI 500X) WOVEN ENGINEERING FABRIC" INSTALLED ACCORDING TO THE MANUFACTURERS RECOMMENDATIONS.

8. TRASH REMOVAL & SANITATION:

THE GENERAL CONTRACTOR AND VERIZON WIRELESS GENERAL CONTRACTOR (VZW GC) SHALL REMOVE ALL TRASH AS CREATED BY THEMSELVES AND THEIR SUBCONTRACTORS. TRASH SHALL BE REMOVED FROM THE SITE IN A TIMELY FASHION TO A LEGAL DISPOSAL AREA. THE GENERAL CONTRACTOR SHALL ALSO REMOVE ALL TRASH CREATED BY OTHER CONTRACTORS INCLUDING CABLE REELS, CARDBOARD BOXES AND PACKING. NO BURNING OR BURYING OF TRASH IS PERMITTED.

THE GENERAL CONTRACTOR SHALL PROVIDE AND MAINTAIN A PORTABLE TOILET FOR THE DURATION OF THE CONSTRUCTION PROJECT.

9. TOWER:

A. THE GENERAL CONTRACTOR SHALL VERIFY THE EQUIPMENT PAD FOUNDATION IS LOCATED CORRECTLY WITH RESPECT TO THE TOWER FOUNDATION. THE CONTRACTOR MUST NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO POURING CONCRETE.

B. TOWER & FOUNDATION DESIGN ARE BY OTHERS FOR TOWER OWNER. PRIOR TO CONSTRUCTION THE CONTRACTOR SHALL VERIFY IN WRITING FROM TOWER OWNER THAT THE TOWER IS STRUCTURALLY SUFFICIENT TO SUPPORT ALL LOADINGS AS OUTLINED IN THESE DOCUMENTS. TOWER AND FOUNDATION DESIGN SHALL BE PERFORMED BY A LICENSED ENGINEER.

C. THE GENERAL CONTRACTOR SHALL VERIFY THE TOP OF FOUNDATION MATCHES THE FAA APPROVAL LETTER.

10. EXCAVATION OF UTILITIES:

A. FIELD VERIFY THE LOCATION OF ANY EXISTING UNDERGROUND UTILITIES PRIOR TO EXCAVATING IN THE VICINITY OF THE SITE. ALL EXCAVATIONS SHALL BE MADE BY HAND OVER OR UNDER OR IMMEDIATELY ADJACENT TO ANY EXISTING UTILITIES & GROUNDING.

B. ALL UTILITY COMPANIES SHALL BE NOTIFIED AT LEAST 72 HOURS PRIOR TO ANY CONSTRUCTION ON THIS PROJECT. CONTACT UNDERGROUND UTILITY PROTECTION SERVICE BEFORE YOU DIG AT 1-800-482-7171 OR 811.

C. EXISTING UTILITIES ARE SHOWN FROM THE SURVEY AND ARE NOT NECESSARILY COMPLETE AND ACCURATE. THE CONTRACTOR SHALL BE RESPONSIBLE TO LOCATE, EXPOSE AND DETERMINE IF CONFLICTS EXIST WITH THE NEW IMPROVEMENTS. THE CONTRACTOR SHALL NOTIFY THE ENGINEER (A&E FIRM) IN ORDER TO RESOLVE ANY CONFLICTS.

11. CONTRACTOR'S LICENSE:

THE GENERAL CONTRACTOR, VERIZON WIRELESS GENERAL CONTRACTOR (VZW GC) AND ALL OF THEIR SUBCONTRACTORS THAT DO ANY WORK ON THIS PROJECT SHALL BE CURRENTLY LICENSED TO PERFORM WORK IN THE LOCATION OF THIS SITE. PROOF OF LICENSES SHALL BE SUPPLIED TO VERIZON WIRELESS PRIOR TO THE COMMENCEMENT OF ANY WORK.

12. SEEDING:

ALL DISTURBED AREAS SHALL BE REPAIRED AND SEEDED BY THE GENERAL CONTRACTOR, UNLESS OTHERWISE NOTED. SEED DISTURBED AREAS W/4 POUNDS/1000 SQ. FT. - 60% KENTUCKY BLUEGRASS, 18% CREEPING RED FESCUE, 22% ANNUAL RYEGRASS.

13. TRAFFIC CONTROL:

THE CONTRACTOR SHALL FURNISH, INSTALL AND MAINTAIN ALL REQUIRED TRAFFIC CONTROL DEVICES IN ACCORDANCE WITH THE MANUAL OF UNIFORM TRAFFIC CONTROL DEVICES OR GOVERNING LOCAL AGENCIES.

14. CONSTRUCTION STAKING:

THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL CONSTRUCTION STAKING NEEDED TO COMPLETE ALL THE CONSTRUCTION SHOWN HEREON. COORDINATE WITH VERIZON WIRELESS CONSTRUCTION MANAGER. CONTACT DESIGN ENGINEER TO SCHEDULE CONSTRUCTION STAKING.

15. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DAMAGE TO EXISTING PROPERTY RESULTING FROM THE CONSTRUCTION ACTIVITIES, INCLUDING BUT NOT LIMITED TO PAVEMENT, FINISHED GRADES, LANDSCAPING, BUILDINGS, SURVEY MARKERS, FIELD TILES, CULVERTS, ETC.

16. IN THE EVENT ANY DISCREPANCIES OR ERRORS ARE FOUND ON THESE PLANS OR ANY CONFLICT OR PROBLEMS ARE ENCOUNTERED DURING CONSTRUCTION, THE GENERAL CONTRACTOR OR VERIZON WIRELESS GENERAL CONTRACTOR (VZW GC) SHALL NOTIFY THE ENGINEER BEFORE PROCEEDING WITH THE WORK. NO ADDITIONAL COMPENSATION WILL BE PAID TO THE GENERAL CONTRACTOR OR VERIZON WIRELESS GENERAL CONTRACTOR (VZW GC) FOR WORK HAVING TO BE REDONE FOR GRADE OR GEOMETRIC DISCREPANCIES IF NOTICE TO THE ENGINEER HAS NOT BEEN PROVIDED. THE ENGINEER RESERVES THE RIGHT TO MAKE MINOR ADJUSTMENTS AS NECESSARY TO ACCOMPLISH THE INTENT OF THESE PLANS.

17. ALL SITE WORK AND CONSTRUCTION SHALL CONFORM TO ANY AND ALL APPLICABLE CODES AND VERIZON WIRELESS STANDARDS AND SPECIFICATIONS.

18. ALL ELEVATIONS AND TOPOGRAPHIC INFORMATION WAS TAKEN FROM A SURVEY SUPPLIED TO A&E FIRM BY SURVEYING FIRM. A&E FIRM HAS NOT VERIFIED THIS INFORMATION AND DOES NOT WARRANT ANY INFORMATION SUPPLIED BY OTHERS.

19. THE GENERAL CONTRACTOR SHALL MAINTAIN A COMPLETE AS-BUILT SET OF PLANS AND CONDITIONS AS REQUIRED BY THE TOWER OWNER, AND SUBMIT SAME TO THE ENGINEER WITHIN 7 DAYS OF COMPLETION OF CONSTRUCTION. AS-BUILT PLANS SUBMITTED TO THE ENGINEER SHALL INCLUDE A DRAWING WITH DIMENSIONS SHOWING THE LOCATION OF THE UNDERGROUND UTILITIES, GROUNDING GRID, EQUIPMENT PAD, TOWER FOUNDATION, TOWER PLATFORM ORIENTATION, AND FENCE WITHIN THE LEASE AREA OR PROPERTY AND BE CERTIFIED BY A LICENSED PROFESSIONAL SURVEYOR.

20. THE GENERAL CONTRACTOR AND VERIZON WIRELESS GENERAL CONTRACTOR (VZW GC) SHALL BE RESPONSIBLE FOR NOTIFICATION OF ALL GOVERNING AGENCIES THAT REQUIRE SITE INSPECTION OF THE WORK AND/OR SIMPLY NOTIFICATION.

21. THE GENERAL CONTRACTOR AND VERIZON WIRELESS GENERAL CONTRACTOR (VZW GC) SHALL BE RESPONSIBLE FOR NOTIFICATION AND COORDINATION OF ALL TESTING AGENCIES THAT REQUIRE SITE INSPECTION OR TESTING OF THE WORK AS DIRECTED IN THESE PLANS, GOVERNING AGENCIES AND ALL APPLICABLE CODES.

22. PRIOR TO THE SUBMISSION OF BIDS, THE GENERAL CONTRACTOR AND HIS SUBCONTRACTORS SHALL VERIFY ALL DETAILS AND SCHEDULES ON THE DRAWINGS AND SPECIFICATIONS PROVIDED BY THE OWNER, FOR MEANING OF ABBREVIATIONS AND ADDITIONAL REQUIREMENTS AND INFORMATION. CHECK ALL CONSTRUCTION DOCUMENTS TO INCLUDE, BUT NOT LIMITED TO, GEOTECHNICAL REPORT, STRUCTURAL ANALYSIS, TOWER, MECHANICAL AND ELECTRICAL DRAWINGS, FOR SCALE, SPACE LIMITATIONS, DOOR SWINGS, ADJACENT CARRIER EQUIPMENT COORDINATION AND ADDITIONAL INFORMATION, ETC. REPORT ANY DISCREPANCIES, CONFLICTS, ETC. TO THE OWNER BEFORE SUBMITTING BIDS.

24. WORK SITE SAFETY:

A. CONSTRUCTION WORK PRESENTS UNIQUE THREATS TO HEALTH AND SAFETY. THE CONTRACTOR AND VERIZON WIRELESS CONTRACTOR (VZW GC) ARE RESPONSIBLE TO EDUCATE THEIR WORK FORCE OF THESE DANGERS AND LIMIT THEIR EXPOSURE TO HAZARDS. THIS EDUCATION SHALL INCLUDE BUT NOT BE LIMITED TO APPLICABLE TRAINING COURSES AND CERTIFICATIONS, PROPER PERSONAL PROTECTIVE EQUIPMENT USAGE, DAILY TAILGATE MEETINGS AND ANY OTHER PREVENTATIVE MEASURES WHICH MAY BE REASONABLY EXPECTED. THE CONTRACTOR, VERIZON WIRELESS CONTRACTOR (VZW GC) AND ALL SUB-CONTRACTORS SHALL BE RESPONSIBLE FOR THE SAFETY OF THE WORK AREA, ADJACENT AREAS AND ANY PROPERTY OCCUPANTS WHO MAY BE AFFECTED BY THE WORK UNDER CONTRACT. ALL CONTRACTORS SHALL REVIEW ALL LANDOWNER, PRIME CONTRACTOR, CARRIER, OSHA, AND LOCAL SAFETY GUIDELINES AND AT ALL TIMES SHALL CONFORM TO THE MOST RESTRICTIVE OF THESE STANDARDS TO ENSURE A SAFE WORKPLACE.

B. TOWER WORK PRESENTS ADDITIONAL THREATS TO HEALTH AND SAFETY. ALL TOWER WORKERS WORKING ON A TOWER MUST BE ADEQUATELY TRAINED AND MONITORED TO ENSURE THAT SAFE WORK PRACTICES ARE LEARNED AND FOLLOWED. AS REQUIRED BY OSHA, WHEN WORKING ON EXISTING COMMUNICATION TOWERS, EMPLOYEES MUST BE PROVIDED WITH APPROPRIATE FALL PROTECTION, TRAINED TO USE THIS FALL PROTECTION PROPERLY, AND THE USE OF FALL PROTECTION MUST BE CONSISTENTLY SUPERVISED AND ENFORCED BY THE CONTRACTOR.

C. ALL SAFETY EQUIPMENT SHALL BE INSPECTED ACCORDING TO ALL OSHA AND INDUSTRY SCHEDULED INTERVALS AND ALL INSPECTIONS SHALL BE DOCUMENTED PER APPLICABLE CODES AND STANDARDS.

TILLMAN
INFRASTRUCTURE

verizon

LCC
TRAFFIC CONTROL

DRAWN BY: DS

CHECKED BY: MC

REV	DATE	DESCRIPTION
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SHEET TITLE

TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

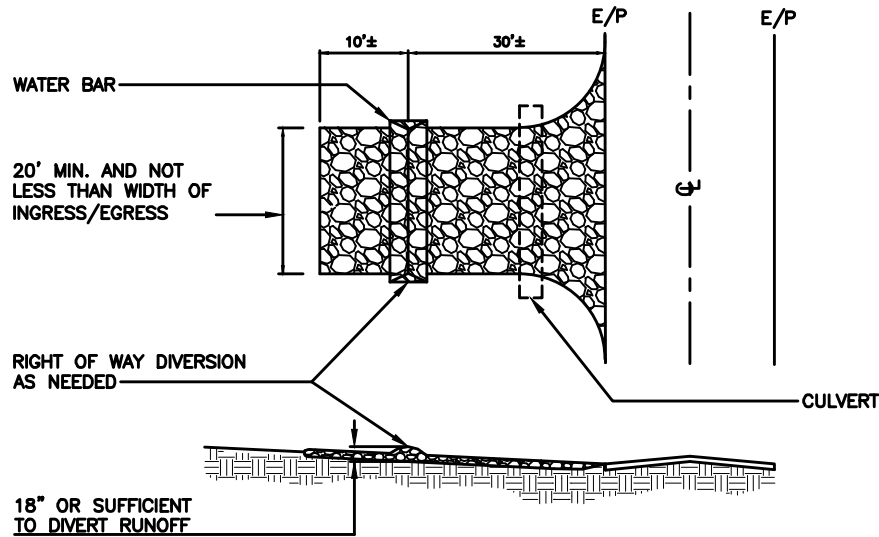
GENERAL SITE
CONSTRUCTION
NOTES

SHEET NUMBER

C-6

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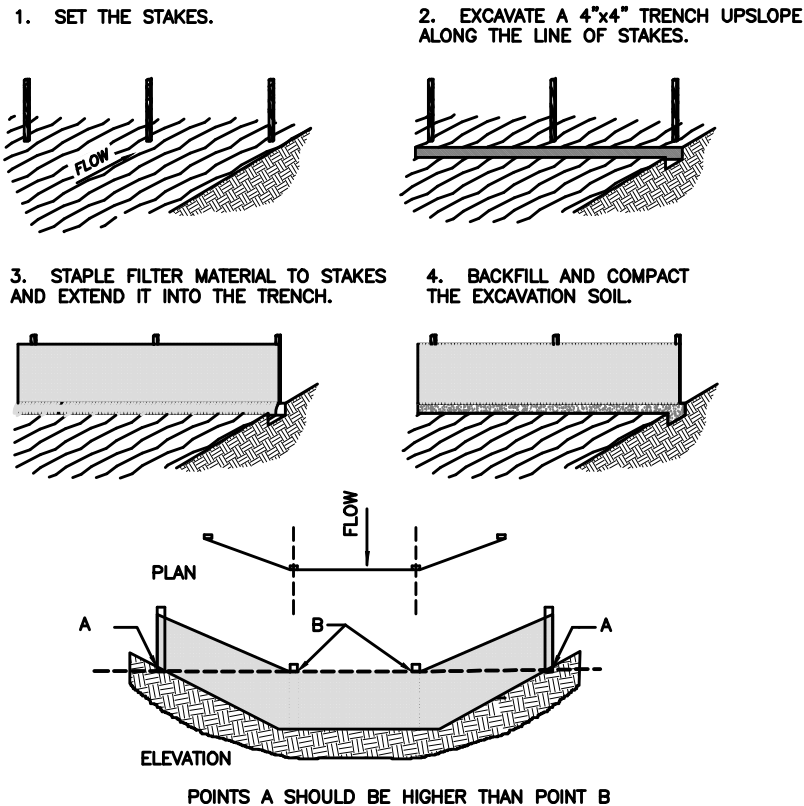
NOTES:

1. STONE SIZE - TWO INCH STONE SHALL BE USED, OR RECYCLED CONCRETE EQUIVALENT.
2. THE CONSTRUCTION ENTRANCE SHALL COINCIDE WITH THE PROPOSED DRIVE AS SHOWN ON THE PLAN.
3. PAVEMENT THICKNESS - STONE LAYER SHALL BE AT LEAST 6" THICK.
4. DRIVEWAY WIDTH - THE ENTRANCE SHALL BE AT LEAST 10' WDE, BUT NOT LESS THAN FULL WIDTH AT POINTS WHERE INGRESS/EGRESS OCCURS.
5. BEDDING - A GEOTEXTILE SHALL BE PLACED OVER THE ENTIRE AREA PRIOR TO PLACING STONE. IT SHALL HAVE A GRAB TENSILE STRENGTH OF AT LEAST 200 LBS. AND A MULLEN BURST STRENGTH OF AT LEAST 190 LBS.
6. CULVERT - A PIPE OR CULVERT SHALL BE CONSTRUCTED UNDER THE ENTRANCE IF NEEDED TO PREVENT SURFACE WATER FLOWING ACROSS THE ENTRANCE FROM BEING DIRECTED OUT ONTO PAVED SURFACES.
7. WATER BAR - A WATER BAR SHALL BE CONSTRUCTED AS PART OF THE CONSTRUCTION ENTRANCE IF NEEDED TO PREVENT SURFACE RUNOFF FROM FLOWING THE LENGTH OF THE CONSTRUCTION ENTRANCE AND OUT ONTO PAVED SURFACES.
8. MAINTENANCE - TOP DRESSING OF ADDITIONAL STONE SHALL BE APPLIED AS CONDITIONS DEMAND, MUD SPILLED, DROPPED, WASHED OR TRACKED ONTO PUBLIC ROADS, OR ANY SURFACE WHERE RUNOFF OS NOT CHECKED BY SEDIMENT CONTROLS, SHALL BE REMOVED IMMEDIATELY, REMOVAL SHALL BE ACCOMPLISHED BY SCRAPING OR SWEEPING.
9. CONSTRUCTIONS ENTRANCES SHALL NOT BE RELIED UPON TO REMOVE MUD FROM VEHICLES AND PREVENT OFF SITE TRACKING. VEHICLES THAT ENTER AND LEAVE THE CONSTRUCTION SHALL BE RESTRICTED FROM MUDDY AREAS.

TEMPORARY STABILIZED CONSTRUCTION ENTRANCE

SCALE: N.T.S.

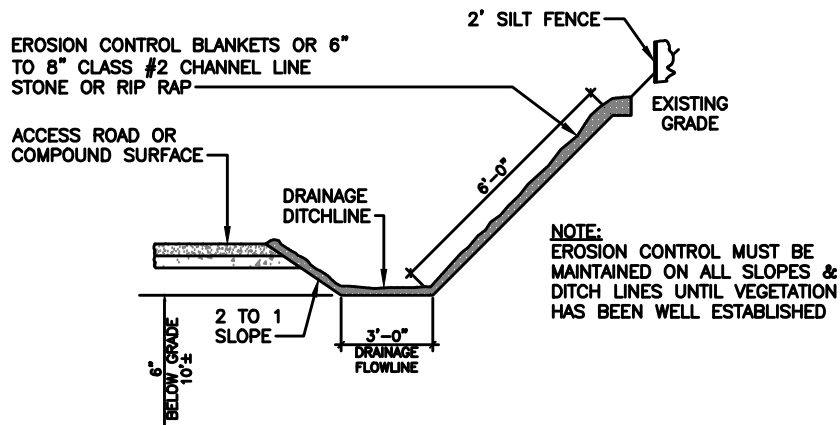
1
C-7



SILT FENCE DETAIL

SCALE: N.T.S.

2
C-7



NOTES:

1. WHEN FACED WITH SLOPES LESS THAN 2 TO 1 SLOPES, ALL SLOPES SHOULD BE DOZER TRACKED PRIOR TO SEEDING. ALL SLOPES SHOULD HAVE EROSION CONTROL BLANKETS OR RIP RAP EMBEDDED ON SLOPES SURFACES TO REDUCE EROSION.
2. ALL FLOWLINES MUST BE INSTALLED BELOW SUB-GRADE OF COMPOUND. (AT MINIMUM OF 6" BELOW)

DRAINAGE DITCHLINE DETAIL (SWALE)

SCALE: N.T.S.

3
C-7

EROSION & SEDIMENT CONTROL NOTES

1. ALL WORK SPECIFIED AS A/AN DOT ITEM SHALL BE GOVERNED BY THE STATE OF INDIANA OF DEPARTMENT OF TRANSPORTATION CONSTRUCTION AND MATERIAL SPECIFICATION HANDBOOK. IT IS CONTRACTORS RESPONSIBILITY TO POSSESS AND BE FAMILIAR WITH APPLICABLE SECTIONS.
2. THIS CONTRACT DRAWING SHALL BE MADE AVAILABLE ON SITE AT ALL TIMES AND PRESENTED UPON REQUEST. IF UNFORESEEN STORM WATER POLLUTION PREVENTION IS ENCOUNTERED, ADDITIONAL STORM WATER POLLUTION PREVENTION (SWPP) MEASURES MAY BE REQUESTED BY THE OWNER, COUNTY ENGINEER, PROJECT ENGINEER OR SOIL CONSERVATION SERVICE REPRESENTATIVE AT ANYTIME. SUCH REQUESTS SHALL BE IMPLEMENTED IMMEDIATELY AT CONTRACTOR'S EXPENSE.
3. ALL STORM WATER POLLUTION PREVENTION ITEMS SHALL BE INSTALLED AS SHOWN OR NOTED ON THIS SHEET.
4. PLANT TEMPORARY SEEDING AND MULCHING IN ALL AREAS THAT SHALL BE INACTIVE FOR 7 DAYS OR MORE. ALL DISTURBED AND ERODED EARTH SHALL BE REGRADED AND SEEDED WITHIN 14 DAYS WITH SEEDING, AS DEFINED ABOVE AND AS SHOWN ON THE TABLE BELOW. TO ESTABLISH STABILITY AND PROVIDE SEDIMENT CONTROL, WHERE POSSIBLE. TEMPORARY SEEDING GROWTH SHALL NOT BE MOWED UNTIL IT HAS GONE TO SEED FOR 1 YEAR.

SEEDING

RESTORATION OF ALL DISTURBED AREAS, INCLUDING PLACEMENT OF 4 INCHES OF TOPSOIL, SEED, FERTILIZER AND MULCH AND/OR SOD, SHALL BE DONE WITHIN 5 DAYS OF THE COMPLETION OF FINAL GRADING. MINIMUM SEEDING REQUIREMENTS CONSIST OF 200 LBS/ACRE OF SEED, 500 LBS/ACRE OF 10/10/10 ANALYSIS FERTILIZER (OR EQUAL) AND STRAW MULCH AT A RATE OF 1.5 TONS/ACRE (OR EQUIVALENT)

5. PERMANENT VEGETATION SHALL BE INSTALLED WITHIN 10 DAYS AT THE COMPLETION OF ANY GRADED AREAS, WEATHER PERMITTING. ALL PERMANENT VEGETATION SHALL CONSIST OF PLANTING AND SOD
6. AT SUCH TIME ROUGH GRADING OF THE SITE IS COMPLETE AND DRAINAGE DIVERTS TO INLETS, INLET SEDIMENT FILTERS SHALL BE INSTALLED AT ALL INLET STRUCTURES TO KEEP PIPING SYSTEMS FREE OF SILTATION.
7. SILT BARRIERS SHALL BE INSTALLED AROUND ALL EXISTING OR NEW STORM INLETS, CATCH BASINS, AND YARD DRAINS. INSTALL ROCK CHECK DAMS FOR HEADWALL INLETS FOR STORM WATER POLLUTION PREVENTION.
8. STORM WATER POLLUTION PREVENTION MEASURES SHALL BE INSTALLED OR TOPSOIL STOCKPILES AND OTHER TEMPORARILY DISTURBED AREAS AS SHOWN ON THESE PLANS AND AS DIRECTED BY THE ENGINEER.
9. CONTRACTOR SHALL INSPECT ALL SWPP MEASURES DAILY AND REPAIR AS NECESSARY TO PREVENT EROSION. SILTATION SHALL BE REMOVED FROM AREAS WHERE FAILURES HAVE OCCURRED AND CORRECTIVE ACTION TAKEN WITHIN 24 HOURS TO MAINTAIN ALL SWPP.
10. SILT BARRIERS, CONSTRUCTION ENTRANCES, AND SILT FENCES SHALL REMAIN IN PLACE UNTIL A GOOD STAND OF GRASS HAS BEEN OBTAINED AND/OR PAVING OPERATIONS ARE COMPLETE. CONTRACTOR SHALL KEEP SILT FROM ENTERING ANY STORM DRAINAGE SYSTEM. ONCE SITE HAS BEEN COMPLETELY STABILIZED, ANY SILT IN PIPES AND DRAINAGE SWALES SHALL BE REMOVED WITHIN 10 DAYS.
11. TEMPORARY SEDIMENTATION AND STORM WATER POLLUTION PREVENTION MEASURES MUST BE INSPECTED AND LOGGED BY THE CONTRACTOR FOR INSPECTION, LOGGING SHALL BE WEEKLY AND AFTER RAIN STORMS.
12. UTILITY COMPANIES MUST COMPLY WITH ALL STORM WATER POLLUTION PREVENTION MEASURES AS DEFINED ON THE STORM WATER PREVENTION PLANS, DETAILS AND NOTES.
13. THE TOTAL AREA OF DISTURBANCE FOR THIS PROJECT IS APPROXIMATELY 0.96 ACRES.
14. ALL EXISTING WATER COURSES WITHIN THE PROJECT LIMITS SHALL BE TEMPORARILY PROTECTED DURING LAND CLEARING AND GRADING OPERATIONS. SOILS WITHIN 50 FEET OF SAID WATER COURSES SHALL BE STABILIZED WITHIN 2 DAYS OF THE INITIAL CLEARING / GRADING OPERATION AS SHOWN ON PLANS.
15. ALL DISTURBED AREAS SHALL BE STABILIZED WITHIN 7 DAYS OF FINAL GRADING.
16. IT IS THE CONTRACTOR'S RESPONSIBILITY TO MAINTAIN ALL SEDIMENTATION AND STORM WATER POLLUTION PREVENTION ITEMS AT ALL TIMES.
17. ALL STORM WATER POLLUTION PREVENTION PRACTICES WILL BE INSTALLED BEFORE ANY OTHER EARTH MOVING OCCURS.
18. THE FOLLOWING STORM WATER POLLUTION PREVENTION AND SEDIMENT CONTROL MEASURES WILL BE USED ON THIS SITE:
 1. SILT BARRIERS
 2. SILT FENCE
 3. CONSTRUCTION ENTRANCE
 4. EROSION CONTROL SEED BLANKETS - SPEC FOR TEMPORARY EROSION CONTROL BLANKETS ON SLOPES/DITCHES

CONSTRUCTION SEQUENCE

1. STAKE AND/OR FLAG LIMITS OF CLEARING
2. DURING PRECONSTRUCTION MEETING ALL EROSION & SEDIMENT CONTROL FACILITIES & PROCEDURES SHALL BE DISCUSSED.
3. CLEARING & GRUBBING, AS NECESSARY, FOR INSTALLATION OF PERIMETER CONTROLS.
4. INSTALL SILT FENCE PERIMETER CONTROLS AS SHOWN ON PLANS.
5. INSTALL CONSTRUCTION ENTRANCE, IF CONDITIONS ARE SUCH THAT MUD IS COLLECTION ON VEHICLE TIRES, THE TIRES MUST BE CLEANED BEFORE THE VEHICLES ENTER THE PUBLIC ROADWAY. THE SITE ENTRANCE SHALL BE MAINTAINED IN A CONDITION THAT WILL PREVENT THE TRACKING OR FLOW OF MUD INTO THE PUBLIC RIGHT-OF-WAY. ALL MATERIALS SPILLED, DROPPED, WASHED OR TRACKED FROM VEHICLES ONTO THE ROADWAY MUST BE REMOVED PROMPTLY.
6. CLEARING & GRUBBING THE REMAINING SITE AS NECESSARY.
7. BEGIN FILLING & GRADING AS REQUIRED TO REACH SUBGRADE.
8. CONSTRUCT AND MAINTAIN TEMPORARY DRAINAGE SWALES DURING FILLING AND GRADING ACTIVITIES.
9. CONSTRUCT SITE WORK INCLUDING STORM DRAINAGE FACILITIES.
10. MAINTAIN EROSION & SEDIMENTATION CONTROL MEASURES UNTIL THE SITE HAS BEEN COMPLETELY STABILIZED.
11. REMOVE SEDIMENT CONTROLS.

TILLMAN
INFRASTRUCTURE

verizon

LCC
TRAFFIC SERVICES

DRAWN BY: DS

CHECKED BY: MC

REV	DATE	DESCRIPTION
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SHEET TITLE

TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - L RELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

BEST MANAGEMENT
PRACTICES &
EROSION CONTROL
DETAILS AND NOTES

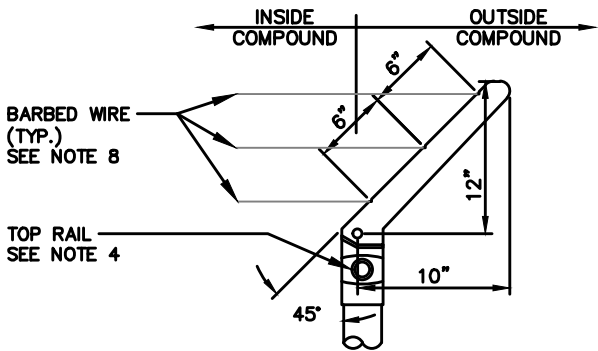
SHEET NUMBER

C-7

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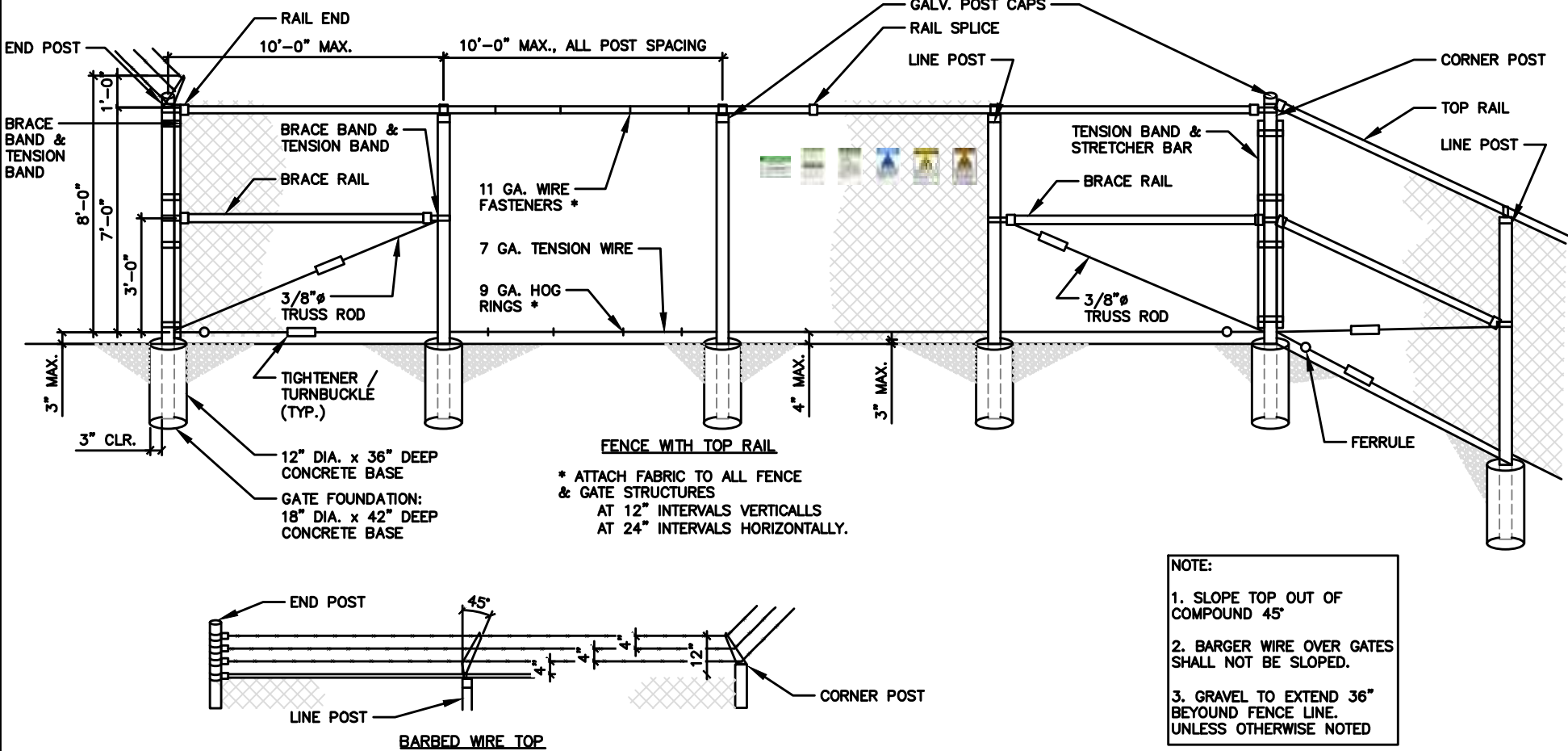
WOVEN WIRE FENCE NOTES:
(INSTALL FENCING PER ASTM F-567) (SWING GATES PER ASTM F-900)

- ALL FABRIC, WIRE RAILS, POLES, HARDWARE, AND OTHER STEEL MATERIAL SHALL BE HOT-DIPPED GALVANIZED AND CONFORM TO ALL ASTM REGULATIONS FOR GALVANIZING.
- THE CONTRACTOR SHALL MATCH THE FENCING HEIGHT, STYLE, BANDING, BARBED WIRE, SUPPORTS, AND MEASUREMENTS OF THE EXISTING FENCE WHEREVER THE PROJECT REQUIRES THE EXTENSION OR MODIFICATIONS OF AN EXISTING COMPOUND.
- THE FABRIC SHALL BE 6'-0" HIGH WITH 2'X2' 9-GAUGE (0.148") WIRE. THE FABRIC SHALL HAVE A TWISTED AND BARNED FINISH FOR THE TOP EDGES AND A KNUCKLED FINISH FOR THE BOTTOM EDGES.
- BARBED WIRE IS REQUIRED ON ALL FENCING AND SHALL BE DOUBLE-STRAND, 12-GAUGE TWISTED WIRE, WITH 14-GAUGE 4 POINT ROUND BARBS SPACED AT 5" ON CENTER.
- ALL POSTS SHALL BE SCHEDULE 40 GALVANIZED STEEL PIPE OF THE FOLLOWING DIAMETERS:
 - LINE POSTS: 2-3/8"
 - END/CORNER POSTS: 3-1/2"
 - GATE POSTS: 4-1/2"
- EXTEND GATE, CORNER, AND END POSTS 1'-0" INCLUDED THE METAL DOME CAP TO PROVIDE FOR ATTACHMENT OF THE BARBED WIRE.
- ALL TOP AND BRACE RAILS SHALL BE 1-5/8" OUTSIDE DIAMETER SCHEDULE 40 PIPE WITH MECHANICAL BRACE, SECURED IN PLACE BY USE OF BRACE CLAMPS.
- GATE FRAMES SHALL BE FULLY WELDED AND HAVE A FULL HEIGHT VERTICAL BRACE AND A FULL WIDTH HORIZONTAL BRACE.
- HINGES SHALL BE A MINIMUM OF 200 DEGREES WITH A HINGE ADAPTER.
- LATCHES, STOPS, AND KEEPERS SHALL BE PROVIDED FOR ALL GATES.
- THE GUIDE LATCH ASSEMBLY SHALL BE TAMPER PROOF.
- ALL STOPS AND DOUBLE GATES SHALL HAVE A FULL HEIGHT PLUNGE BAR WITH A METAL DOME CAP.
- USE A NO. 7-1/2-GAUGE ZINC COATED TENSION WIRE AT THE BOTTOM OF THE FABRIC THAT IS TERMINATED WITH BEND CLIPS AT THE CORNER AND GATE POSTS.
- USE A 6'X1/2" EYEBOLT TO HOLD TENSION WIRE AT THE LINE POSTS.
- STRETCHER BARS SHALL BE 3/16"X3/4" OR HAVE EQUIVALENT CROSS-SECTIONAL AREA.
- ALL CORNER AND END PANELS SHALL HAVE A 3/8" TRUSS ROD WITH TURNBUCKLES AND BE BRACED WITH 1-5/8" HORIZONTAL COMPRESSION MEMBERS, SECURELY ATTACHED WITH IRON FITTINGS.
- ALL OTHER HARDWARE SHALL BE PROVIDED AS NECESSARY TO ATTACH, TENSION, CLIP, BAND, HINGE, FASTEN, AND FINISH THE FENCING PROPERLY.
- BARBED WIRE SUPPORT ARMS SHALL BE SCHEDULE 40 GALVANIZED STEEL WITH SET BOLT AND LOCK WIRE IN THE ARM.
- POSTS SHALL BE SET IN 2,500 PSI MINIMUM CONCRETE.
- ALL POSTS SHALL HAVE A MINIMUM OF 6" OF CONCRETE UNDER THE LOWER MOST PORTION.
- ALL FENCE POSTS SHALL BE SCHEDULE 40 GALVANIZED STEEL POSTS WITH SET BOLT AND LOCK WIRE IN THE ARM
- ATTACH FABRIC TO THE BRACE RAILS, TENSION WIRE AND TRUSS RODS WITH THE TIE CLIPS AT 2'-0" INTERVALS.



BARBED WIRE DETAIL

SCALE
N.T.S. **3**



FENCE/ GATE & GATE STOP DETAIL

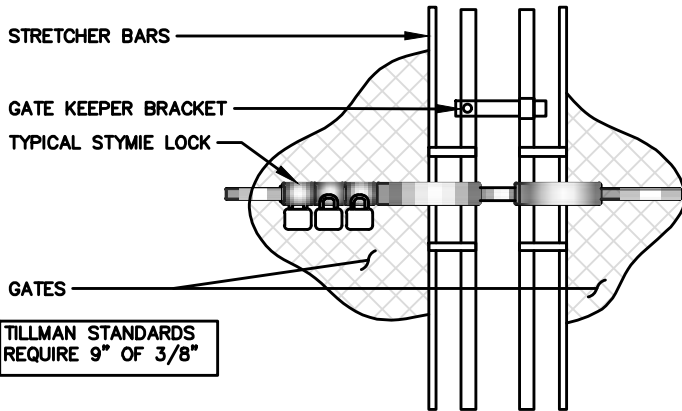
SCALE
N.T.S. **4**

STANDARD COMBINATION LOCK SPEC:
ALL LOCKS SHOULD BE MARINE GRADE BRASS LOCK WITH STAINLESS STEEL SHACKLE, SOLID BRASS BODY PROVIDES STRENGTH AND COOROSION RESISTNACE. STAINLESS STEEL SHACKLES:
RESIST HACKSAWS, BOLT CUTTERS, AND CORROSIVE WEATHER CONDITIONS.

ALL LOCKS:
SHOULD BE A PROGRAMMABLE COMBINATION LOCK THAT IS STRONG, DURABLE, AND HIGHLY WEATHER RESISTANT

THE FOLLOW LOCKS ARE APPROVED TO BE USED ON SITES OR APPROVED EQUAL

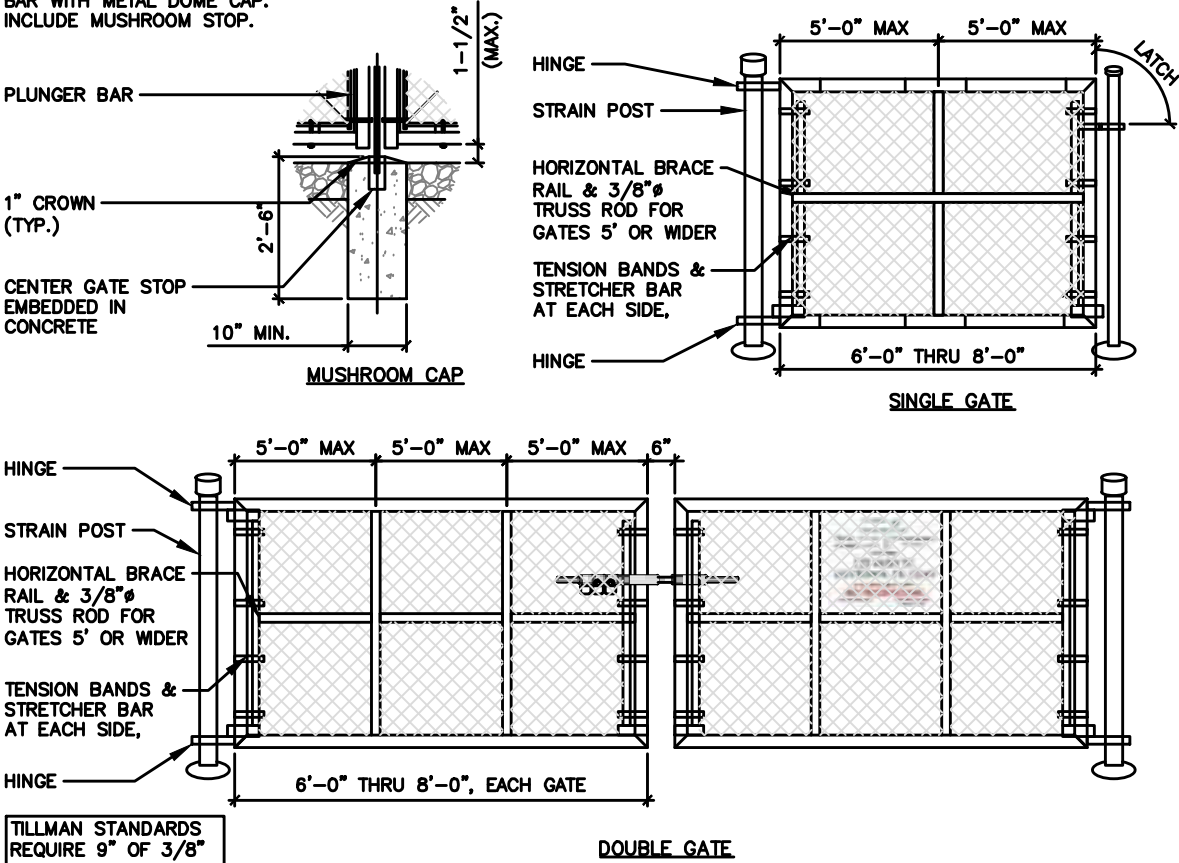
PART NUMBERS:
ABUS 180/HB 50-63 WITH 2-1/4" MARINE GRADE WITH 4 DIALS
ABUS 180 COMBINATION 1" MARINE GRADE WITH 4 DIALS.



STYMIE LOCK DETAIL

SCALE
N.T.S. **2**

ALL STOPS AND DOUBLE GATES SHALL HAVE A FULL HEIGHT PLUNGE BAR WITH METAL DOME CAP. INCLUDE MUSHROOM STOP.



POST FOOTING DETAIL

SCALE
N.T.S. **1**

TILLMAN
INFRASTRUCTURE

verizon

LCC
TRUCK SERVICE

DRAWN BY: DS
CHECKED BY: MC

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VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

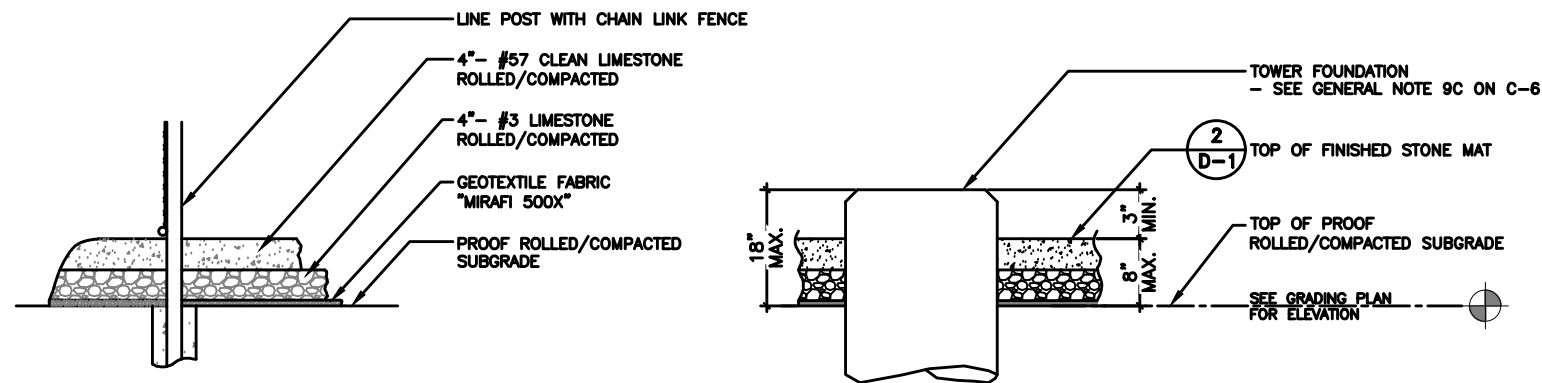
SHEET TITLE

FENCE DETAILS
AND NOTES

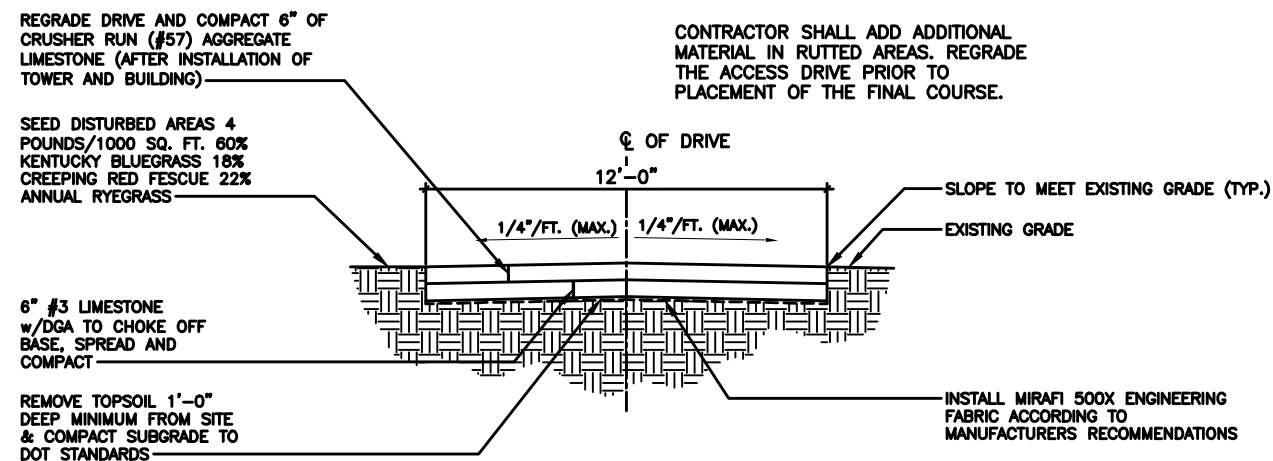
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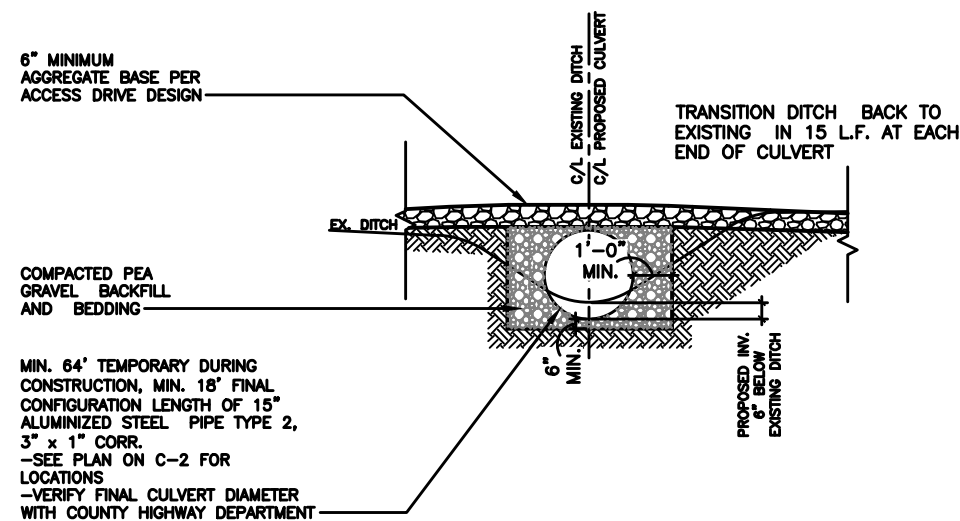
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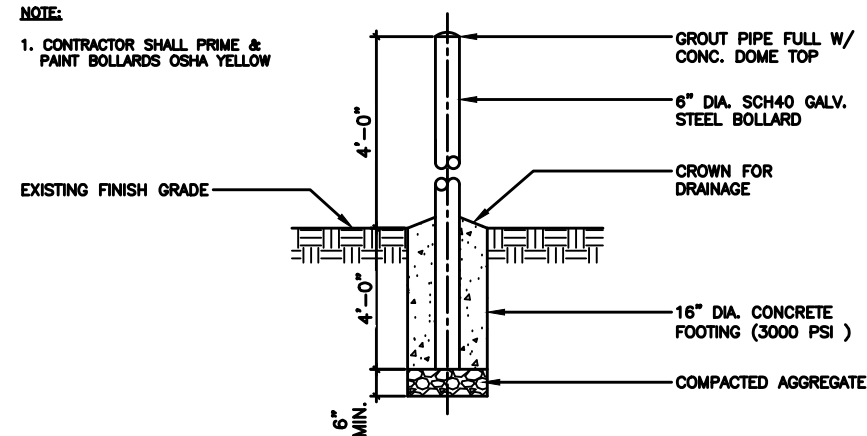
PARTIAL COMPOUND SECTION 1 D-2
SCALE: N.T.S.



ACCESS DRIVE TYPICAL SECTION 2 D-2
SCALE: N.T.S.



CULVERT DETAIL 3 D-2
SCALE: N.T.S.



BOLLARD DETAIL 4 D-2
SCALE: N.T.S.

- (3) "VERIZON ONLY" 1.25" SMOOTHWALL SDR-11 HDPE CONDUITS w/PULLTAPES (200 L.F.)
(1) 4" SCH40 PVC CONDUIT OR AS SPECIFIED BY THE TOWER OWNER w/PULLTAPE (FUTURE SERVICE) - SEE GENERAL NOTE 6 & 10 ON SHEET C-6

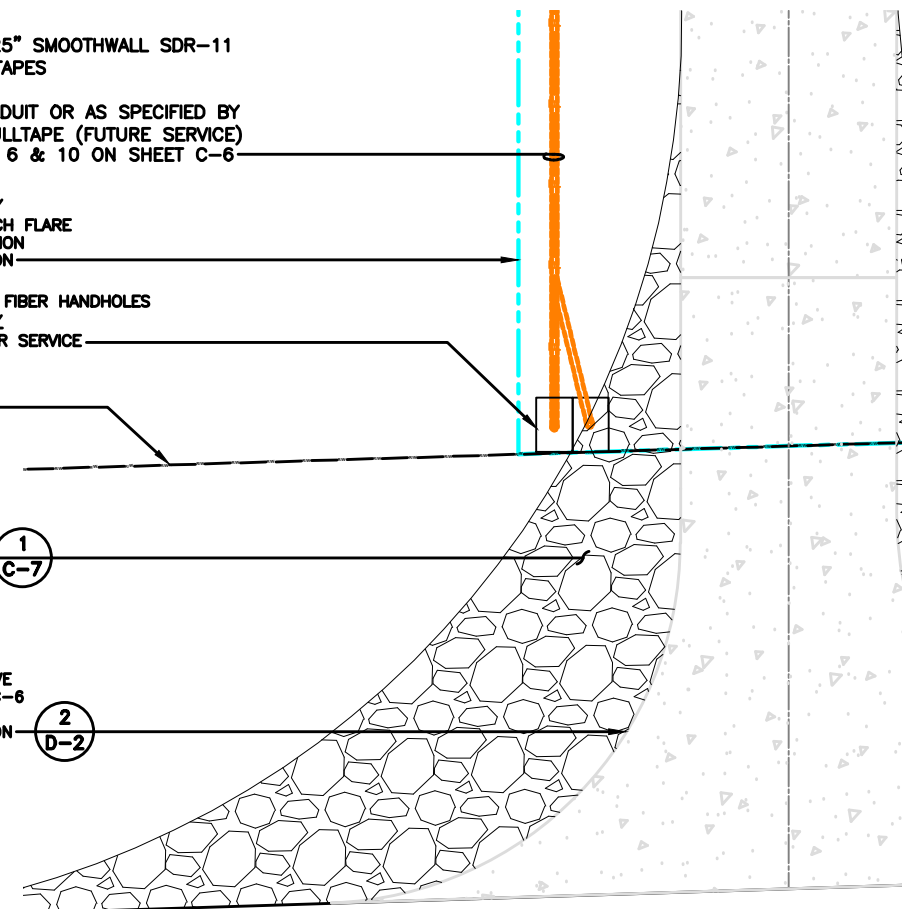
- 30'-0" WIDE ACCESS/UTILITY EASEMENT w/DRIVE APPROACH FLARE - SEE C-1 FOR CONTINUATION - SEE SURVEY FOR LOCATION

- (2) 24"x36" VEHICLE RATED FIBER HANDHOLES
(1) VERIZON WIRELESS ONLY
(1) BTS COMPANY FOR FIBER SERVICE

- EXISTING RIGHT OF WAY (PER SURVEY)

- TEMPORARY CONSTRUCTION STABILIZED ENTRANCE 1 C-7

- 12'-0" GRAVEL ACCESS DRIVE - SEE NOTE 4 ON SHEET C-6 - NEW DRIVE @ ±70 L.F. - SEE SURVEY FOR LOCATION 2 D-2



ENLARGED FIBER HAND HOLE PLAN AT R.O.W. 5 D-2
SCALE: 3/16" = 1'-0"



TILLMAN
INFRASTRUCTURE

verizon

LCC
TRAFFIC SERVICES

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SHEET TITLE

TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

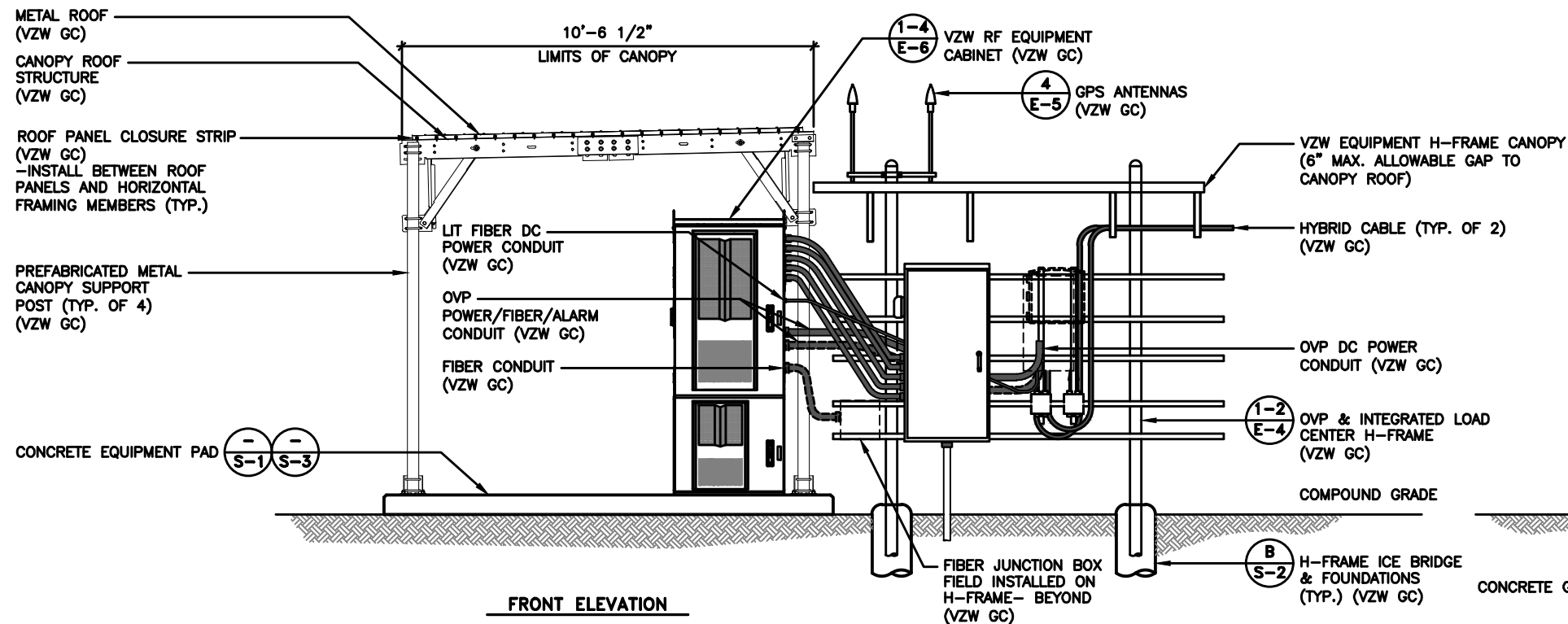
SHEET TITLE

SITE DETAILS

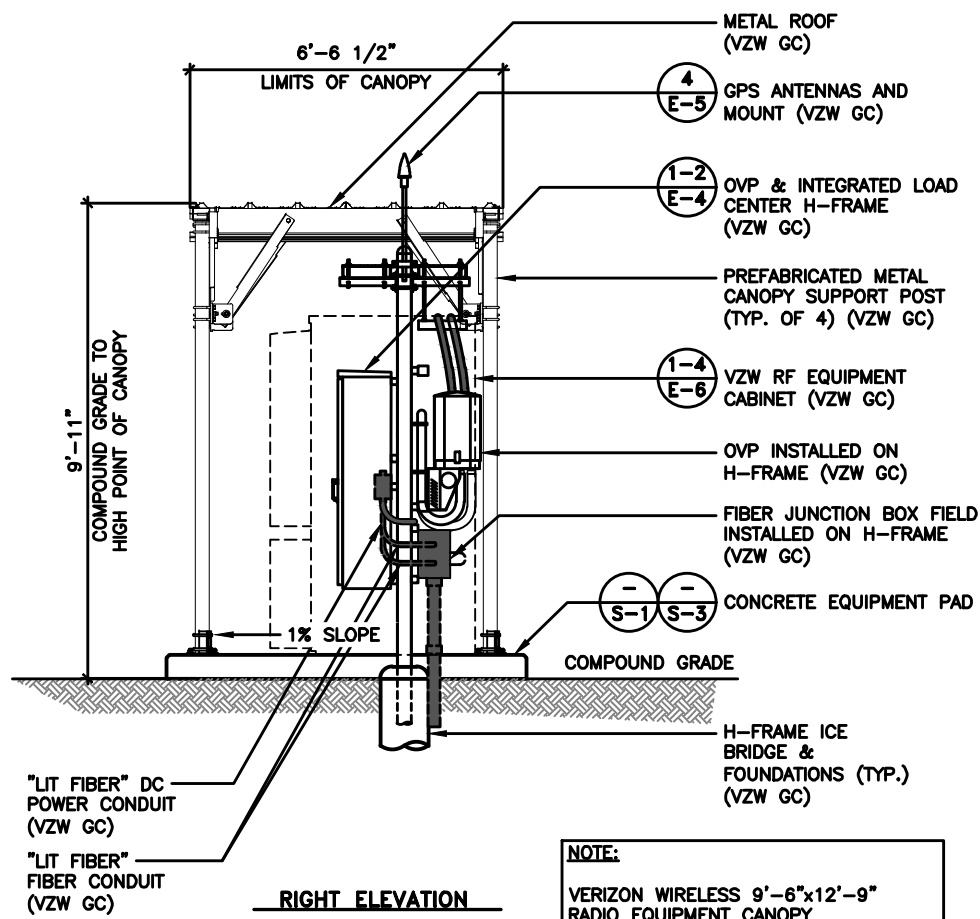
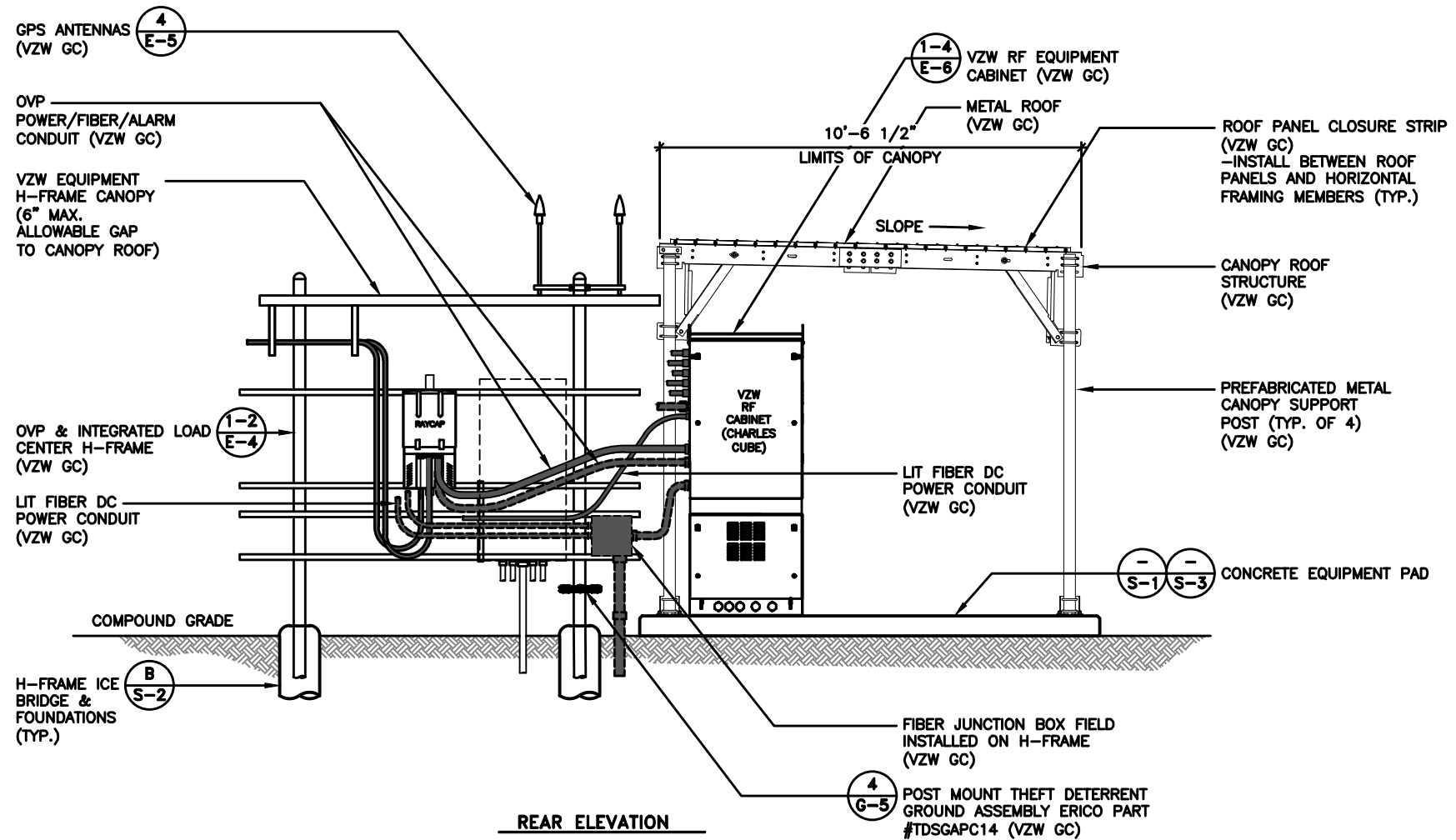
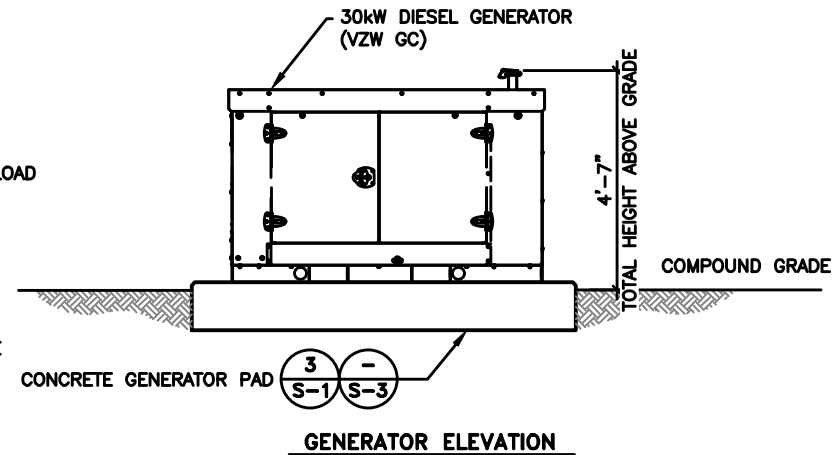
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NOTE:
CANOPY ROOF PANELS PROFILE R/PBR. PROVIDE 1.7lb DENSITY POLYETHYLENE FOAM PANEL CLOSURE STRIPS TO MATCH PROFILE. AS MANUFACTURED BY: SEALTITE BUILDING FASTENERS "ST CLOSURE" STRIPS OR EQUAL (VERIFY PROFILE WITH ROOF PANELS SUPPLIED WITH CANOPY)



NOTE:
VERIZON WIRELESS 9'-6"x12'-9" RADIO EQUIPMENT CANOPY (CANOPY DWGS. SUPPLIED BY MANUFACTURER) (VZW GC) -COMMSCOPE P/N EQ-P0182-RC-B

TILLMAN

INFRASTRUCTURE

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VERIZON FUZE # 16953676
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4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

EQUIPMENT
PAD &
CANOPY
ELEVATIONS

SHEET NUMBER

D-3

THE INFORMATION CONTAINED IN THIS SET OF CONSTRUCTION DOCUMENTS IS PROPRIETARY BY NATURE. ANY USE OR DISCLOSURE OTHER THAN THAT WHICH RELATES TO CARRIER SERVICES IS STRICTLY PROHIBITED.

STANDARD SITE SIGNAGE:

REQUIRED SIGNS:	LOCATIONS:
(C1) • N.O.C. "IN CASE OF EMERGENCY"	FRONT ACCESS DOOR OF CABINET (SEE FIGURE 1)
(C2) • NOTICE (CONTACT INFO)	FRONT ACCESS DOOR OF EACH CABINET WITH BATTERIES (SEE FIGURE 1)
(C3) • COMBINATION WARNING (SEE NOTE 2)	INSIDE FRONT ACCESS DOOR OF EACH CABINET WITH BATTERIES
(C4) • COMBINATION WARNING (SEE NOTE 2)	
(C5) • S.D.S.	

—N.O.C. STANDS FOR "NETWORK OPERATIONS CENTER"
—S.D.S. STANDS FOR "SAFETY DATA SHEET"

NOTES:

- CONTRACTOR SHALL INSTALL ALL SIGNS ON THE FRONT OF EACH CABINET. ALL SIGNS CAN BE PLACED ON ONLY THE UPPER DOOR, IF SPACE IS AVAILABLE.
- CONTRACTOR SHALL INSTALL SIGN C3 OR C4 BASED ON THE TYPE OF BATTERY THAT IS BEING INSTALLED.



FIGURE 1 – EQUIPMENT CABINET SIGNAGE

SIGNAGE FOR SITES OWNED BY VERIZON:

REQUIRED SIGNS:	LOCATIONS:
(S1) • NOTICE "ENVIRONMENT GUIDELINES"	INSTALL ON COMPOUND FENCE
(S2) • N.O.C. "IN CASE OF EMERGENCY"	INSTALL AT DRIVEWAY
(A1) • TEMPORARY/PERMANENT A.S.R.	INSTALL AT TOWER
(A1) • PERMANENT A.S.R.	INSTALL AT FENCE
(A1) • PERMANENT A.S.R.	INSTALL AT GATE/POST

—A.S.R. STANDS FOR "ANTENNA STRUCTURE REGISTRATION"
—N.O.C. STANDS FOR "NETWORK OPERATIONS CENTER"

NOTES:

- CONTRACTOR SHALL VERIFY IF A.S.R. SIGNAGE IS REQUIRED WITH THE VERIZON CONSTRUCTION MANAGER PRIOR TO SIGNAGE INSTALLATION.
- A.S.R. SIGNAGE TO BE INSTALLED AT A MINIMUM OF TWO LOCATIONS AS FOLLOWS:
 - ALWAYS ON THE TOWER
 - ALWAYS ON THE FENCE
 - ON THE DRIVEWAY ENTRANCE GATE OR STANDALONE POST IE THE A.S.R. SIGN ON THE COMPOUND FENCE CANNOT BE READ FROM THE ROAD.
- IF NO ENTRANCE GATE IS PROPOSED, A.S.R. SIGN SHALL BE INSTALLED ON 4" DIAMETER STEEL POST AT 42" ABOVE EX. GRADE.



FIGURE 2 – VERIZON SITE FENCE SIGNAGE

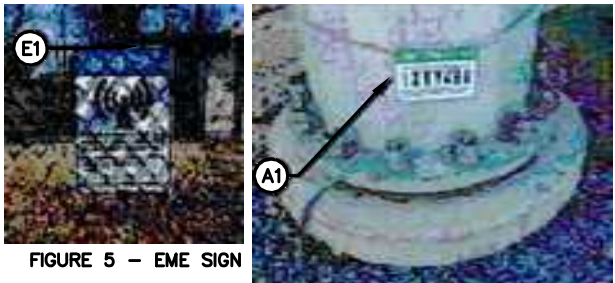


FIGURE 3 – TOWER A.S.R. SIGN

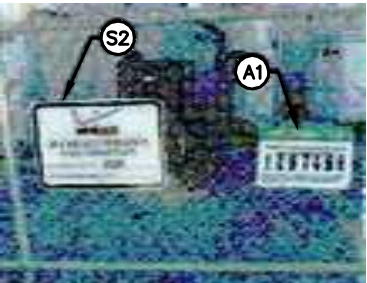


FIGURE 4 – FENCE COMPOUND A.S.R. SIGN

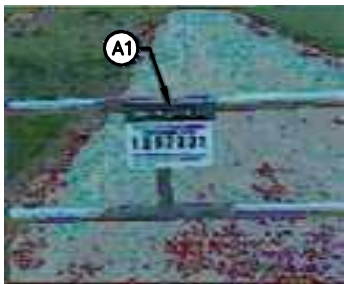


FIGURE 6 – DRIVEWAY A.S.R. SIGN

SIGNAGE FOR EACH GENERATOR FUEL TYPE:

DIESEL GENERATOR

REQUIRED SIGNS:	LOCATIONS:
(D1) • "DANGER DIESEL FUEL"	INSTALL ON GENERATOR (SEE FIGURE 6)
(D2) • HAZARD DIAMOND	
(D3) • NOTICE SIGN	
(D4) • FUEL TANK CAPACITY	INSTALL ON FUEL TANK

*SIGNS D1 AND D2 MAY BE COMBINED TO A SINGLE SIGN

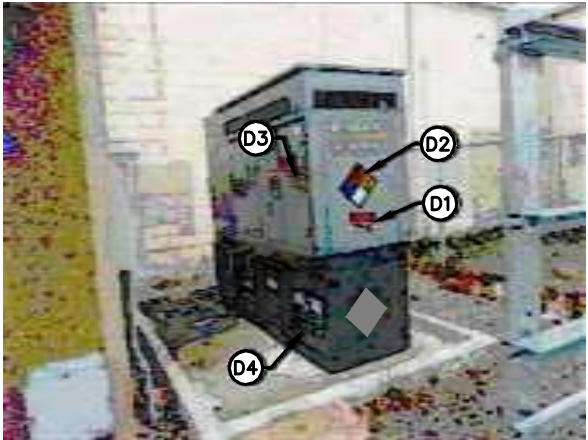


FIGURE 6 – DIESEL GENERATOR SIGNAGE

PROPANE GENERATOR

REQUIRED SIGNS:	LOCATIONS:
(P1) • "DANGER PROPANE"	INSTALL ON PROPANE TANK (SEE FIGURE 7)
(P2) • HAZARD DIAMOND	
(P3) • NOTICE SIGN	INSTALL ON GENERATOR



FIGURE 7 – PROPANE TANK & GENERATOR SIGNAGE

NATURAL GAS GENERATOR

REQUIRED SIGNS:	LOCATIONS:
(N1) • NOTICE SIGN	INSTALL ON GENERATOR (SEE FIGURE 8)



FIGURE 8 – NATURAL GAS GENERATOR SIGNAGE

E.M.E. SIGNAGE NOTES:

- CONTRACTOR SHALL AT A MINIMUM INSTALL "NOTICE" ELECTROMAGNETIC ENVIRONMENT (E.M.E.) SIGNAGE ON COMPOUND FENCE AT ALL SITES. (SEE FIGURE 5)
- CONTRACTOR SHALL VERIFY WITH THE VERIZON CONSTRUCTION MANAGER IF ANY ADDITIONAL E.M.E. SIGNAGE IS REQUIRED AT A SITE PRIOR TO SIGNAGE INSTALLATION. (SEE FIGURE 9)



FIGURE 9 – TYPICAL E.M.E. SIGNAGE

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LANDSCAPE CONSTRUCTION

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CHECKED BY: MC

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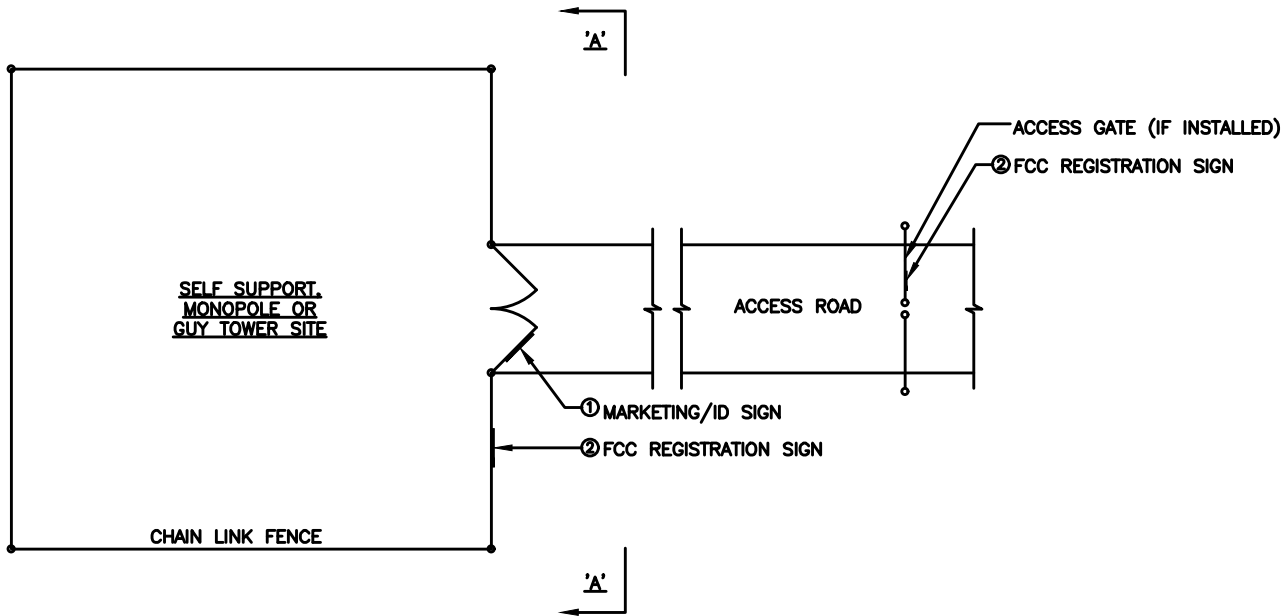
SHEET TITLE
TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - L RELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE
VERIZON WIRELESS
SIGNAGE
(REFERENCE ONLY)

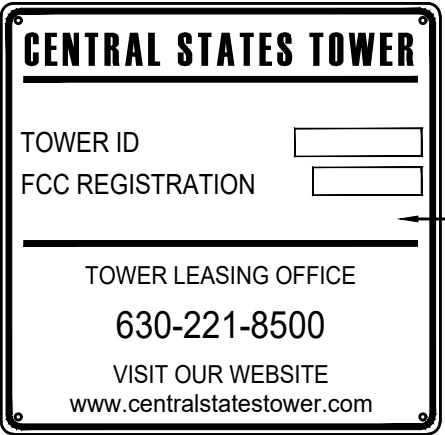
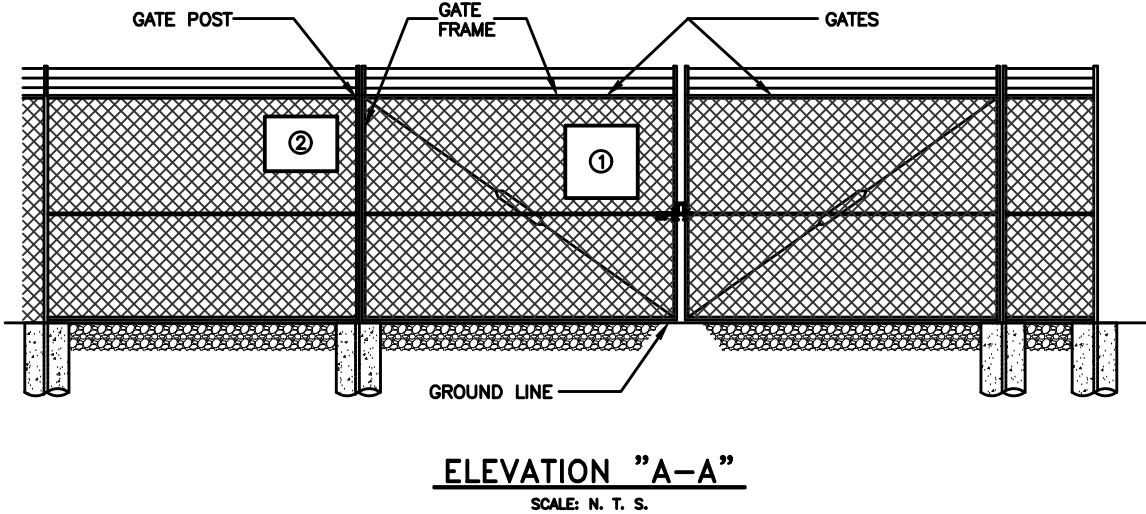
SHEET NUMBER
D-4

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NOTES:
VERIZON WIRELESS SITE ID SIGN, RFE SIGNS, NOC INFORMATION SIGN AND ALL OTHER SIGNAGE NOT REFERENCED IN THIS DRAWING WILL BE FURNISHED AND INSTALLED BY VERIZON WIRELESS PERSONELL PER VERIZON WIRELESS RFC SIGNAGE & DEMARCATION POLICY.



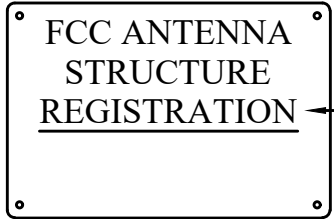
TYPICAL SITE FENCE SIGNAGE PLAN
SCALE: N. T. S.



WHITE BACKGROUND
w/BLACK LETTERING

MARKETING/ID SIGN
24" WIDE x 24" HIGH

1



WHITE BACKGROUND
w/BLACK LETTERING

FCC REGISTRATION SIGN
24" WIDE x 18" HIGH

2



TILLMAN
INFRASTRUCTURE

verizon

LCC
TELECOM SERVICES

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VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

TOWER OWNER SITE
FENCE SIGNAGE
(REFERENCE ONLY)

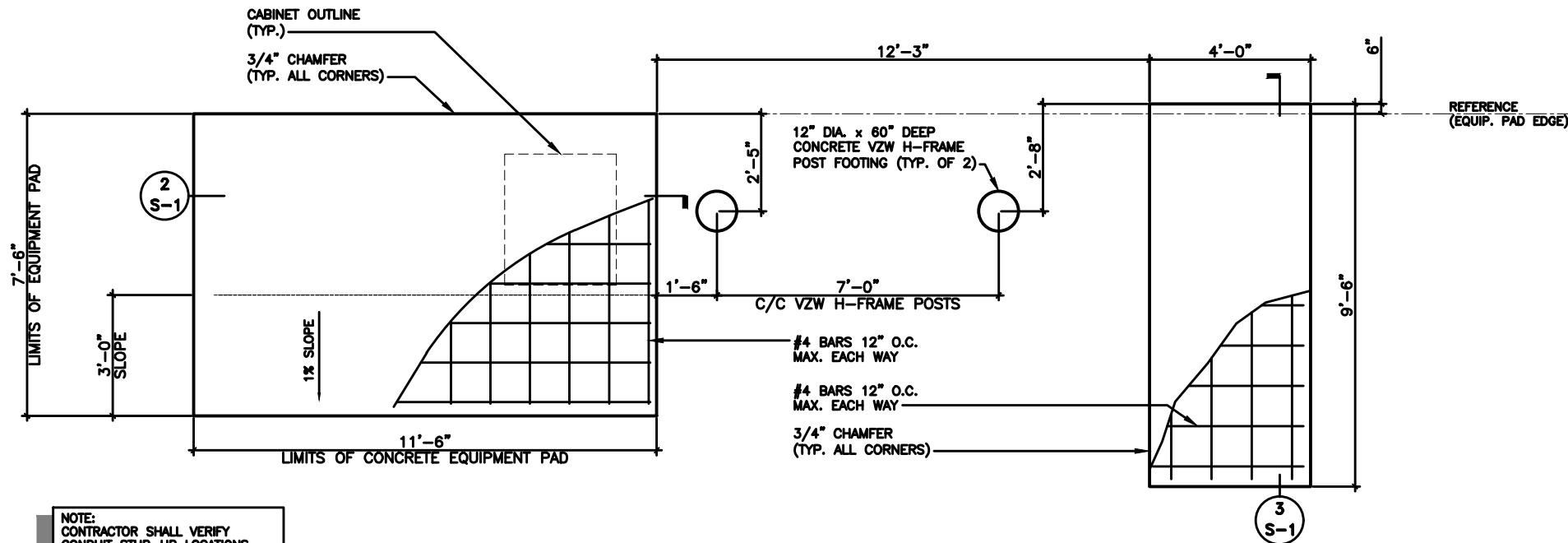
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D-5

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NOTE:

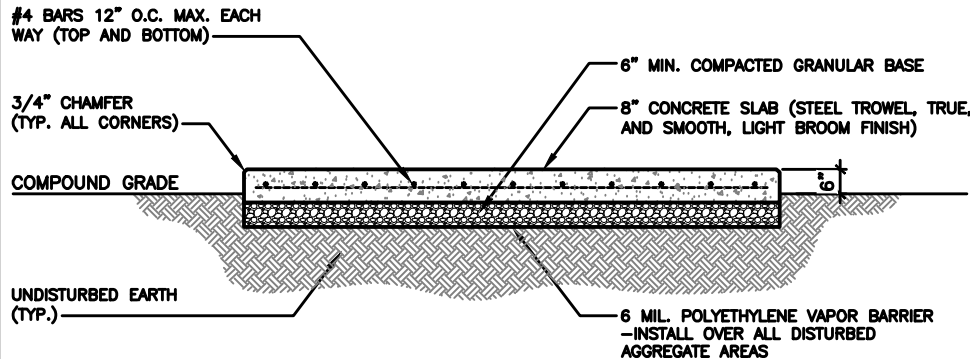
ALL GENERATOR CONDUITS SHALL BE INSTALLED AND CAPPED WEATHERTIGHT FOR FUTURE GENERATOR INSTALLATION IF REQUIRED



EQUIPMENT AND GENERATOR
PAD FOUNDATIONS PLAN

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

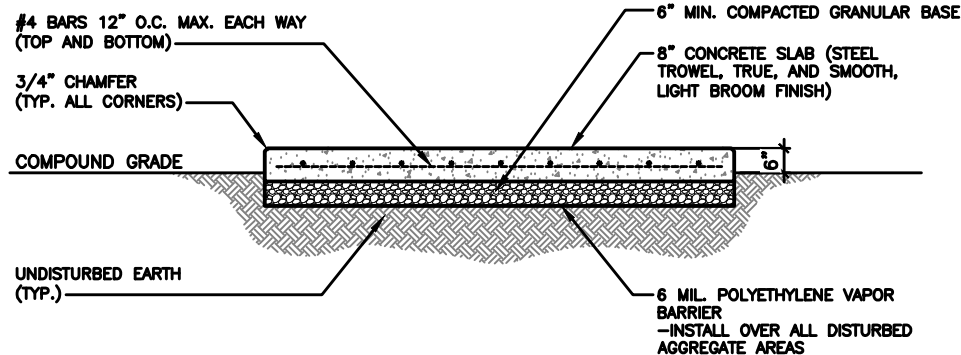
1
S-1



EQUIPMENT PAD
FOUNDATION SECTION

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

2
S-1



GENERATOR PAD
FOUNDATION SECTION

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

3
S-1

STRUCTURAL NOTES

1. CANOPY SYSTEM DESIGN LOADINGS:

ROOF SNOW LOAD	70 PSF
DEAD LOADS	ACTUAL MATERIAL WEIGHTS
BASIC WIND SPEED	120 MPH

DESIGN CODES

INTERNATIONAL BUILDING CODE (IBC) 2015
MINIMUM DESIGN LOADS FOR BUILDINGS AND OTHER
STRUCTURES ASCE7-10
OSHA REGULATIONS

2. STRUCTURAL STEEL:

PIPE	- ASTM A53 TYPE E OR S GRADE B, OR ASTM A501.
STRUCTURE FINISH	- AFTER FABRICATION ACCORDING TO ASTM A123.

3. BUILDING FOUNDATION SYSTEM:

THE SUBSURFACE REPORT WAS PROVIDED BY XYZ ENGINEERING, INC., DATED MONTH DAY, YEAR.

ALLOWABLE BEARING CAPACITY BLDG. FOOTINGS **** PSF

ALL CONTRACTORS SHALL EXERCISE GREAT CARE DURING EXCAVATION. ALL CONTRACTORS SHALL PREDETERMINE UTILITY LOCATIONS AND NOTIFY THE ENGINEER IMMEDIATELY IF DEVIATION FROM PLANS EXIST.

THE SUBSURFACE REPORT IS NOT TO BE CONSIDERED AS A COMPLETE RECORD OF THE EXISTING CONDITIONS AT THE SITE. THE CONTRACTOR SHALL VERIFY ALL EXISTING SITE CONDITIONS, INCLUDING SUBSURFACE CONDITIONS. THE CONTRACTOR SHALL OBTAIN PERMISSION FROM THE OWNER PRIOR TO SITE ENTRY FOR THE PURPOSE OF CONDUCTING SOIL TESTING AND VERIFICATION OF EXISTING CONDITIONS.

FOUNDATION SUBGRADES SHALL BE HAND TRIMMED AND COMPACTED. ALL BACKFILL TO BE COMPACTED TO 95% MAXIMUM DRY DENSITY IN ACCORDANCE WITH ASTM D-1557.

4. CONCRETE WORK:

CONCRETE CYLINDERS SHALL BE TAKEN AND TESTED BY A QUALIFIED CONCRETE TESTING COMPANY. THE GENERAL CONTRACTOR SHALL PROVIDE ONE (1) CYLINDER SAMPLE TAKEN PER TRUCK OR FOUR (4) TOTAL FOR BUILDING FOUNDATION AND THE CONCRETE MUST MEET A 4" SLUMP. THE GENERAL CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF TESTING RESULTS TO VERIZON WIRELESS AND TOWER OWNER CONSTRUCTION MANAGERS. FAILURE TO PROVIDE WRITTEN DOCUMENTATION WILL RESULT IN A DEDUCTION FROM THE CONTRACT. THE CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY ADDITIONAL COSTS IN TESTING DUE TO DELAYS BY THE GENERAL CONTRACTOR OR HIS SUBCONTRACTORS. USE AIR ENTRAINMENT IN EXTERIOR SLABS.

SPECIFICATIONS	- LATEST EDITION OF ACI-318	- BLDG. FOUNDATION
	AS ADOPTED BY THE STATE OF MICHIGAN	F'c = 4000 PSI @ 28 DAYS
	2"-4" SLUMP	

MATERIALS	- REINFORCING	ASTM A615, GRADE 60
	- ANCHOR BOLTS	ASTM F1554 A36

REINFORCING COVERS	- FOOTINGS
	TOP 2"
	BOTTOM/SIDES 3"

REINFORCING EMBEDMENT AND LAP SPLICES (INCHES) FOR 4000 PSI CONCRETE

BAR SIZE	ANCHORAGE	SPLICE (OTHER)	ANCHORAGE (TOP)	SPLICE (TOP)
#4	12"	25"	25"	33"

CHAMFER TOP CORNERS OF ALL FOUNDATIONS (3/4")

5. BURIED CABLE LOCATIONS INFORMATION

CONTACT MISSDIG 811 48 HR. PRIOR TO DIGGING, GRADING, OR DRILLING 1-800-482-7171 OR 811

ADDITIONAL CONCRETE NOTES:

- ALL CONCRETE CONSTRUCTION SHALL CONFORM TO ACI 908, "STANDARD SPECIFICATION FOR STRUCTURAL CONCRETE" AND ACI 305, 306 AND 307 UNLESS NOTED OTHERWISE.
- ALL DETAILING, FABRICATION AND PLACING OF CONCRETE SHALL CONFORM TO ACI 318-11.
- ALL CONCRETE EXPOSED TO WEATHER SHALL CONTAIN 6% (±1%) AIR ENTRAINMENT.
- PROVIDE CORNER BARS AT ALL LOCATIONS WHERE REINFORCEMENT CHANGES DIRECTION.



Know what's below.
Call before you dig.

TO OBTAIN LOCATION OF PARTICIPANTS
UNDERGROUND FACILITIES BEFORE
YOU DIG IN MICHIGAN, CALL MISS DIG

TOLL FREE: 1-800-482-7171 OR
www.missdig.org

MICHIGAN STATUTE
REQUIRES MIN OF 2
WORKING DAYS NOTICE
BEFORE YOU EXCAVATE

TILLMAN
INFRASTRUCTURE

verizon

LCC
LAWYERS & CONSULTANTS

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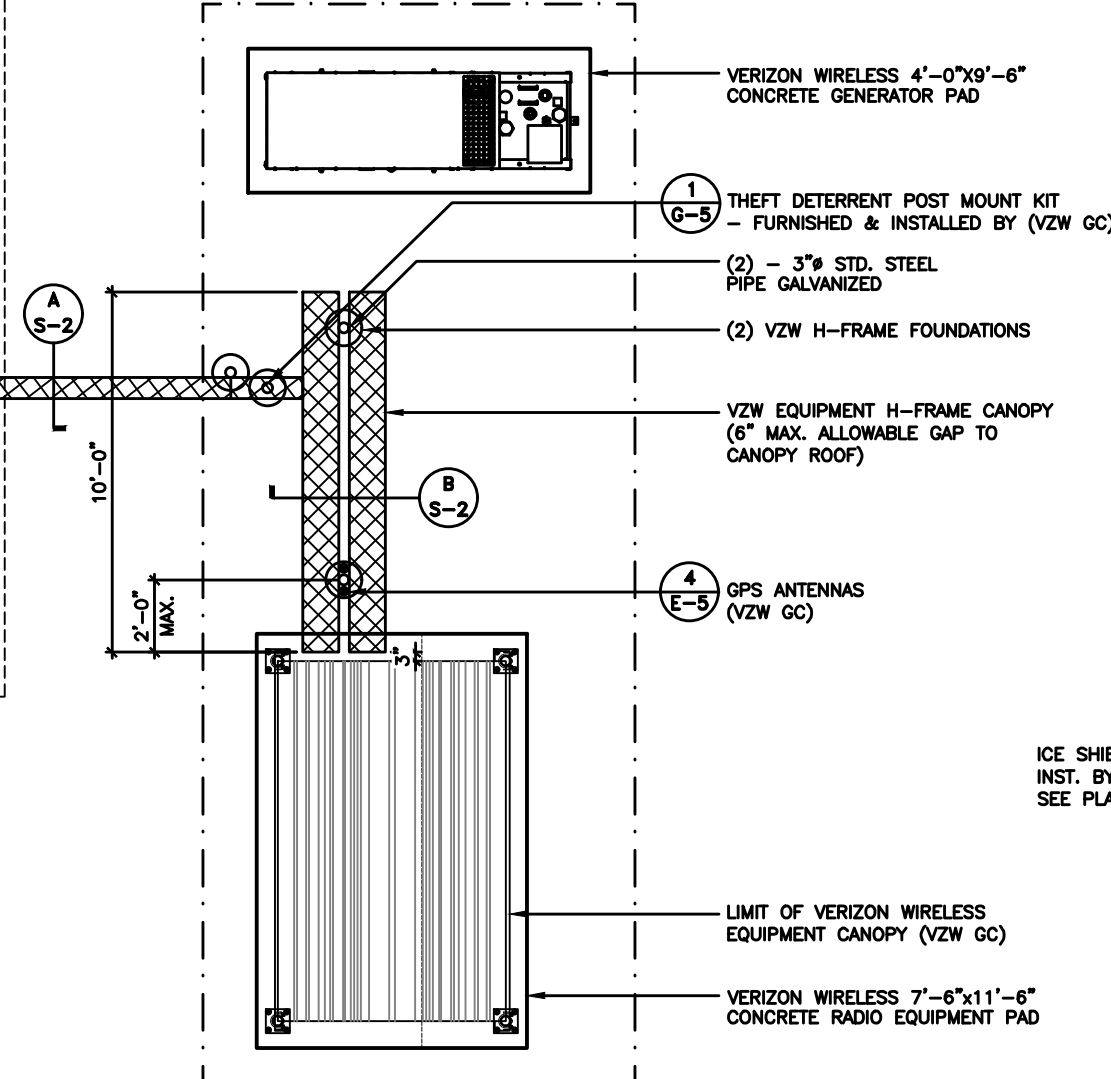
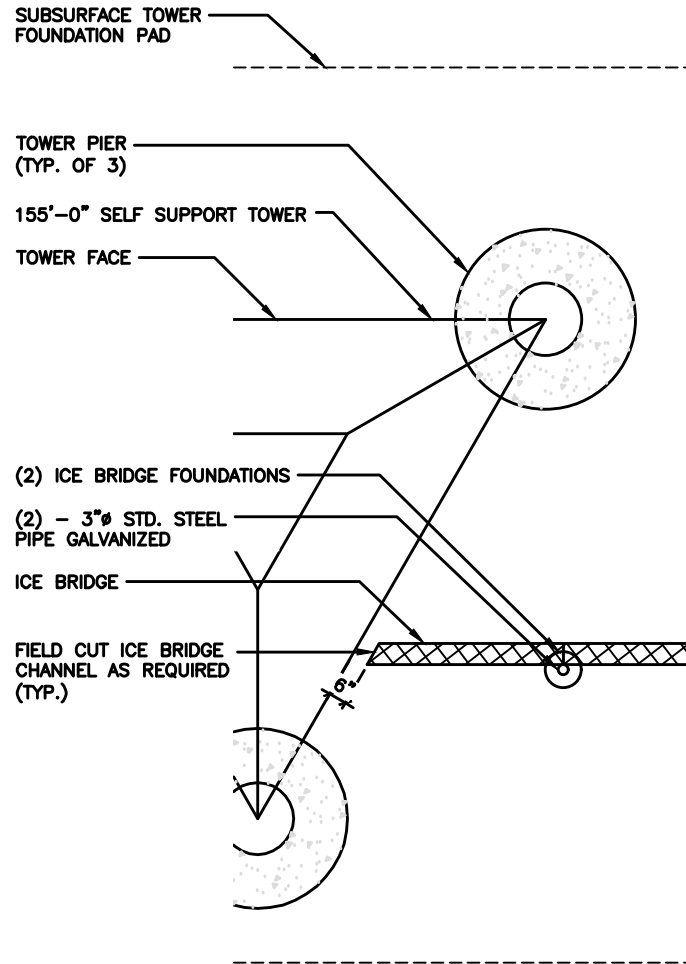
SHEET TITLE

EQUIPMENT PAD
FOUNDATION PLAN,
DETAILS AND
STRUCTURAL NOTES

SHEET NUMBER

S-1

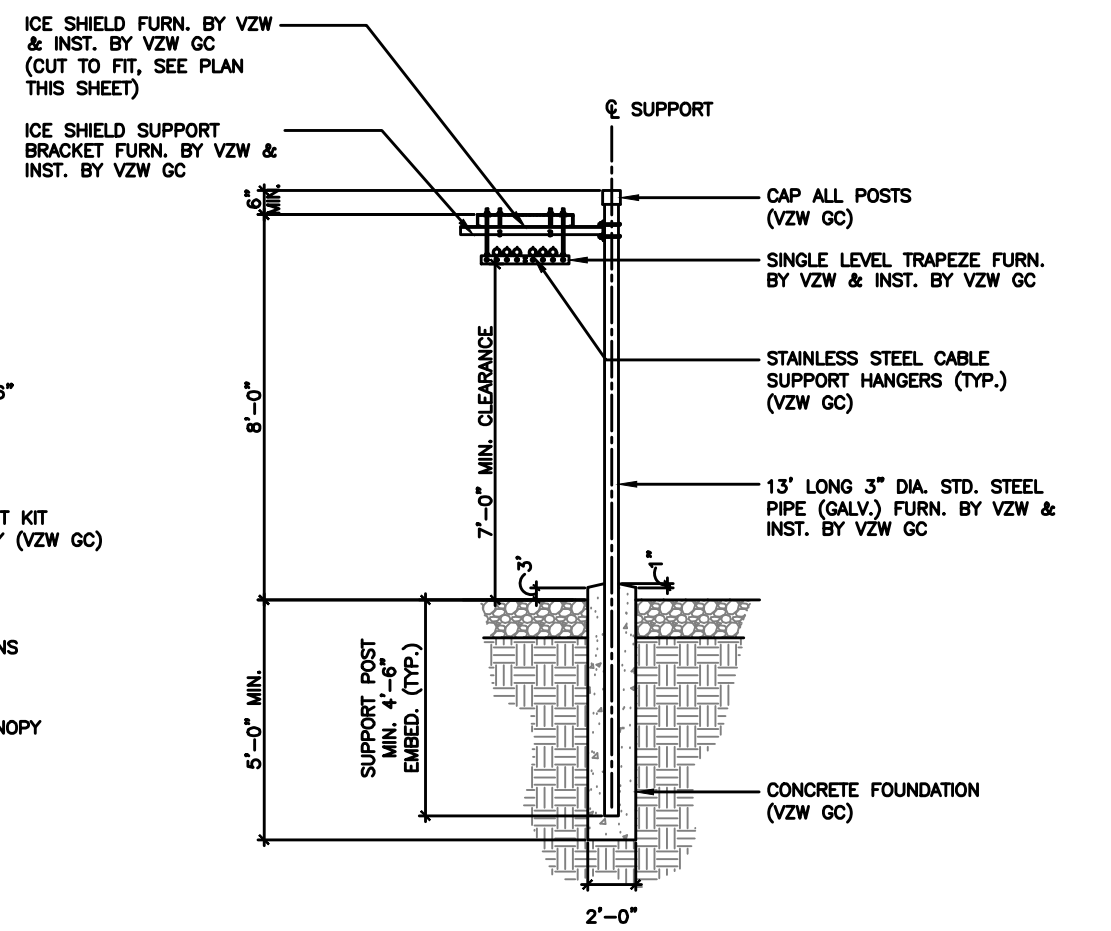
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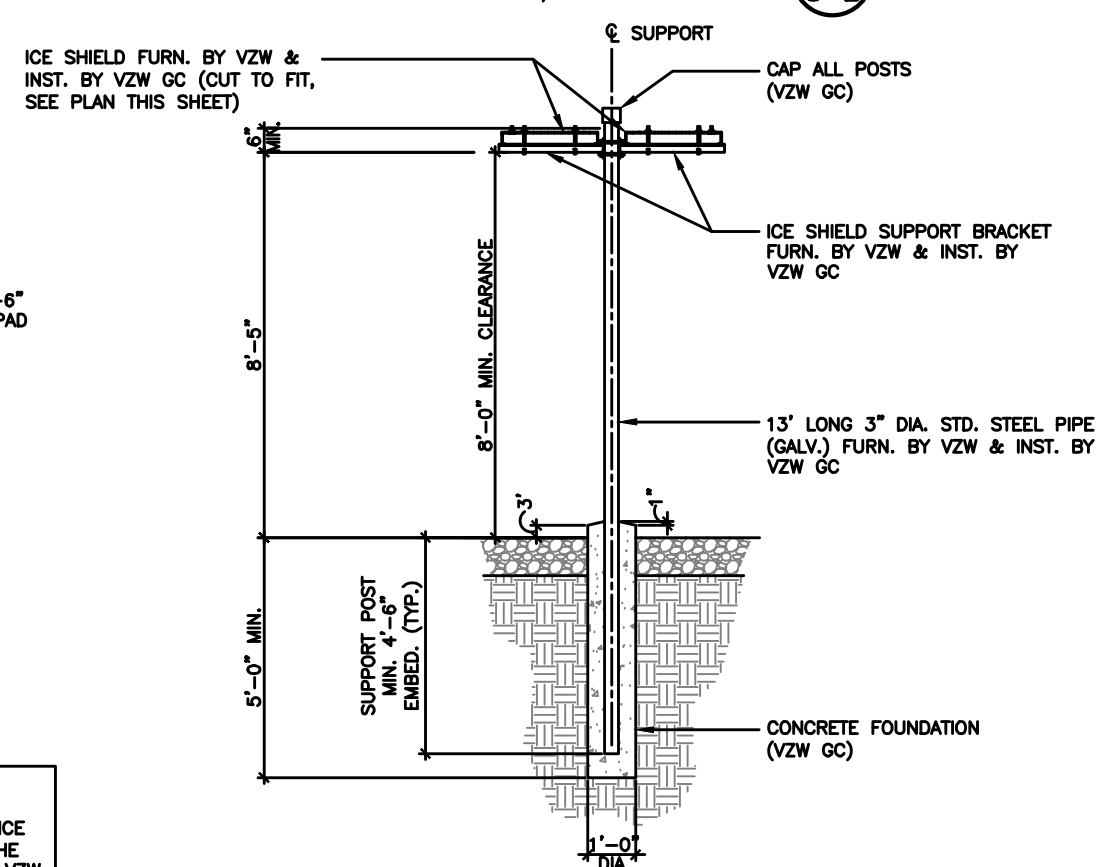
ICE BRIDGE PLAN
SCALE: 3/8" = 1'-0"



NOTE:
CONTRACTOR MAY SUBSTITUTE 12' ICE BRIDGE FOR THE 7" SECTION TO THE TOWER IF NO ADDITIONAL COST TO VZW



ICE BRIDGE SECTION A
SCALE: 1/2" = 1'-0"



VZW H-FRAME CANOPY SECTION B
SCALE: 1/2" = 1'-0"

811

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN MICHIGAN, CALL MISS DIG

TOLL FREE: 1-800-482-7171 OR www.missdig.org

MICHIGAN STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

Know what's below.
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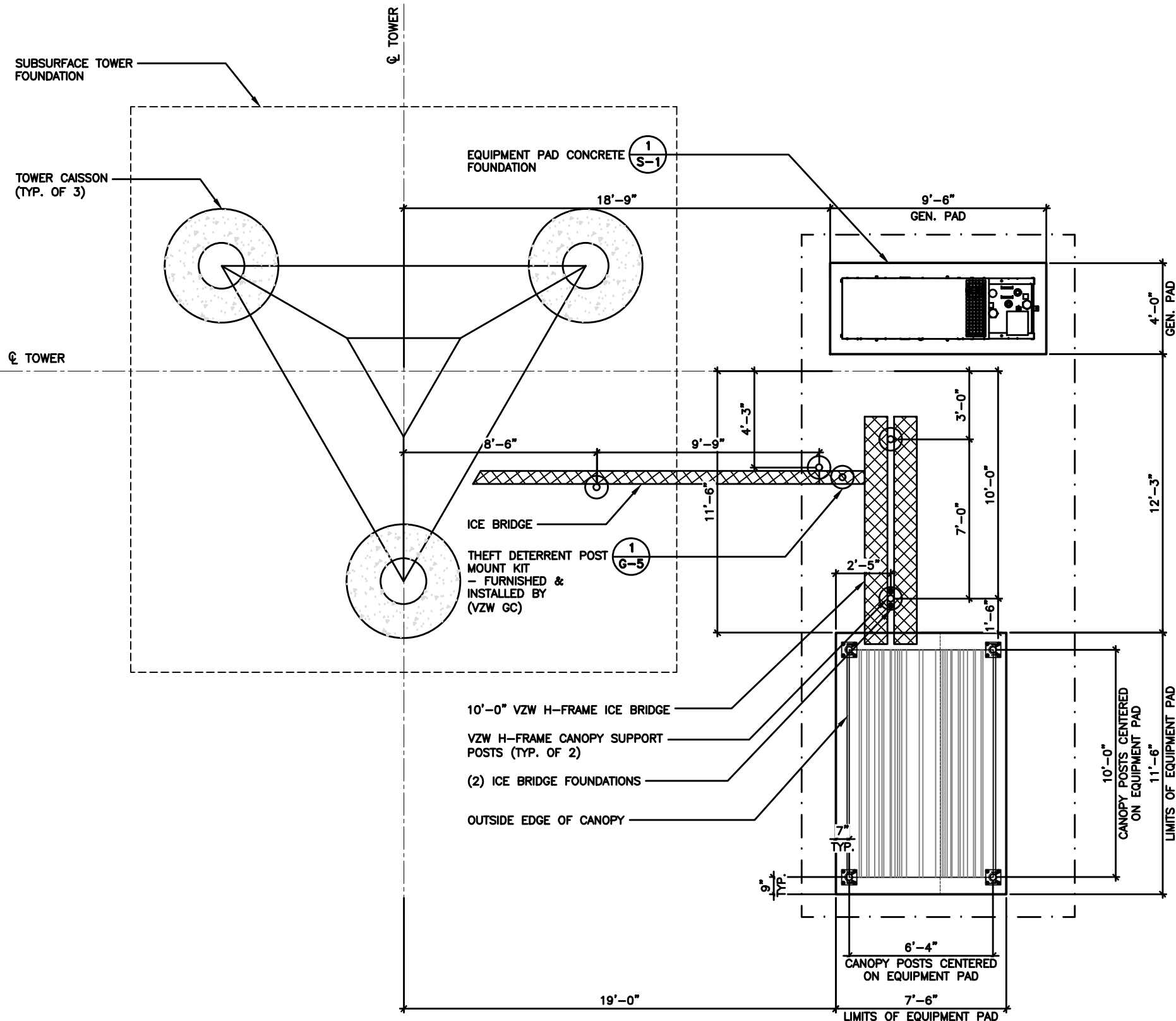
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ICE BRIDGE PLAN AND DETAILS

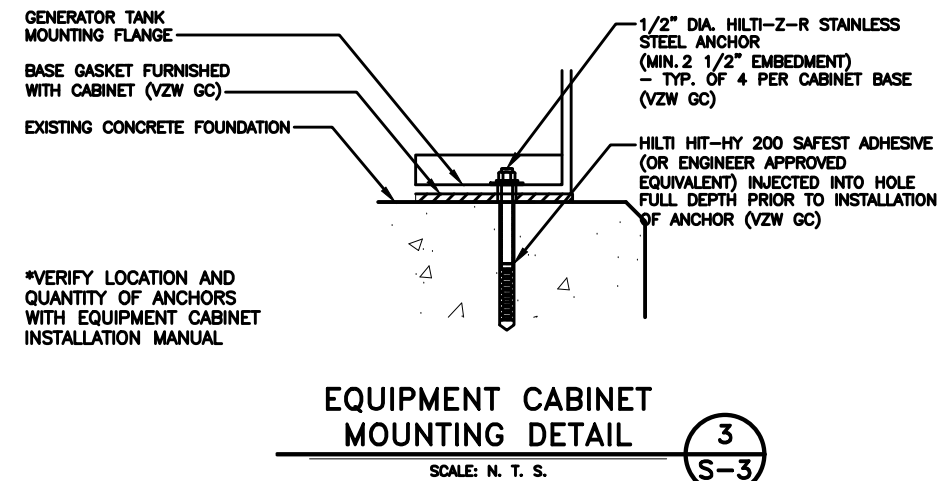
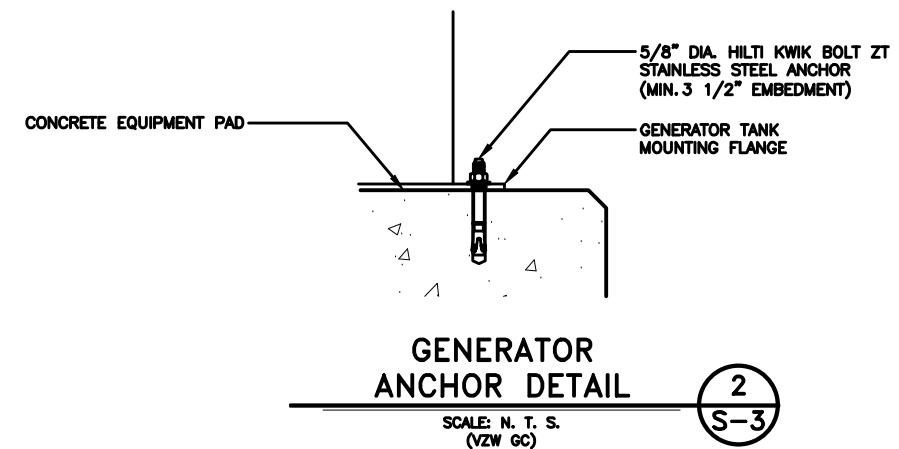
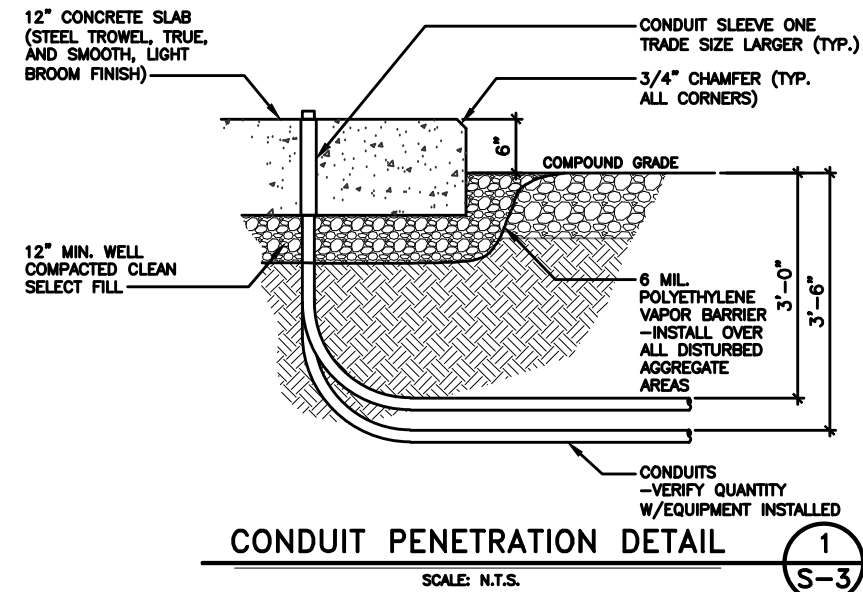
SHEET NUMBER

S-2

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FOUNDATION PLAN
SCALE: 3/8" = 1'-0"



TILLMAN
INFRASTRUCTURE

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LCC
TRADES SERVICES

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CHECKED BY: MC

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VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

FOUNDATION PLAN
AND DETAILS

SHEET NUMBER

S-3



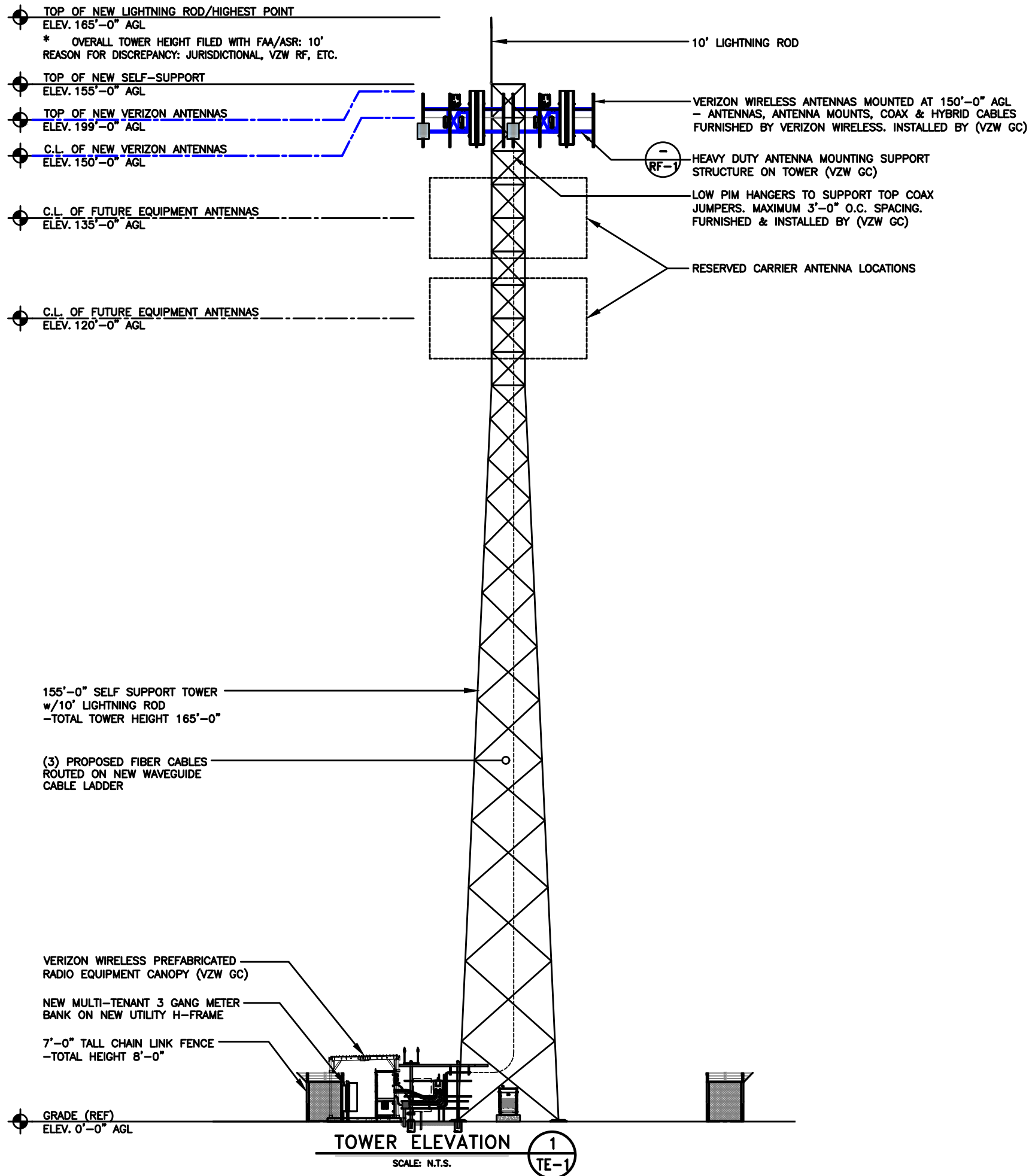
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TOLL FREE: 1-800-482-7171 OR
www.missdig.org

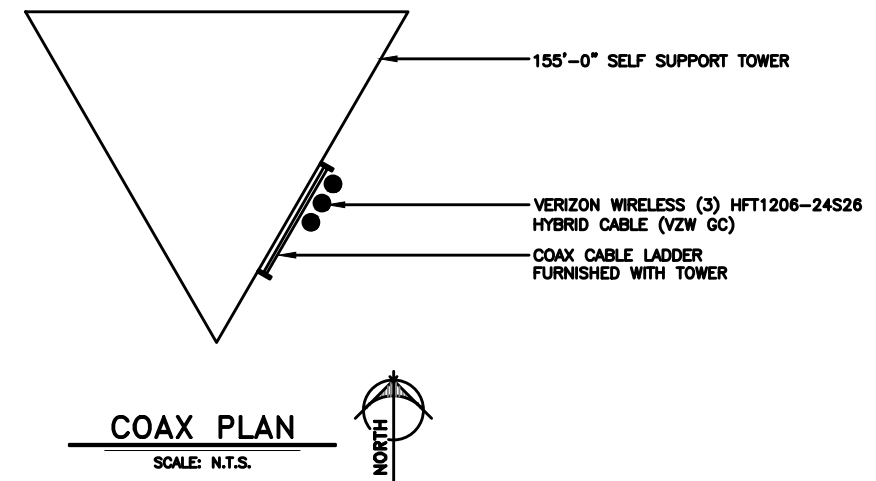
MICHIGAN STATUTE
REQUIRES MIN OF 2
WORKING DAYS NOTICE
BEFORE YOU EXCAVATE

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NOTE:

1. IT IS THE INSTALLING CONTRACTOR'S RESPONSIBILITY TO VERIFY ALL ANTENNA INFORMATION AGAINST FINAL RADIO ENGINEERING PLAN PROVIDED BY VERIZON LEGAL BUSINESS ENTITY d/b/a VERIZON WIRELESS (VZW GC)
2. ALL TOWER LIGHTING SHALL BE INSTALLED AS REQUIRED BY THE FEDERAL AVIATION ADMINISTRATION AND RECOMMENDED BY THE USFWS INTERIM GUIDELINES (2000) FOR LIGHTING OF TOWERS OVER 200' IN HEIGHT.



TILLMAN
INFRASTRUCTURE

verizon

LCC
TELECOM SERVICES

DRAWN BY: DS

CHECKED BY: MC

REV	DATE	DESCRIPTION
A	04/27/26	PRELIMINARY CD
B	05/21/26	PRELIMINARY CD

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THE STATE OF MICHIGAN

SHEET TITLE

TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - L RELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

TOWER ELEVATION

SHEET NUMBER

TE-1



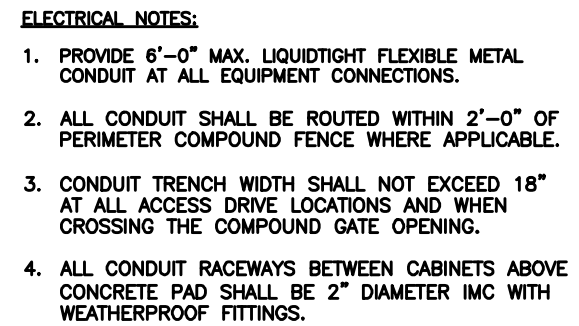
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TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SITE UTILITY PLAN

E-1



SCALE: N.T.S.



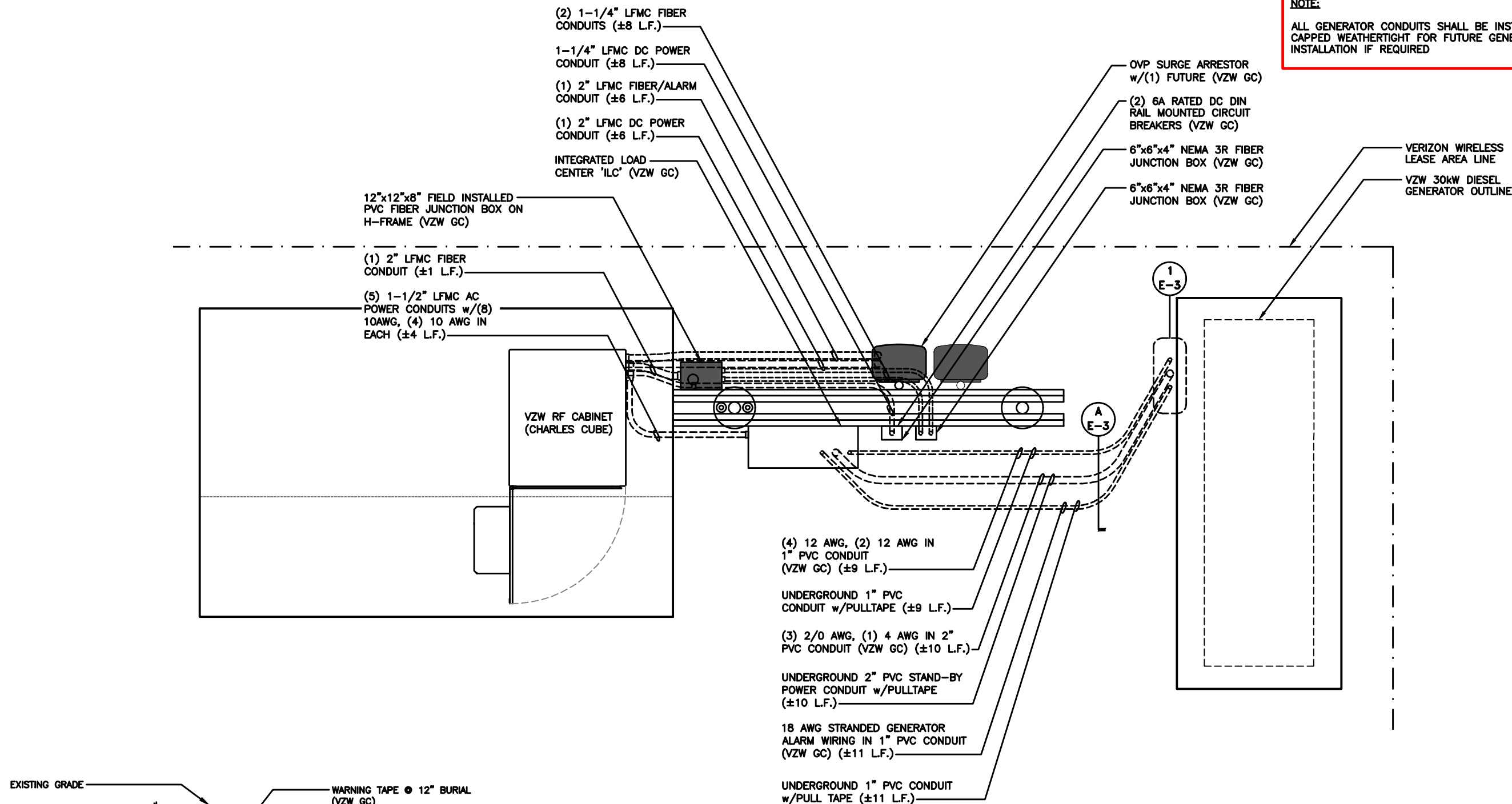
**Know what's below.
Call before you dig.**

TO OBTAIN LOCATION OF PARTICIPANTS
UNDERGROUND FACILITIES BEFORE
YOU DIG IN MICHIGAN, CALL MISS DIG

TOLL FREE: 1-800-482-7171 OR
www.missdig.org

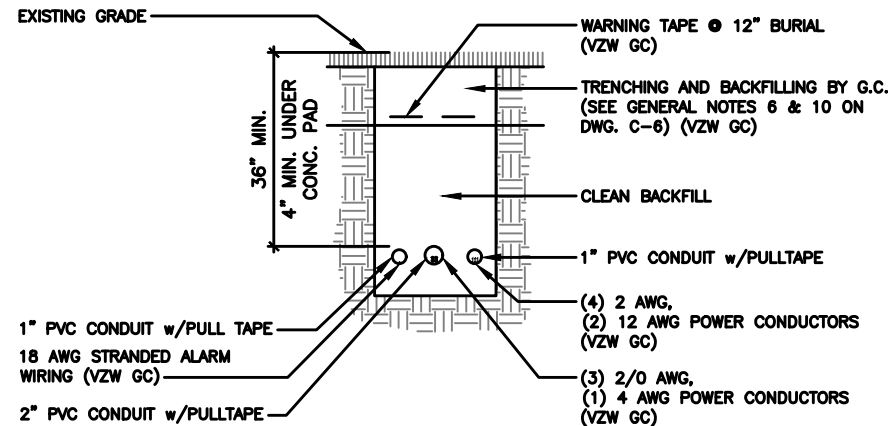
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NOTE:

ALL GENERATOR CONDUITS SHALL BE INSTALLED AND CAPPED WEATHERTIGHT FOR FUTURE GENERATOR INSTALLATION IF REQUIRED



RF CABINET FEEDER
TRENCH SECTION DETAIL

A
E-1.1

EQUIPMENT PAD UTILITY PLAN

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

NOTE:

ALL GENERATOR CONDUITS SHALL BE STUBBED UP OUTSIDE THE CONCRETE GENERATOR PAD AND CAPPED WEATHER TIGHT FOR FUTURE INSTALLATION OF LB FITTINGS AND FLEX CONDUIT TO GENERATOR. CONTRACTOR SHALL FIELD DETERMINE THE APPROPRIATE LOCATION FOR CONDUIT PENETRATIONS INTO GENERATOR BASE. CONTRACTOR SHALL ENSURE ALL CONDUIT LOCATIONS DO NOT OBSTRUCT GENERATOR ACCESS DOORS AND PANELS. ALL FINAL CONDUIT CONNECTIONS TO GENERATOR SHALL BE WEATHER TIGHT.

ELECTRICAL NOTES:

1. PROVIDE 6'-0" MAX. LIQUIDTIGHT FLEXIBLE METAL CONDUIT AT ALL EQUIPMENT CONNECTIONS.
2. ALL CONDUIT SHALL BE ROUTED WITHIN 2'-0" OF PERIMETER COMPOUND FENCE WHERE APPLICABLE.
3. CONDUIT TRENCH WIDTH SHALL NOT EXCEED 18" AT ALL ACCESS DRIVE LOCATIONS AND WHEN CROSSING THE COMPOUND GATE OPENING.
4. ALL CONDUIT RACEWAYS BETWEEN CABINETS ABOVE CONCRETE PAD SHALL BE 2" DIAMETER SCH40 PVC WITH WEATHERPROOF FITTINGS.
5. ALL GENERATOR CONDUITS SHALL BE INSTALLED REGARDLESS OF INITIAL GENERATOR INSTALLATION.

TILLMAN
INFRASTRUCTURE

verizon

LCC
TELECOM SERVICES

DRAWN BY: DS

CHECKED BY: MC

REV	DATE	DESCRIPTION
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B	05/21/26	PRELIMINARY CD
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VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
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NEWPORT, MI 48166

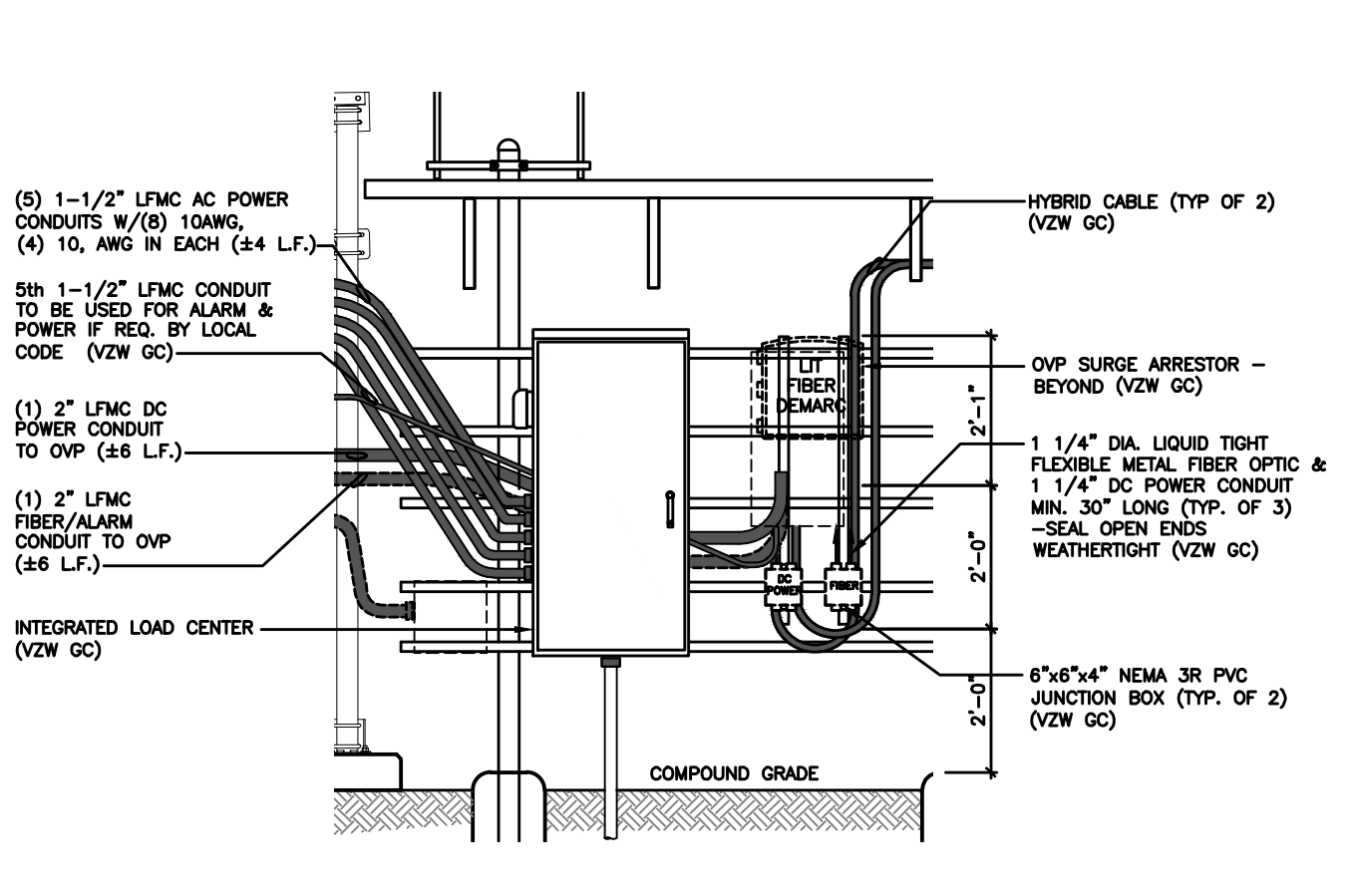
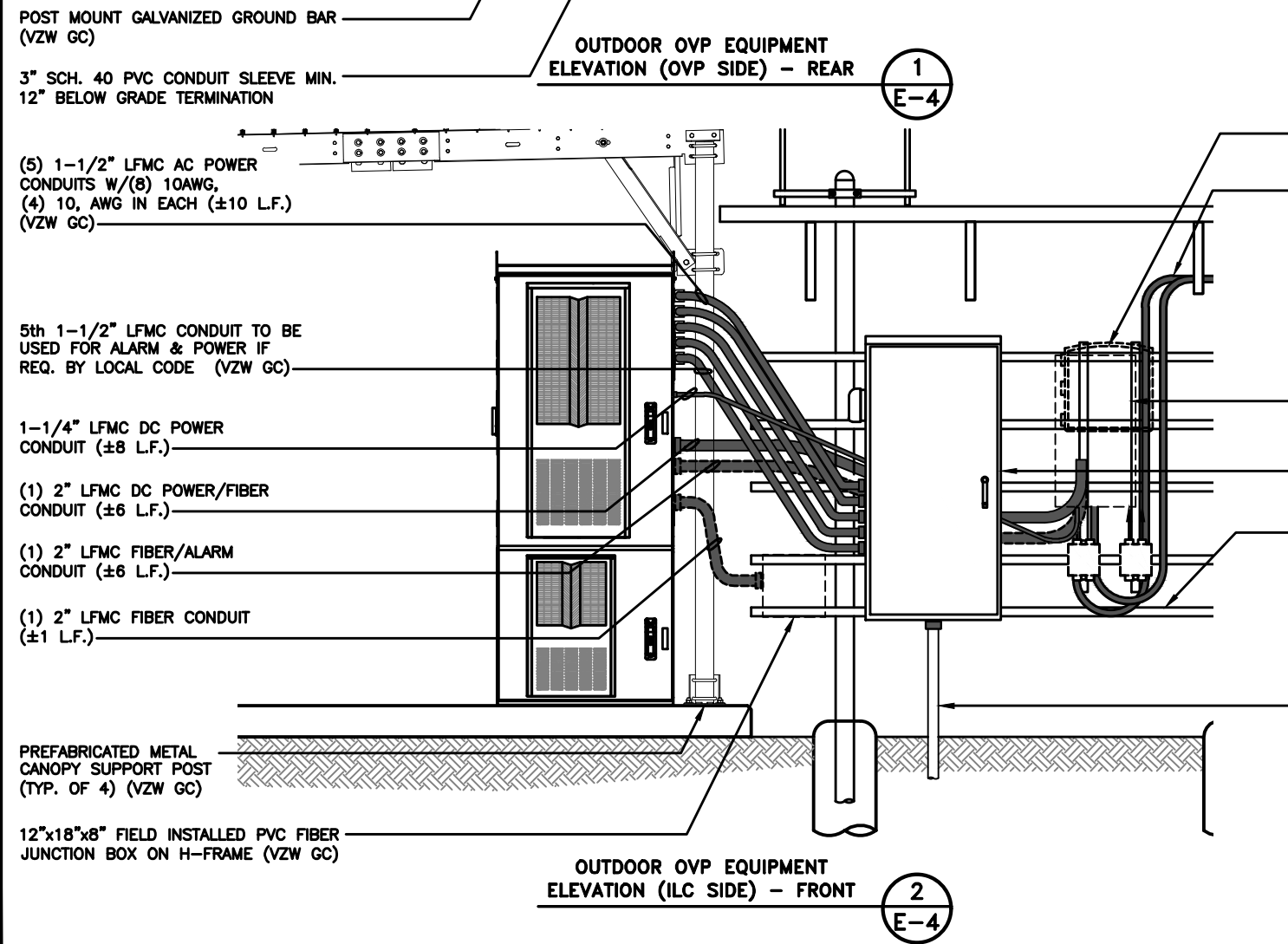
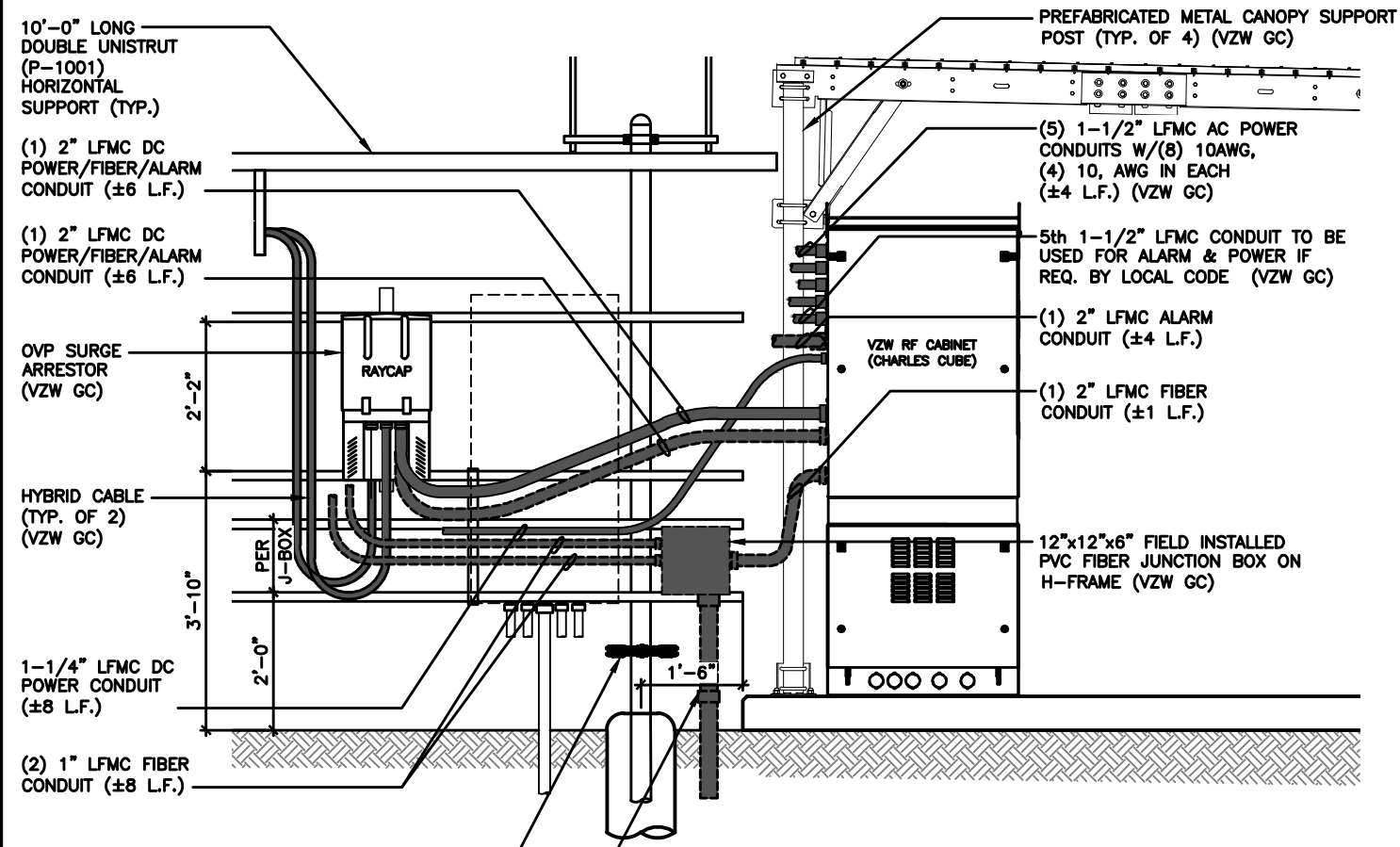
SHEET TITLE

EQUIPMENT PAD
UTILITY PLAN &
EQUIPMENT PAD
TRENCH SECTIONS

SHEET NUMBER

E-3

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ENLARGED OVP H-FRAME
ELEVATION (LIT FIBER DEMARC) 3
SCALE: 1/2" = 1'-0"

NOTE:
ROUTE LIQUID TIGHT FLEXIBLE METAL CONDUITS IN OPEN SPACE
BETWEEN UNISTRUT SUPPORTS TO PVC CONDUIT STUB-UPS

TILLMAN
INFRASTRUCTURE

verizon

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TELECOM SERVICES

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CHECKED BY:	MC

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VERIZON FUZE # 16953676
SITE ADDRESS:
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NEWPORT, MI 48166

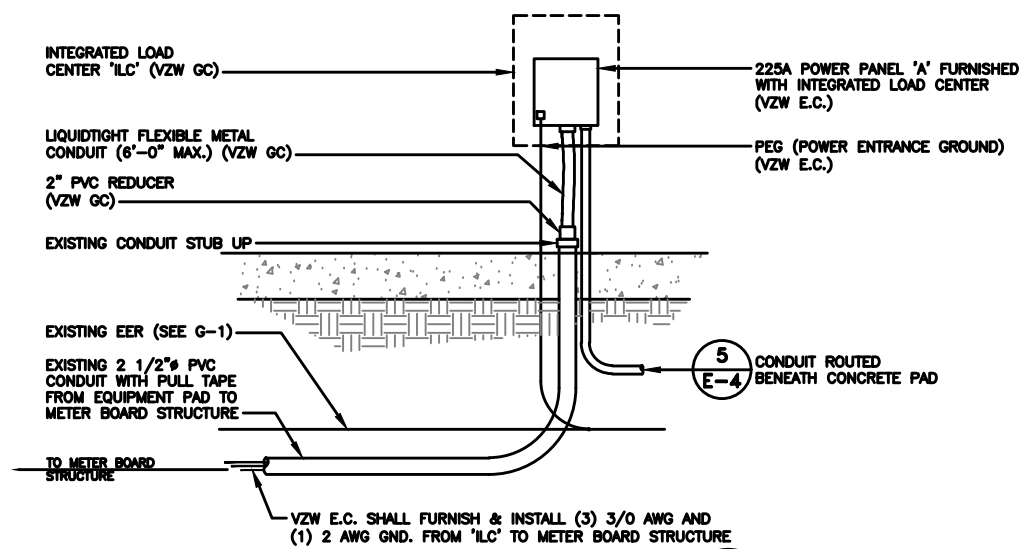
SHEET TITLE

OVP & INTEGRATED
LOAD CENTER
H-FRAME
ELEVATIONS AND
DETAILS

SHEET NUMBER

E-4

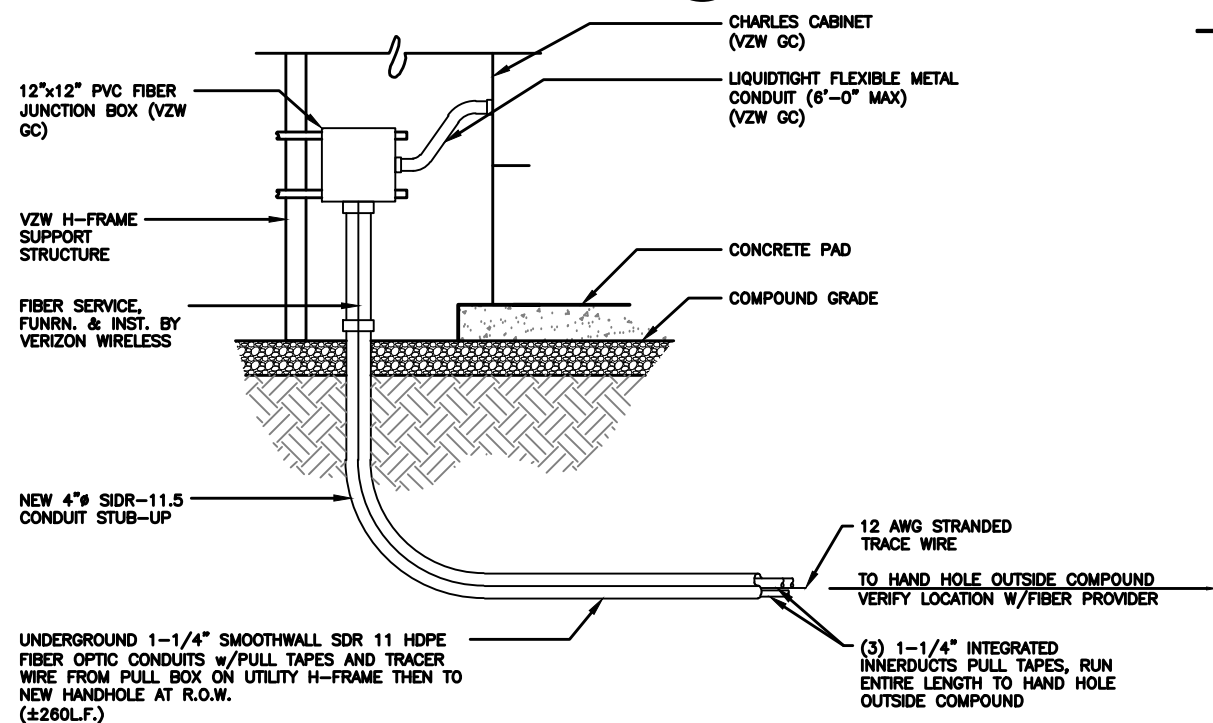
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SERVICE ENTRANCE DETAIL

SCALE: N.T.S.

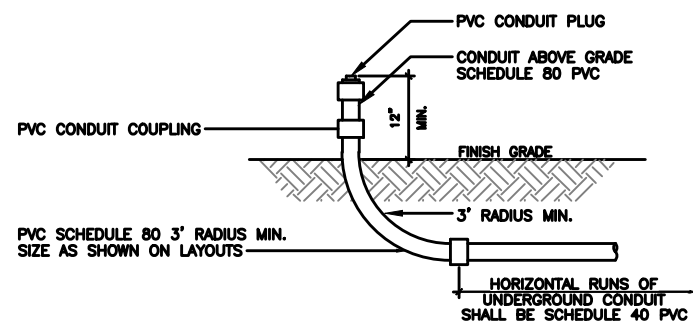
1
E-5



FIBER CONDUIT ENTRANCE DETAIL

SCALE: N.T.S.

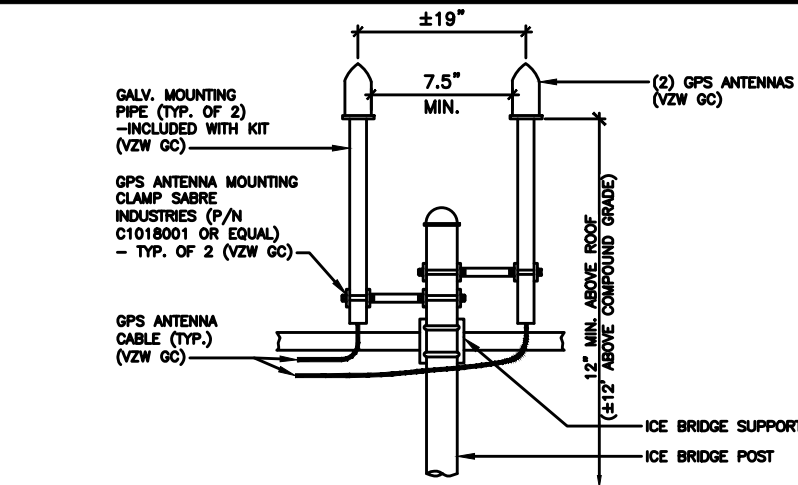
2
E-5



UNDERGROUND CONDUIT
STUB-UP DETAIL

SCALE: N. T. S.

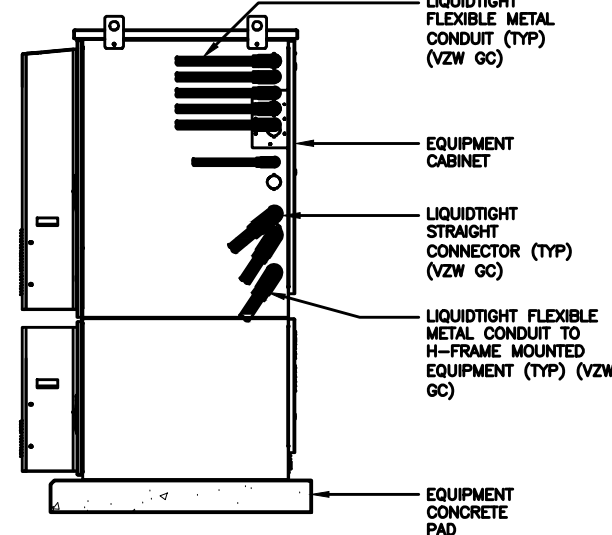
3
E-5



GPS MOUNT DETAIL

SCALE: N.T.S.
(BY VZW GC)

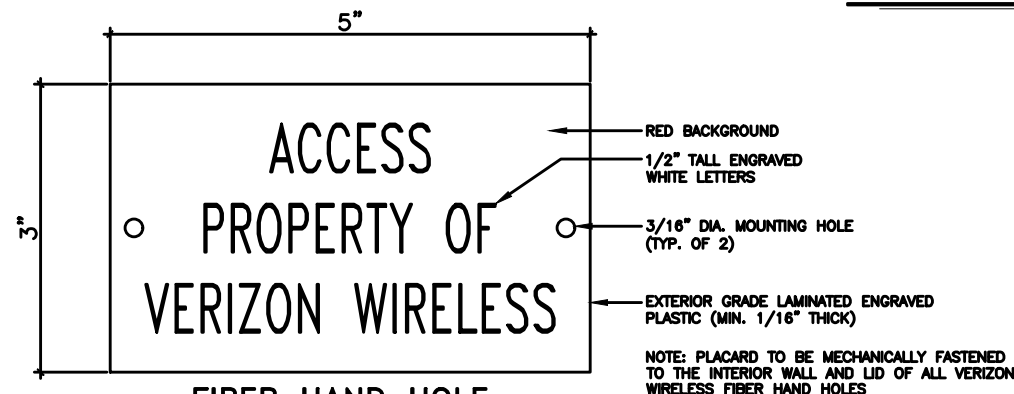
4
E-5



TYP. CABINET CONDUIT
ENTRANCE DETAIL

SCALE: N.T.S.
(BY VZW GC)

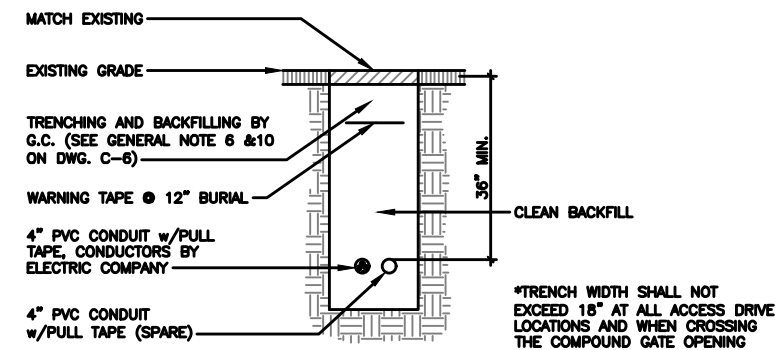
5
E-5



FIBER HAND HOLE
PLACARD DETAIL

SCALE: N.T.S.

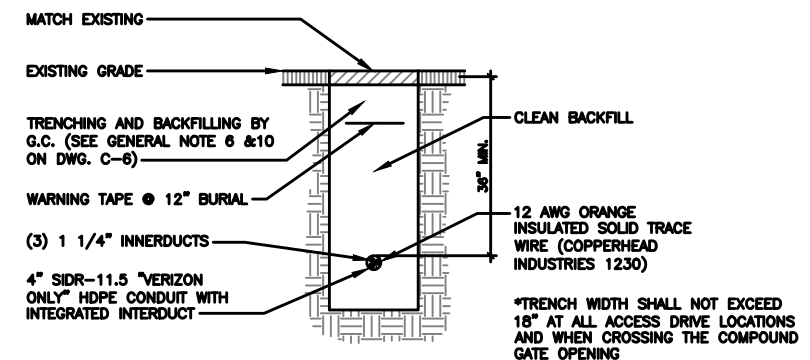
6
E-5



SERVICE LATERAL
TRENCH SECTION DETAIL

SCALE: N.T.S.

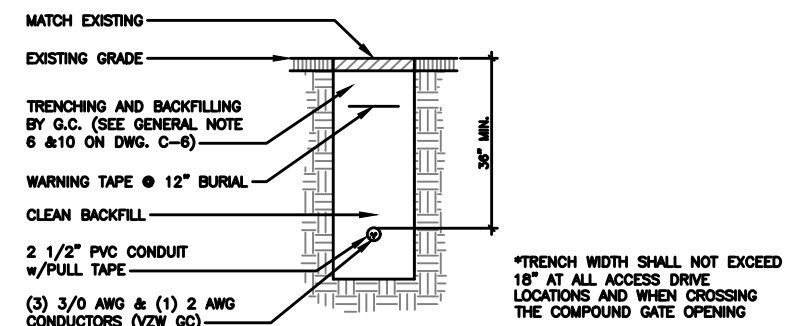
A
E-5



FIBER TRENCH
SECTION DETAIL

SCALE: N.T.S.

B
E-5



ELECTRIC FEEDER
TRENCH SECTION DETAIL

SCALE: N.T.S.

C
E-5

TILLMAN
INFRASTRUCTURE

verizon

LCC
TRAFFIC SERVICES

DRAWN BY: DS
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SHEET TITLE

TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

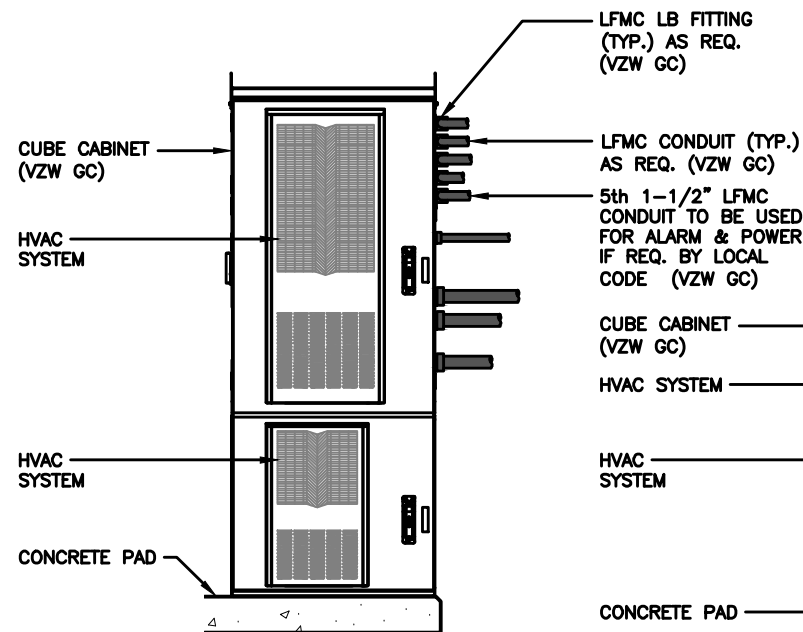
SHEET TITLE

ELECTRICAL DETAILS

SHEET NUMBER

E-5

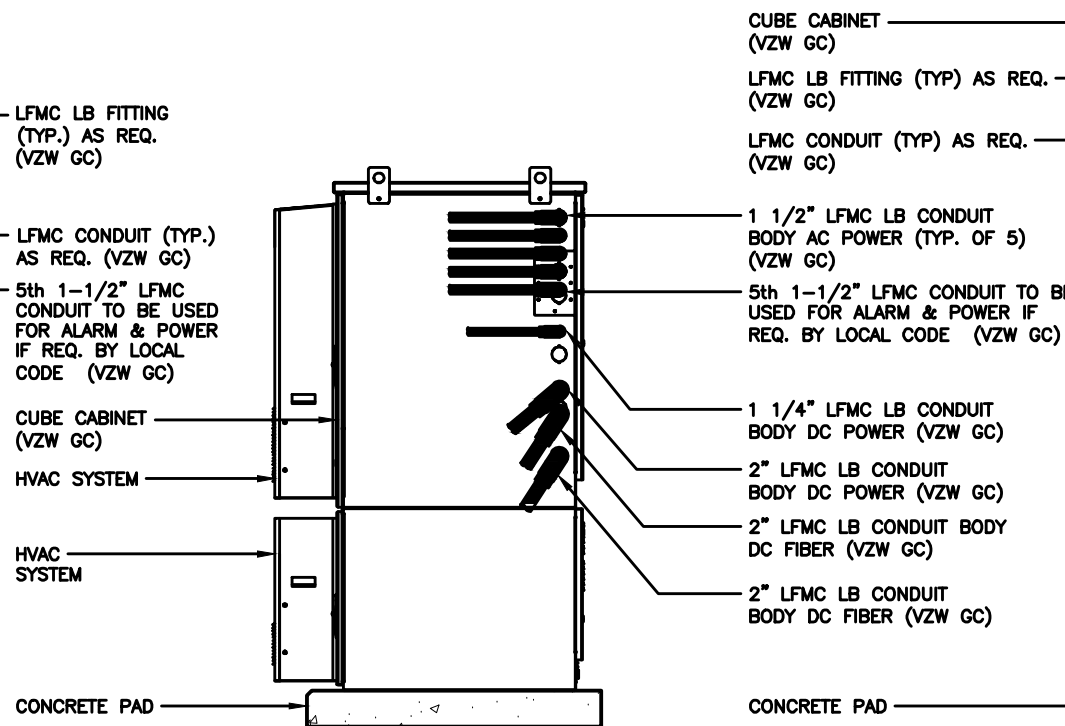
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CUBE CABINET
FRONT ELEVATION

SCALE: N.T.S.

1
E-6



CUBE CABINET
RIGHT ELEVATION

SCALE: N.T.S.

2
E-6

CUBE CABINET
REAR ELEVATION

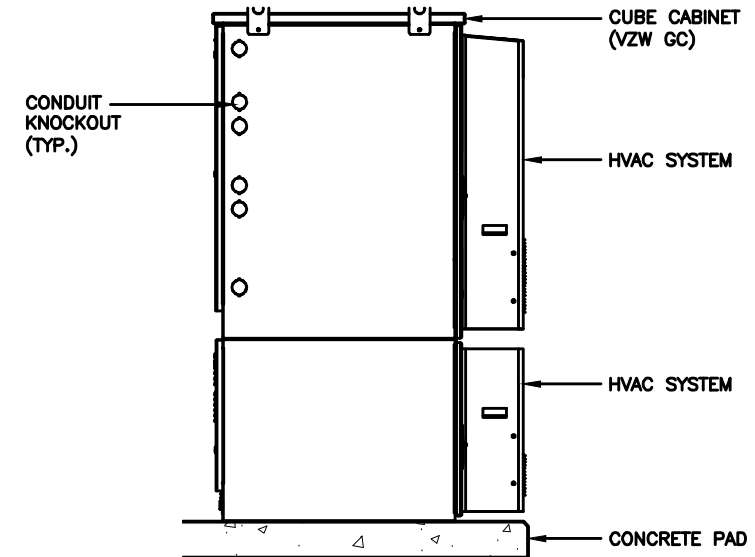
SCALE: N.T.S.

3
E-6

NOTE:
FIBER OPTIC INNERDUCTS SHALL TERMINATE
INSIDE CHARLES CABINET ONLY

CONDUIT
KNOCKOUT
(TYP.)

NOTE:
VERIFY INTERIOR EQUIPMENT LOCATION PRIOR TO
JUNCTION BOX FASTENER INSTALLATION. NO SHARP
FASTENER EDGES PERMITTED WITHIN CHARLES CABINET



CUBE CABINET
LEFT ELEVATION

SCALE: N.T.S.

4
E-6

TILLMAN
INFRASTRUCTURE

verizon

LCC
TELECOM SERVICES

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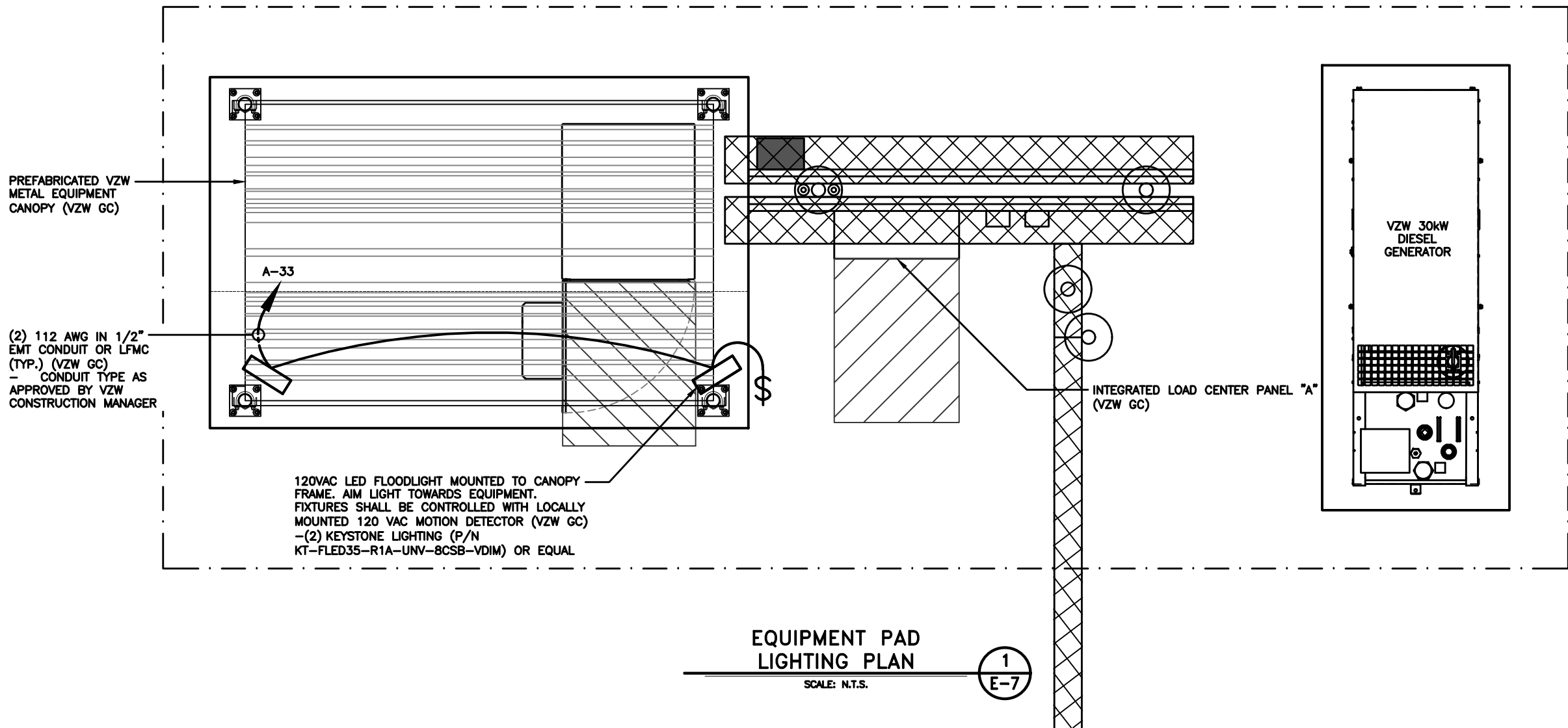
SHEET TITLE

EQUIPMENT CABINET
ELEVATIONS

SHEET NUMBER

E-6

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EQUIPMENT PAD
LIGHTING PLAN
SCALE: N.T.S.

1
E-7



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VERIZON SITE NAME:
NEWPORT MI - L_RELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

EQUIPMENT PAD
LIGHTING PLAN

SHEET NUMBER

E-7

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Alarm wiring table							
RMX - 4000 Wiring Install on right side of panel when facing front of panel				Misc Wiring - left side of panel			
Alarm block Pos	Wire color	Alarm	RMX-4000	Wire Color	Wire Color	Alarm	Conn/Pos
1	White/Orange	Door Intrusion	1-4	White or Blue	Orange	Intrusion Alarm	
2	Orange				White Orange		
3	White/Green	Commercial Power Failure	1-4	White or Blue	N/A	N/A	
4	Green				N/A		
7	White/Brown	Rectifier Failure	1-4	White or Blue	Green/White	Rectifier Failure	J4 Pos 8
8	Brown				Red/Green		J4 Pos 18
9	White/Orange	Multiple Rectifier Failure	5-8	Red or Blue	White/Red	Multiple Rectifier Failure	J4 Pos 9
10	Orange				Red/White		J4 Pos 19
11	White/Green	Battery Discharge	5-8	Red or Blue	White	Battery Discharge	J4 Pos 4
12	Green				White/Black		J4 Pos 14
13	White/Blue	Low Voltage	5-8	Red or Blue	Black	Low Voltage	J4 Pos 5
14	Blue				Black/White		J4 Pos 15
15	White/Brown	DC Power Failure	5-8	Red or Blue	Blue/White	Fuse	J4 Pos 6
16	Brown				Red/Black		J4 Pos 20
17	White/Orange	Generator Running	9-12	Black or Blue	N/A	N/A	
18	Orange				N/A		
19	White/Green	Generator Low Fuel	9-12	Black or Blue	N/A	N/A	
20	Green				N/A		
21	White/Blue	Generator Failure	9-12	Black or Blue	N/A	N/A	
22	Blue				N/A		
23	White/Brown	HVAC Failure	9-12	Black or Blue	Black	HVAC Failure	
24	Brown				White/Blue		
25	White/Orange	High Temp	13-16	Yellow or Blue	Green	Overheat Alarm	
26	Orange				White/Green		
27	White/Green	Low Temp	13-16	Yellow or Blue	N/A	N/A	
28	Green				N/A		
29	White/Blue	Tower Light	13-16	Yellow or Blue	N/A	N/A	
30	Blue				N/A		
31	White/Brown	Tower Light Side	13-16	Yellow or Blue	N/A	N/A	
32	Brown				N/A		
33	White/Orange	RRH Upconverter Failure	17-20	Violet or Blue	White/Blue	RRH Upconverter Failure	
34	Orange				Blue		
35	White/Green	RRH Power Failure	17-20	Violet or Blue	N/A	N/A	
36	Green				N/A		
37	White/Blue	RRH High Humidity	17-20	Violet or Blue	N/A	N/A	
38	Blue				N/A		
39	White/Brown	RRH Intrusion	17-20	Violet or Blue	N/A	N/A	
40	Brown				N/A		
41	White/Orange	Smoke Fire	21-24	Blue	N/A	N/A	
42	Orange				N/A		
43	White/Green	Bus Bar Theft	21-24	Blue	N/A	N/A	
44	Green				N/A		
45	White/Blue	N/A	21-24	Blue	N/A	N/A	
46	Blue				N/A		
47	White/Brown	N/A	21-24	Blue	N/A	N/A	
48	Brown				N/A		
49	White/Orange	Microwave Critical	25-28	Orange or Blue	N/A	N/A	
50	Orange				N/A		
51	White/Green	Microwave Major	25-28	Orange or Blue	N/A	N/A	
52	Green				N/A		
53	White/Blue	Dehydrator Alarm	25-28	Orange or Blue	N/A	N/A	
54	Blue				N/A		
55	White/Brown	Fire Suppression Discharge	25-28	Orange or Blue	N/A	N/A	
56	Brown				N/A		
57	White/Orange	Fire Suppression Trouble	29-32	Green or Blue	N/A	N/A	
58	Orange				N/A		
59	White/Green	Secondary HVAC Running	29-32	Green or Blue	N/A	N/A	
60	Green				N/A		
61	White/Blue	Explosive gas	29-32	Green or Blue	N/A	N/A	
62	Blue				N/A		
63	White/Brown	High Humidity	29-32	Green or Blue	N/A	N/A	
64	Brown				N/A		
65-84	N/A	N/A	N/A	N/A	N/A	N/A	

ALARM WIRING TABLE

SCALE: N.T.S.

1
E-8



INTEGRATED LOAD CENTER INTERIOR DETAIL

SCALE: N.T.S.

2
E-8



INTEGRATED LOAD CENTER "SURGE" & "COMMERCIAL POWER" DETAIL

SCALE: N.T.S.

3
E-8



GENERATOR ALARM PANEL DETAIL

SCALE: N.T.S.

4
E-8

TILLMAN
INFRASTRUCTURE

verizon

LCC

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SHEET TITLE

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VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

ALARMING TABLE
AND DETAILS
(REFERENCE ONLY)

SHEET NUMBER

E-8

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Scope and test fibers.
Install fibers

Label each end of fibers per label template. Labels should be the same on each end of fiber. Labels should be installed 3-4 inches from end of fiber.

Route fibers out the backside of fiber tray. Separate fibers into Alpha, Beta, and Gamma. Route fibers out of fiber tray as shown.

Route fibers UNDER the 6630/6648 Shelf #1 to front side of the cabinet

Note: Only install/label Module #4 if fibers are provided.

Note: Only install Aqua fibers if instructed by a supervisor. Otherwise ship loose

Label Template

Updated template

6449	6449	6449	6543	6543	6543
ALPHA	BETA	GAMMA	ALPHA	BETA	GAMMA
6449	6449	6449	6449	6449	6449
LINK 1	LINK 2	LINK 3	LINK 7	LINK 1	LINK 2
6408	6408	6408			
ALPHA	BETA	GAMMA			



Gamma fibers

Beta fibers

Alpha fibers

Aqua Fibers if installed- label each end the same

Fiber 1

Fiber 2

Fiber 3

FIBER ROUTING DETAIL

SCALE: N.T.S.

1

E-9

Alarm wiring for Cabinet

Remove old alarm block and install new panel DRP47225W

Route wiring from RMX4000 to alarm panel. Wiring will be various colors or all blue as shown

If connector is connected to old alarm block, remove connector and wire to alarm panel

Note: See wiring table on next page

Place alarm block label template on door

Jumper Office Alarm cable wires. Connector J4 position 16 (Blue/Red) and position 10 (Black/red)



ALARM WIRING CONNECTIONS

SCALE: N.T.S.

2

E-9

TILLMAN
INFRASTRUCTURE

verizon

LCC

DRAWN BY: DS

CHECKED BY: MC

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NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

ALARMING DIAGRAMS
AND DETAILS
(REFERENCE ONLY)

SHEET NUMBER

E-9



CHECKED BY: MC

7 I HEREBY CERTIFY THAT THESE PLANS WERE
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THE STATE OF MICHIGAN"

SHEET TITLE

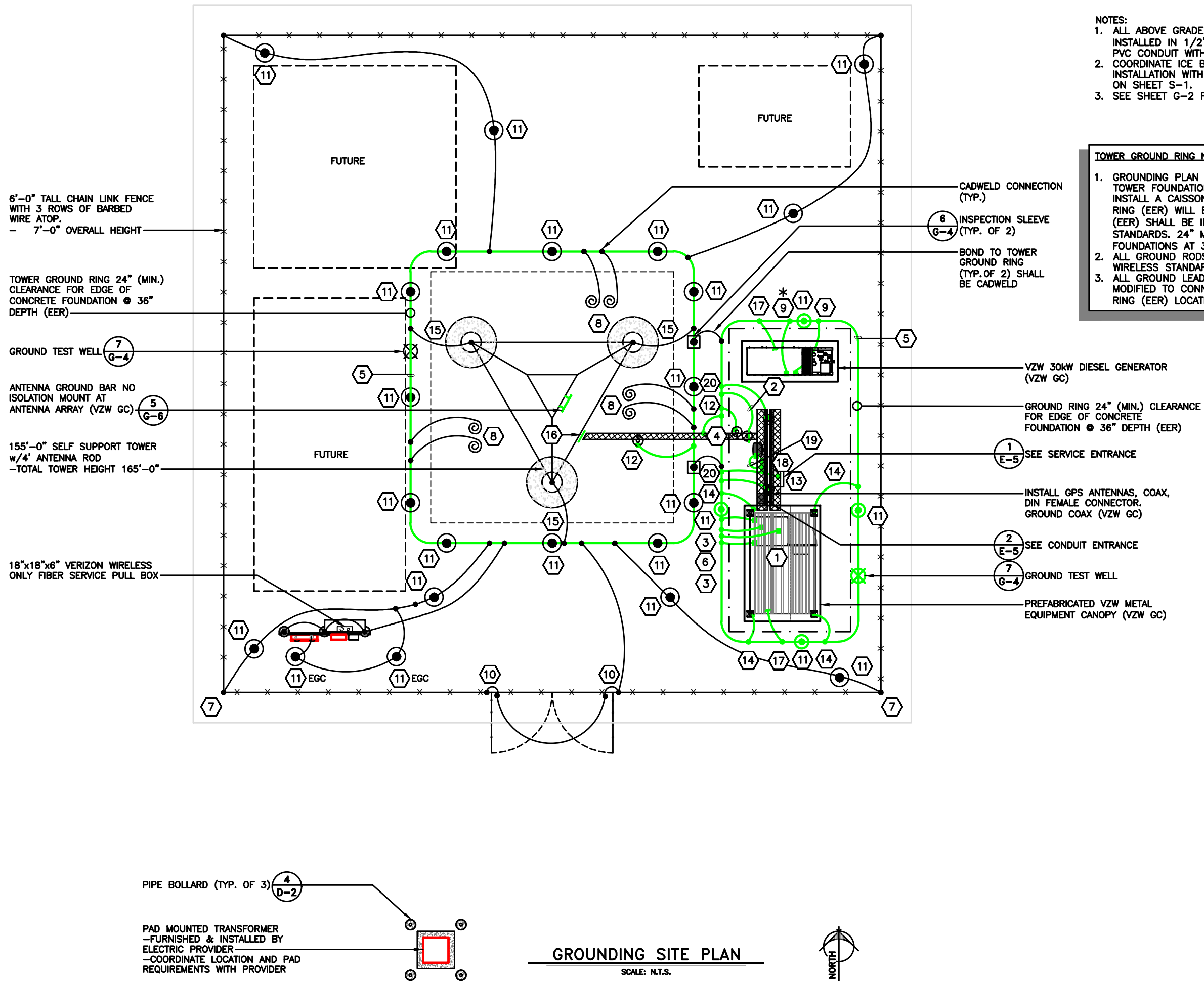
TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT III - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

GROUNDING
SITE PLAN

SHEET NUMBER

G-1



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TOWER OWNER GROUNDING KEYED NOTES

- 1BBG: FURN. & INST. 1 – 2/0 AWG INSULATED STRANDED COPPER GND. WIRE FOR BATTERY BAY GROUND (BBG) TO (EER). COIL UP 6’ ABOVE GRADE. CONNECTION TO (EER) SHALL BE CADWELD.
- 2CEPSG: FURN. & INST. 1 – 2 AWG BARE SOLID TINNED COPPER GND. WIRE FOR CEPSC POST TO (EER). COIL UP 6’ ABOVE GRADE. CONNECTION (EER) SHALL BE CADWELD.
- 3CG: FURN. & INST. 2 – 2 AWG BARE SOLID TINNED COPPER GND. WIRE FOR CABINET GROUND (CG) TO (EER). COIL UP 6’ ABOVE GRADE. CONNECTION (EER) SHALL BE CADWELD.
- 4CSG: FURN. & INST. 1 – 2 AWG BARE SOLID TINNED COPPER GND WIRE FOR ICE BRIDGE CHANNEL TO (EER). COIL UP 15’ ABOVE GRADE. CONNECTION (EER) SHALL BE CADWELD.
- 5EER: FURN. & INST. 2 AWG BARE SOLID TINNED COPPER BURIED EXTERIOR ELECTRODE GROUND RING (EER) AROUND RADIO EQUIPMENT PAD AND TOWER BURIED AT 36” OR 6” BELOW FROST LINE (WHICHEVER IS GREATER). MAINTAIN 24” FROM EQUIPMENT PAD AND TOWER FOUNDATIONS MINIMUM.
- 6FEG: FURN. & INST. 1 – 2 AWG BARE SOLID TINNED COPPER GND. WIRE FOR FIBER ENTRANCE GROUND (FEG) TO (TGE). COIL UP 10’ ABOVE GRADE. CONNECTION TO (EER) SHALL BE CADWELD.
- 7FG: FURN. & INST. 1 – 2 AWG BARE SOLID TINNED COPPER GND WIRE FROM NEW FENCING TO GROUND RING (EER). CONNECTION TO FENCING SHALL BE AT THE BASE OF FENCE POST USING CADWELD AND WEAVE GND. WIRE THRU FABRIC AND ATTACH TO TOP RAIL WITH CADWELD. CONNECTION TO (EER) SHALL BE CADWELD.
- 8FTWGL: FURN. & INST. FUTURE TOWER WAVEGUIDE GROUND BAR LEADS. CONTRACTOR SHALL COIL UP TEN (10’) OF 2 AWG SOLID TINNED COPPER GROUND (TYP.)
- 9GEG: FURN. & INST. 1 – 2 AWG BARE SOLID TINNED COPPER GND. WIRE FOR THE GENERATOR ENCLOSURE TO (EER). COIL UP 6’ ABOVE GRADE. CONNECTION (EER) SHALL BE CADWELD. *GENERATOR SERVICE GROUND WHERE REQUIRED BY JURISDICTION HAVING AUTHORITY
- 10GG: FURN. & INST. 1 – 2 AWG BARE SOLID TINNED COPPER GND WIRE AT EACH GATE POST AND PROVIDE GROUND WIRE TO BONDING JUMPER FROM GATE POST TO FENCE POST.
- 11GRE: FURN. & INST. GROUND RODS TO 36” BELOW FINISH GRADE (OR 6” BELOW FROST LINE, WHICHEVER IS GREATER) AT A MINIMUM SPACING OF 10’–0” AT RADIO EQUIPMENT PAD, TOWER AND SITE EXTERIOR GROUND SYSTEM. CONNECTION TO (EER) SHALL BE CADWELD. REFER TO DETAIL 5 ON SHEET G–4.
- 12IBSG: FURN. & INST. 1 – 2 AWG BARE SOLID TINNED COPPER GND. WIRE FROM ICE BRIDGE SUPPORT POST TO (EER). COIL UP 6’ ABOVE GRADE. CONNECTION (EER) SHALL BE CADWELD. SEE SHEET S–1 FOR ICE BRIDGE POST LOCATIONS.
- 13PEG: FURN. & INST. 1 – 2 AWG BARE SOLID TINNED COPPER GND. WIRE FOR THE 'ILC' GROUND BAR TO (EER). COIL UP 6’ ABOVE GRADE. CONNECTION (EER) SHALL BE CADWELD.
- 14PCSG: FURN. & INST. 1 – 2 AWG BARE SOLID TINNED COPPER GND. WIRE FOR EACH PAD CANOPY SUPPORT BASE TO (EER). COIL UP 6’ ABOVE GRADE. CONNECTION TO (EER) SHALL BE CADWELD.
- 15TBG: FURN. & INST. 1– 2 AWG BARE SOLID TINNED COPPER GND. WIRE FROM TOWER LEG BASE PLATE TO (EER). CONNECTION TO TOWER LEG BASE PLATE SHALL BE CADWELD OR MECHANICAL TO LEG AND (EER) SHALL BE CADWELD.
- 16TWG: BY VZW E.C.
- 17UG: FURN. & INST. 1 – 2 AWG BARE SOLID TINNED COPPER GND. WIRE (UFER GROUND) FOR PAD FOUNDATION REINFORCEMENT STEEL CONNECTION TO (EER) SHALL BE CADWELD. PROVIDE HEAT SHRINK TUBING OR ELECTRICAL TAPE PROTECTION FOR CONDUCTOR AT TRANSITION BETWEEN CONCRETE AND SOIL.
- 18OGA: BY VZW E.C.
- 19OGL: BY VZW E.C.
- 20OHG: FURN. & INST. 2 – 2 AWG BARE SOLID TINNED COPPER GND. WIRE FOR THE 'OVP' H–FRAME TO (EER). COIL UP 6’ ABOVE GRADE (TYP. OF 3 POSTS). CONNECTION (EER) SHALL BE CADWELD.
- 21GPSG: BY VZW E.C.

TOWER OWNER GROUNDING NOTES

1. ALL UNDERGROUND CONNECTIONS ON THE LIGHTNING PROTECTION SYSTEM SHALL BE EXOTHERMIC WELDED USING THE CADWELD PROCESS. THE TOWER OWNER E.C. SHALL FURN. & INST. ALL THESE CONNECTIONS, INCLUDING WELD METALS, MOLDS AND TOOLS. THE TOWER OWNER E.C. SHALL FURN. & INST. 5/8” x 10’ COPPER CLAD STEEL (COPPER JACKET 0.0012” MIN.) GROUND RODS, DRIVEN VERTICAL TO 36” BELOW FIN. GRADE (OR 6” BELOW FROSTLINE, WHICHEVER IS GREATER) ● 10’–0” O.C. MINIMUM.
2. THE TOWER OWNER E.C. SHALL FURN. & INST. 2 AWG BARE SOLID TINNED COPPER GND. WIRE AT A DEPTH OF 36” BELOW FIN. GRADE FOR THE EQUIPMENT PAD (EER) AND ICE BRIDGE (CSG).
3. ALL EXTERIOR GND. CONNECTIONS SHALL BE EXOTHERMIC CADWELD (U.N.O).
4. UPON COMPLETION OF THE EQUIPMENT PAD GROUNDING RING AND BEFORE BONDING TO THE TOWER GROUND RING, THE TOWER OWNER E.C. SHALL MEGGER TEST THIS GROUNDING FIELD. THE REQUIRED RESISTANCE LEVEL IS 5 OHMS OR LESS. THE TOWER OWNER E.C. SHALL NOTIFY THE ENGINEER IF THESE REQUIREMENTS ARE NOT ACHIEVED. THE TOWER OWNER E.C. SHALL SUBMIT PRICING TO TOWER OWNER FOR THE INSTALLATION OF ADDITIONAL GROUND RODS REQUIRED FOR PROPER RESISTANCE. UPON APPROVAL FROM TOWER OWNER, THE TOWER OWNER E.C. SHALL INSTALL ADDITIONAL GROUND RODS AS REQUIRED. AFTER PASSING TEST, THE TOWER OWNER E.C. SHALL BOND THE EQUIPMENT PAD RING TO THE TOWER RING. THE TOWER OWNER E.C. SHALL NOTIFY VERIZON WIRELESS CONSTRUCTION MANAGER AND TOWER OWNER CONSTRUCTION MANAGER 48 HOURS PRIOR TO BACKFILLING TRENCHES, POURING CONCRETE FOR FOUNDATIONS, TO INSPECT BONDS AND INSPECT ANY/ALL BREAKS AND REPAIRS TO THE GROUND RING.
5. GROUND SYSTEM SHALL BE VISUALLY INSPECTED BY A TOWER OWNER AND VERIZON WIRELESS CONSTRUCTION ENGINEER BEFORE BACKFILLING IF REQUESTED.
6. NO SHARP 90° BENDS SHALL BE USED. A LONG SWINGING RADIUS BEND REQUIRED.
7. ALL EQUIPMENT PAD AND EQUIPMENT GROUNDING SHALL BE IN ACCORDANCE WITH VERIZON WIRELESS SPECIFICATIONS.
8. ALL ABOVE GROUND BARE COPPER CONDUCTORS BELOW 10’ ABOVE GRADE SHALL BE INSTALLED IN FLEXIBLE PVC CONDUIT. CONDUIT SHALL BE FILLED WITH THEFT DETERRENT COMPOUND (ELECTRIC MOTION COMPANY ANTI–THEFT COMPOUND EM–5101).
9. CONNECTION OF COPPER CONDUCTORS TO GALVANIZED METAL OR ALUMINUM SHALL BE AVOIDED. BRASS OR STAINLESS STEEL LUGS OR BARS SHALL BE USED FOR THESE CONNECTIONS.
10. BARE COPPER CONDUCTORS SHALL NOT BE INSTALLED WHERE THEY MAY BE IN CONTACT WITH GALVANIZED METALS. THE CONDUCTORS SHALL BE INSULATED OR ENCLOSED IN PVC CONDUIT, PLASTIC SEALTIGHT OR INSTALLED WITH STANDOFF SUCH THAT NO CONTACT BETWEEN DISSIMILAR METALS MAY TAKE PLACE.

LEGEND	
BBG	BATTERY BAY GROUND
CEPSG	COAX ENTRY PROTECTION SYSTEM GROUND
CG	CABINET GROUND
CSG	CABLE SUPPORT GROUND
EER	BURIED EXTERIOR ELECTRODE GROUND RING
EGC	EQUIPMENT GROUNDING CONDUCTOR (NEC DESIGNATION)
FEG	FIBER ENTRANCE GROUND
FG	FENCE GROUND
FTWGL	FUTURE TOWER WAVEGUIDE GROUND LEAD
GEC	GROUNDING ELECTRODE CONDUCTOR (NEC DESIGNATION)
GEG	GENERATOR ENCLOSURE GROUND
GES	GROUNDING ELECTRODE SYSTEM (NEC DESIGNATION)
GG	GATE GROUND
GPSG	GPS ANTENNA MOUNT GROUND
GRE	GROUND ROD ELECTRODE
IBSG	ICE BRIDGE SUPPORT GROUND
OGA	OVP GROUND ASSEMBLY
OGL	OVP GROUND LEAD
OHG	OVP H–FRAME SUPPORT GROUND
PEG	POWER ENTRANCE GROUND
PCSG	PAD CANOPY SUPPORT GROUND DOWN LEAD
TBG	TOWER BASE GROUND
TWG	TOWER WAVEGUIDE GROUND ASSEMBLY
UG	UFER GROUND (PIER FOUNDATION)
●	CABLE TO CABLE CADWELD CONNECTION
⊙	CABLE TO GND. ROD CADWELD CONNECTION
⊗	TEST WELL
⊠	INSPECTION PORT CABLE TO CABLE CADWELD CONNECTION



DRAWN BY: DS

CHECKED BY: MC

REV	DATE	DESCRIPTION
A	04/27/26	PRELIMINARY CD
B	05/21/26	PRELIMINARY CD

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF MICHIGAN

SHEET TITLE

TILLMAN OPP# TI–OPP–21206
VERIZON SITE NAME:
NEWPORT MI – LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

GROUNDING
NOTES

SHEET NUMBER

G-2

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VERIZON WIRELESS GROUNDING KEYED NOTES

- 1

BBG:

VZW E.C. SHALL CONNECT THE 1 - 2/0 AWG INSULATED STRANDED COPPER GND. WIRE COILED UP BY THE TOWER OWNER E.C. FOR THE BATTERY BAY GROUND (BBG). CONNECTION TO THE GROUND BAR IN THE BATTERY BAY SHALL BE MECHANICAL. ROUTE LEAD IN LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT w/ANTI-THEFT COMPOUND.
- 2

CEPSG:

VZW E.C. SHALL FURNISH & INSTALL THE THEFT DETERRENT GROUND POST ASSEMBLY PART #TDSGAPC14 FOR THE COAX ENTRY PROTECTION SYSTEM (AS MFG'D. BY ERICO GROUNDING AND SUPPLIED BY VZW E.C.) TO THE POST. CONNECT THE 2 AWG BARE SOLID TINNED COPPER COILED UP BY TOWER OWNER E.C. TO THE POST. THE CONNECTION TO POST SHALL BE CADWELD. REFER TO THE GENERAL INSTALLATION GUIDE AS SUPPLIED WITH THEFT DETERRENT POST MOUNT GROUND ASSEMBLY. SEE DETAIL 1 ON SHEET G-5 FOR DETAILS.
- 3

CG:

VZW E.C. SHALL FURNISH & INSTALL TWO HOLE LONG BARREL LUGS ON EXISTING 2 AWG BARE TINNED COPPER LEADS. VZW E.C. SHALL FURNISH & INSTALL DRAGON TOOTH WASHERS AND #8 STAINLESS STEEL FASTENERS ON ALL EQUIPMENT CABINET EXTERIOR GROUND LOCATIONS (TYP. 2 PER CABINET). REMOVE ALL SURFACE PAINT AND USE ANTIOXIDENT COMPOUND BETWEEN METAL AND WASHER. ALL LEADS SHALL BE DRESSED TO REDUCE TRIP HAZARDS. DETAIL 3 ON SHEET G-5 FOR DETAILS.
- 4

CSG:

VZW E.C. SHALL CONNECT THE 1 - 2 AWG BARE SOLID TINNED COPPER GND WIRE COILED BY TOWER OWNER E.C. FOR THE ICE BRIDGE CHANNEL. CONNECTION TO ICE BRIDGE CHANNEL SHALL BE CADWELD.
- 5

EER:

BY TOWER OWNER E.C.
- 6

FEG:

VZW E.C. SHALL BRING THE 2 AWG BARE SOLID TINNED COPPER GND. WIRE COILED UP BY TOWER OWNER E.C. FOR (FIBER ENTRANCE GROUND) INTO THE POWER PLANT CABINET AND MAKE A MECHANICAL CONNECTION TO THE FIBER SERVICE GROUND POINT. ROUTE LEAD IN FLEXIBLE NONMETALLIC CONDUIT w/ANTI-THEFT COMPOUND.
- 7

FG:

BY TOWER OWNER E.C.
- 8

FTWGL:

BY TOWER OWNER E.C.
- 9

GEG:

VZW E.C. SHALL CONNECT THE 1 - 2 AWG BARE SOLID TINNED COPPER GND. WIRE COILED UP BY TOWER OWNER E.C. FOR THE GENERATOR ENCLOSURE. CONNECTION TO GENERATOR ENCLOSURE SHALL BE MECHANICAL. ROUTE LEAD IN FLEXIBLE NONMETALLIC CONDUIT w/ANTI-THEFT COMPOUND. *GENERATOR SERVICE GROUND WHERE REQUIRED BY JURISDICTION HAVING AUTHORITY
- 10

GG:

BY TOWER OWNER E.C.
- 11

GRE:

BY TOWER OWNER E.C.
- 12

IBSG:

VZW E.C. SHALL CONNECT THE 1 - 2 AWG BARE SOLID TINNED COPPER GND. WIRE COILED UP BY TOWER OWNER E.C. FOR ICE BRIDGE SUPPORT POST. CONNECTION TO ICE BRIDGE SUPPORT POST SHALL BE CADWELD.
- 13

PEG:

VZW E.C. SHALL CONNECT 1 - 2 AWG BARE SOLID TINNED COPPER GND WIRE FOR THE POWER ENTRANCE GROUND (PEG) COILED UP BY TOWER OWNER E.C. CONNECTION OF THE COILED WIRE TO THE INTEGRATED LOAD CENTER GROUND BAR SHALL BE MECHANICAL. ROUTE LEAD IN FLEXIBLE NONMETALLIC CONDUIT w/ANTI-THEFT COMPOUND.
- 14

PCSG:

VZW E.C. SHALL CONNECT SOLID TINNED COPPER ONE HOLE GROUND TAB TO COILED UP GROUND WIRE BY TOWER OWNER E.C. WITH AN EXOTHERMIC CONNECTION. THE CONNECTION OF THE COILED GROUND WIRE AND LUG TO THE CANOPY SUPPORT BASE SHALL BE MECHANICAL. SEE DETAIL 3 ON SHEET G-5. ROUTE LEAD IN FLEXIBLE NONMETALLIC CONDUIT w/ANTI-THEFT COMPOUND.
- 15

TBG:

BY TOWER OWNER E.C.
- 16

TWG:

VZW E.C. SHALL FURN. & INST. THEFT DETERRENT GROUND ASSEMBLY KIT PART #TDSGAPC14 FOR THE TOWER WAVEGUIDE GROUND (TWG) DIRECTLY TO THE TOWER (SEE SITE SPECIFIC GROUNDING PLAN OF DESIGN DRAWINGS).
- 17

UG:

BY TOWER OWNER E.C.
- 18

OGA:

VZW E.C. SHALL FURN. & INST. THE THEFT DETERRENT GROUND ASSEMBLY KIT PART #TDSGAPC14 FOR THE OVP GROUND (OGL) DIRECTLY TO THE OVP H-FRAME POST. SEE DETAIL 4 ON SHEET G-5.
- 19

OGL:

VZW E.C. SHALL FURN. & INST. 1 - 6 AWG GREEN INSULATED STRANDED COPPER GND. WIRE FROM OVP GROUND POINT TO OVP GROUND ASSEMBLY (OGA). CONNECTION TO GROUND BAR SHALL BE MECHANICAL.
- 20

OHG:

VZW E.C. SHALL CONNECT THE 2 - 2 AWG BARE SOLID TINNED COPPER GND. WIRE COILED UP BY TOWER OWNER E.C. FOR OVP H-FRAME SUPPORT POST (TYP. OF 3 POSTS). CONNECTION TO POST SHALL BE CADWELD.
- 21

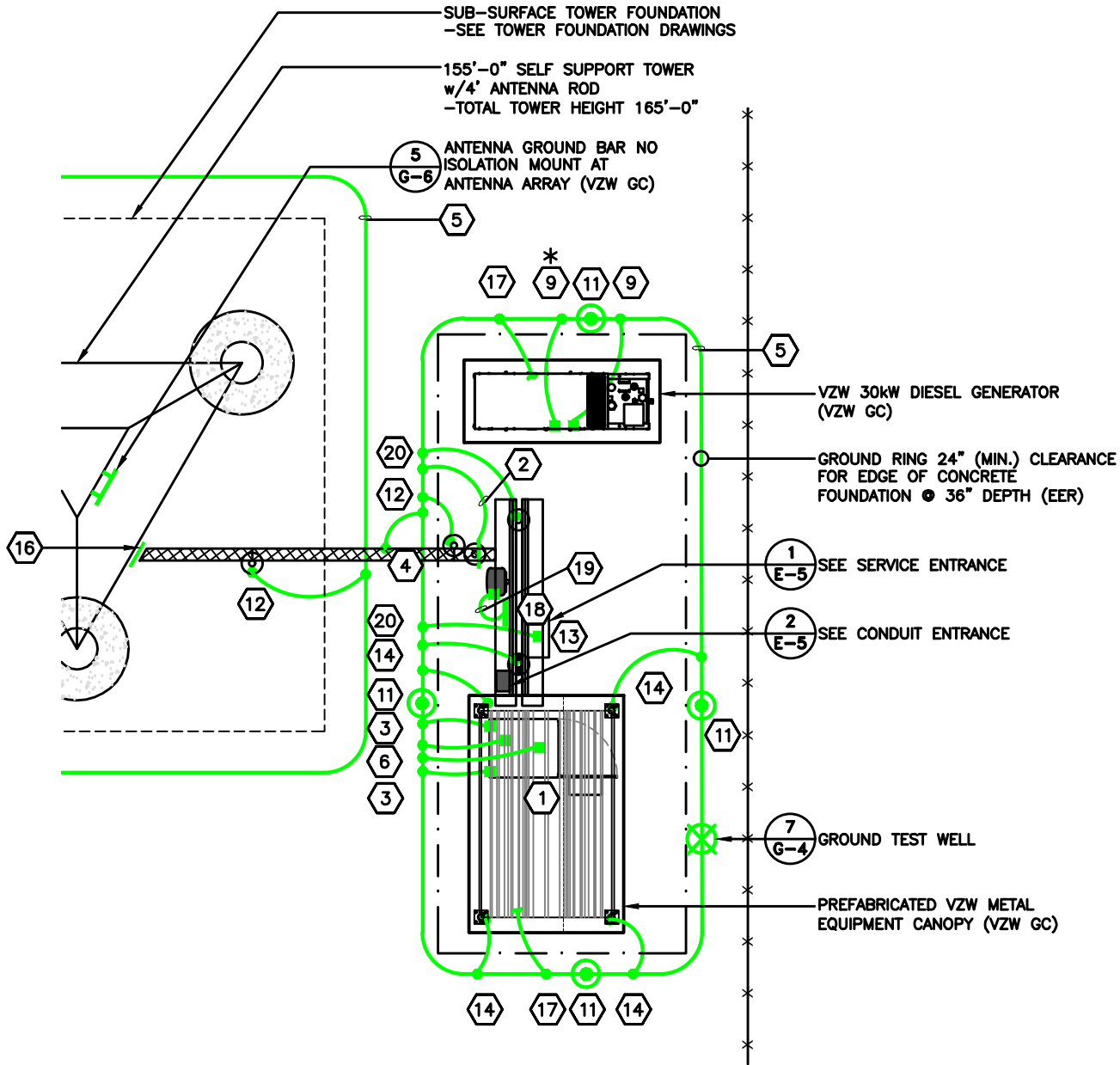
GPSG:

VZW E.C. SHALL FURN. & INST. 1 - 2 AWG BARE SOLID TINNED COPPER GND. WIRE FOR GPS ANTENNA MOUNT PIPE TO H-FRAME SUPPORT POST (TYP. OF 2). CONNECTION TO PIPE AND POST SHALL BE CADWELD.

VERIZON WIRELESS GROUNDING NOTES

1. ALL UNDERGROUND CONNECTIONS ON THE LIGHTNING PROTECTION SYSTEM SHALL BE EXOTHERMIC WELDED USING THE CADWELD PROCESS. THE VZW E.C. AND GENERAL CONTRACTOR E.C. SHALL FURN. & INST. ALL THESE CONNECTIONS, INCLUDING WELD METALS, MOLDS AND TOOLS. THE E.C. SHALL FURN. & INST. 5/8" x 10" COPPER CLAD STEEL (COPPER JACKET 0.0012" MIN.) GROUND RODS, DRIVEN VERTICAL TO 36" BELOW FIN. GRADE (OR 6" BELOW FROSTLINE, WHICHEVER IS GREATER) @ 10'-0" O.C. MINIMUM.
2. THE VZW E.C. SHALL FURN. & INST. 2 AWG BARE SOLID TINNED COPPER GND. WIRE AT A DEPTH OF 36" BELOW FIN. GRADE FOR THE EQUIPMENT PAD (EER) AND ICE BRIDGE (CSG).
3. THE GENERAL CONTRACTOR E.C. SHALL FURN. & INST. 2 AWG BARE SOLID TINNED COPPER GND. WIRE AT A DEPTH OF 36" BELOW FIN. GRADE FOR THE TOWER (EER), FUTURE TOWER WAVEGUIDE GROUND LEADS (FTWGL), GATE GROUND (GG), FENCE (FG), TOWER BASE GROUND (TBG) AND TOWER WAVEGUIDE GROUND (TWG).
4. ALL EXTERIOR GND. CONNECTIONS SHALL BE EXOTHERMIC CADWELD (U.N.O.).
5. ALL CRIMP LUG CONNECTIONS TO ALL GROUND BARS SHALL BE LUBRICATED WITH A CORROSION INHIBITOR ("OXY-GREASE") OR APPROVED EQUAL.
6. UPON COMPLETION OF THE TOWER GROUNDING RING, THE GENERAL CONTRACTOR E.C. SHALL MEGGER TEST THE COUMPOUND GROUNDING FIELD. THE REQUIRED RESISTANCE LEVEL IS 5 OHMS OR LESS. THE GENERAL CONTRACTOR E.C. SHALL NOTIFY THE ENGINEER IF THESE REQUIREMENTS ARE NOT ACHIEVED. THE GENERAL CONTRACTOR E.C. SHALL SUBMIT PRICING TO TOWER OWNER FOR THE INSTALLATION OF ADDITIONAL GROUND RODS REQUIRED FOR PROPER RESISTANCE. UPON APPROVAL FROM TOWER OWNER, THE GENERAL CONTRACTOR E.C. SHALL INSTALL ADDITIONAL GROUND RODS AS REQUIRED. AFTER PASSING TEST, THE GENERAL CONTRACTOR E.C. SHALL NOTIFY TOWER OWNER 48 HOURS PRIOR TO BACKFILLING TRENCHES, POURING CONCRETE FOR FOUNDATIONS, TO INSPECT BONDS AND INSPECT ANY/ALL BREAKS AND REPAIRS TO THE GROUND RING.
7. UPON COMPLETION OF THE RADIO EQUIPMENT PAD GROUNDING RING AND BEFORE BONDING TO THE TOWER GROUNDING RING, THE VZW E.C. SHALL MEGGER TEST THE EQUIPMENT PAD GROUNDING FIELD. THE REQUIRED RESISTANCE LEVEL IS 5 OHMS OR LESS. THE VZW E.C. SHALL NOTIFY THE ENGINEER IF THESE REQUIREMENTS ARE NOT ACHIEVED. THE VZW E.C. SHALL SUBMIT PRICING TO VERIZON WIRELESS FOR THE INSTALLATION OF ADDITIONAL GROUND RODS REQUIRED FOR PROPER RESISTANCE. UPON APPROVAL FROM VERIZON WIRELESS, THE VZW E.C. SHALL INSTALL ADDITIONAL GROUND RODS AS REQUIRED. AFTER PASSING TEST, THEN THE VZW E.C. SHALL BOND THE RADIO EQUIPMENT PAD GROUND RING TO THE TOWER GROUND RING. THE VZW E.C. SHALL NOTIFY VERIZON WIRELESS 48 HOURS PRIOR TO BACKFILLING TRENCHES, POURING CONCRETE FOR FOUNDATIONS, TO INSPECT BONDS AND INSPECT ANY/ALL BREAKS AND REPAIRS TO THE GROUND RING.
8. GROUND SYSTEM SHALL BE VISUALLY INSPECTED BY A TOWER OWNER AND VERIZON WIRELESS CONSTRUCTION ENGINEER BEFORE BACKFILLING IF REQUESTED.
9. GROUND ASSEMBLIES SHALL BE THEFT DETERRENT DESIGN AS MANUFACTURED BY ERICO INC. AND FURNISHED BY VERIZON WIRELESS. PROVIDE TWO (2) LUG HOLES PER VERIZON WIRELESS STANDARDS. UNLESS NOTED OTHERWISE.
10. ALL ABOVE GROUND BARE COPPER CONDUCTORS BELOW 10' ABOVE GRADE SHALL BE INSTALLED IN FLEXIBLE PVC CONDUIT. CONDUIT SHALL BE FILLED WITH THEFT DETERRENT COMPOUND (ELECTRIC MOTION COMPANY ANTI-THEFT COMPOUND EM-5101).
11. BARE COPPER CONDUCTORS SHALL NOT BE INSTALLED WHERE THEY MAY BE IN CONTACT WITH GALVANIZED METALS. THE CONDUCTORS SHALL BE INSULATED OR ENCLOSED IN PVC CONDUIT, PLASTIC SEALTIGHT OR INSTALLED WITH STANDOFF SUCH THAT NO CONTACT BETWEEN DISSIMILAR METALS MAY TAKE PLACE.
12. CONNECTION OF COPPER CONDUCTORS TO GALVANIZED METAL OR ALUMINUM SHALL BE AVOIDED. BRASS OR STAINLESS STEEL LUGS OR BARS SHALL BE USED FOR THESE CONNECTIONS.
13. NO SHARP 90° BENDS SHALL BE USED. A LONG SWINGING RADIUS BEND REQUIRED.
14. ALL GROUNDING SHALL BE IN ACCORDANCE WITH VERIZON WIRELESS SPECIFICATIONS.

LEGEND	
BBG	BATTERY BAY GROUND
CEPSG	COAX ENTRY PROTECTION SYSTEM GROUND
CG	CABINET GROUND
CSG	CABLE SUPPORT GROUND
EER	BURIED EXTERIOR ELECTRODE GROUND RING
EGC	EQUIPMENT GROUNDING CONDUCTOR (NEC DESIGNATION)
FEG	FIBER ENTRANCE GROUND
FG	FENCE GROUND
FTWGL	FUTURE TOWER WAVEGUIDE GROUND LEAD
GEC	GROUNDING ELECTRODE CONDUCTOR (NEC DESIGNATION)
GEG	GENERATOR ENCLOSURE GROUND
GES	GROUNDING ELECTRODE SYSTEM (NEC DESIGNATION)
GG	GATE GROUND
GPSG	GPS ANTENNA MOUNT GROUND
GRE	GROUND ROD ELECTRODE
IBSG	ICE BRIDGE SUPPORT GROUND
OGA	OVP GROUND ASSEMBLY
OGL	OVP GROUND LEAD
OHG	OVP H-FRAME SUPPORT GROUND
PEG	POWER ENTRANCE GROUND
PCSG	PAD CANOPY SUPPORT GROUND DOWN LEAD
TBG	TOWER BASE GROUND
TWG	TOWER WAVEGUIDE GROUND ASSEMBLY
UG	UFER GROUND (PIER FOUNDATION)
⊙	CABLE TO CABLE CADWELD CONNECTION
⊗	CABLE TO GND. ROD CADWELD CONNECTION
⊠	TEST WELL
⊡	INSPECTION PORT CABLE TO CABLE CADWELD CONNECTION



VERIZON WIRELESS GROUNDING PLAN

SCALE: N.T.S.



TILLMAN
INFRASTRUCTURE

verizon

LCC
LAW OFFICES

DRAWN BY: DS
CHECKED BY: MC

REV	DATE	DESCRIPTION
A	04/27/26	PRELIMINARY CD
B	05/21/26	PRELIMINARY CD

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF MICHIGAN

SHEET TITLE

TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

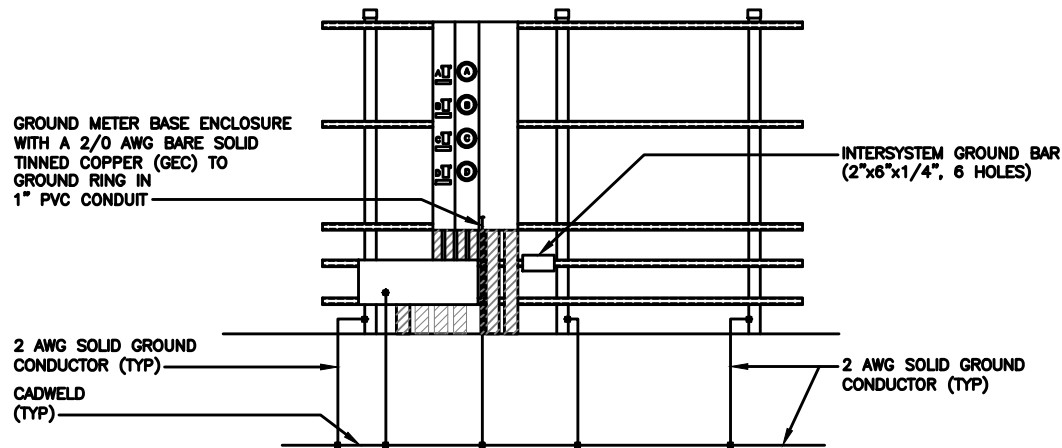
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VERIZON WIRELESS
GROUNDING PLAN
AND NOTES

SHEET NUMBER

G-3

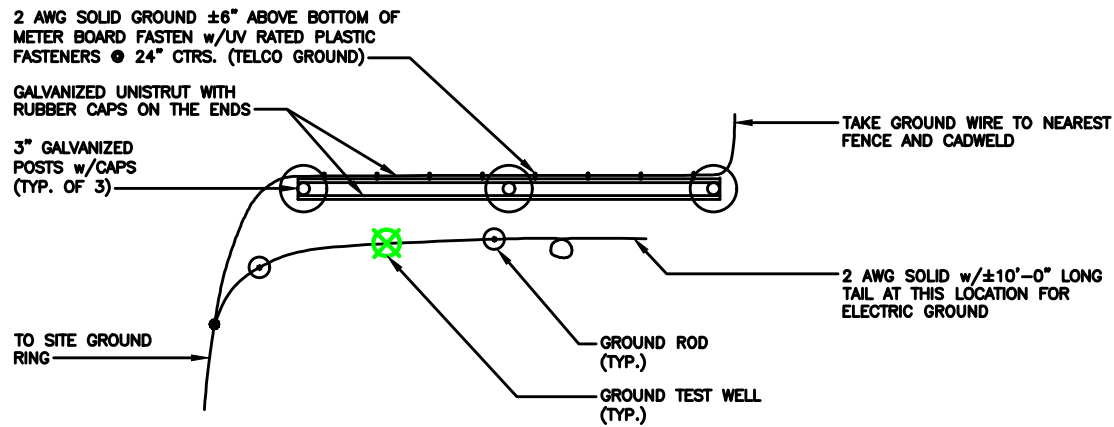
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METER BOARD STRUCTURE GROUNDING

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

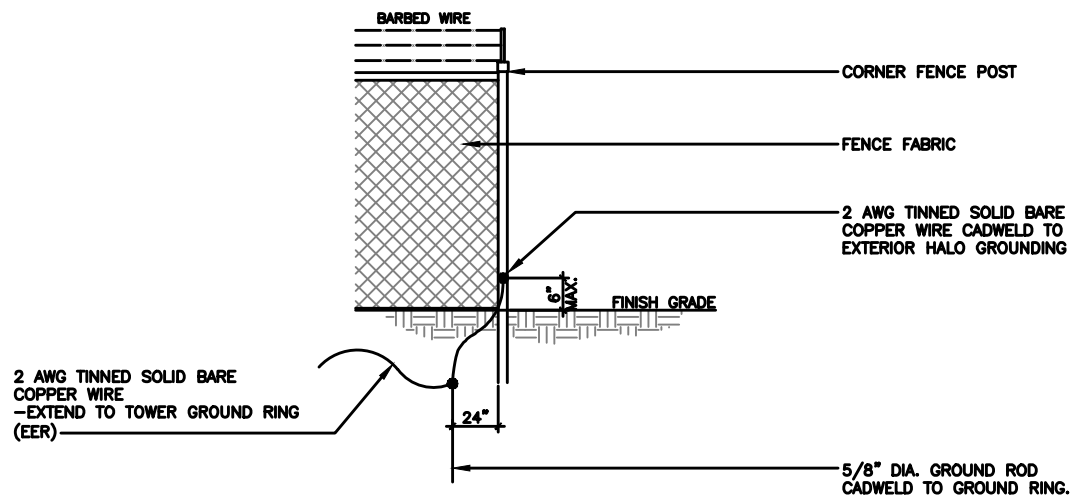
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G-4



METER BOARD STRUCTURE GROUND PLAN

SCALE: N.T.S.

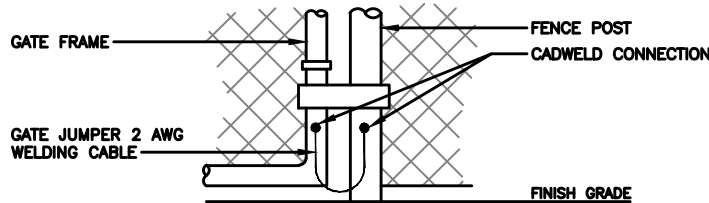
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G-4



FENCE GROUNDING DETAIL

SCALE: N.T.S.

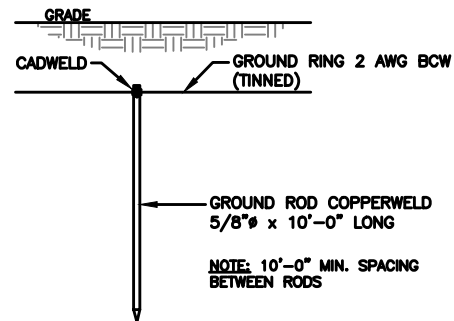
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G-4



GATE GROUNDING DETAIL

SCALE: N.T.S.

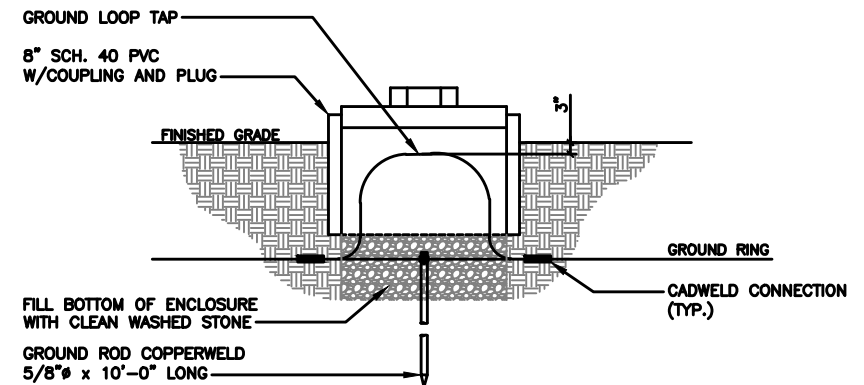
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G-4



GROUND ROD DETAIL

SCALE: N.T.S.
(TYP. FOR CONTRACTOR AND VZW GC)

5
G-4



GROUND TEST WELL DETAIL

SCALE: N.T.S.

7
G-4

TILLMAN
INFRASTRUCTURE

verizon

LCC
LANDSCAPE ARCHITECTS

DRAWN BY: DS

CHECKED BY: MC

REV	DATE	DESCRIPTION
A	04/27/26	PRELIMINARY CD
B	05/21/26	PRELIMINARY CD

I HEREBY CERTIFY THAT THESE PLANS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND THAT I AM A DULY REGISTERED ARCHITECT UNDER THE LAWS OF THE STATE OF MICHIGAN

SHEET TITLE

TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - L RELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

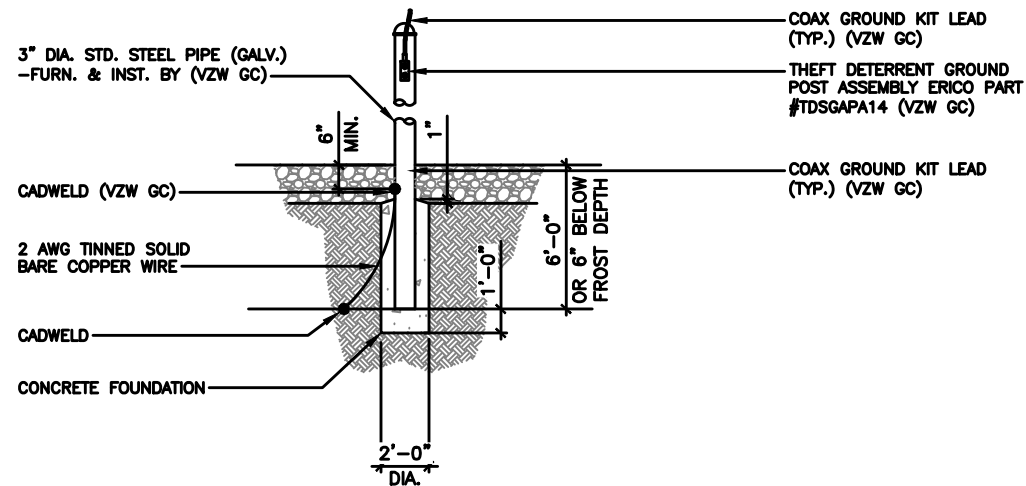
SHEET TITLE

GROUNDING
DETAILS

SHEET NUMBER

G-4

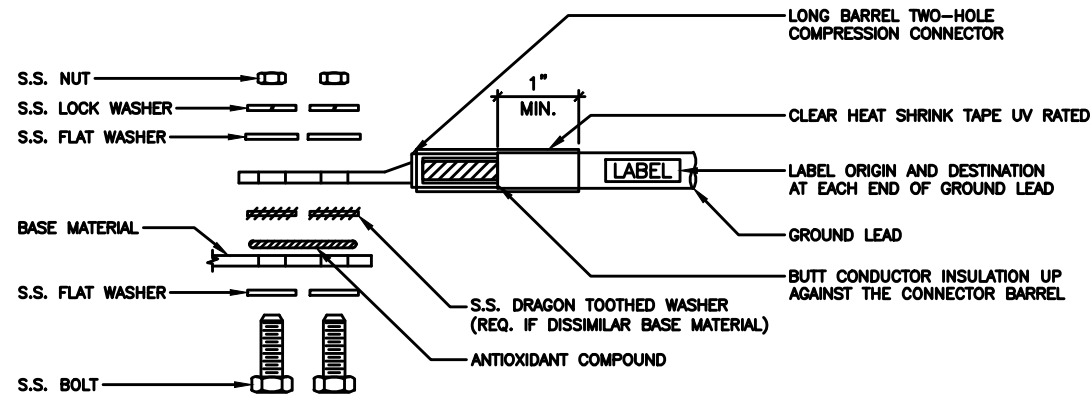
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THEFT DETERRENT POST MOUNT GROUND DETAIL (CEPSG)

SCALE: N.T.S.
(BY VZW GC)

1
G-5

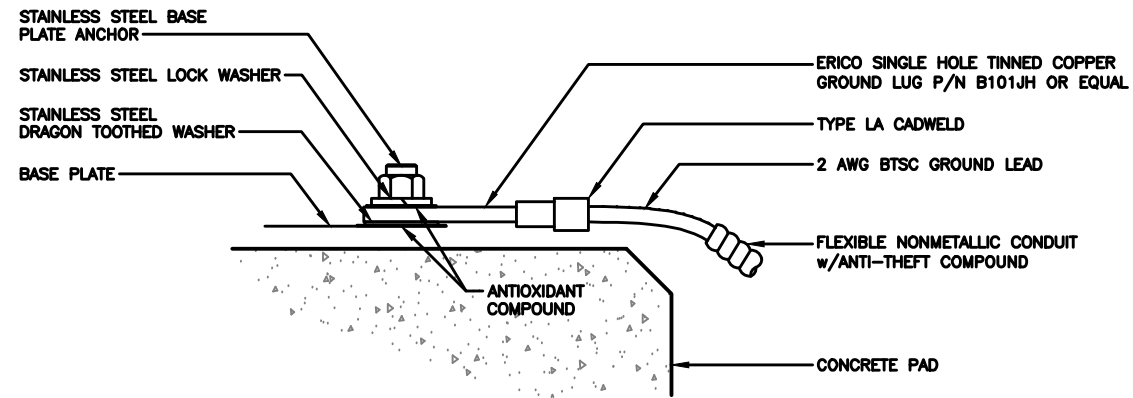


1. ALL HARDWARE SHALL BE 18-8 STAINLESS STEEL.
2. CHOOSE BOLT LENGTH TO ALLOW EXPOSURE OF AT LEAST TWO THREADS.
3. BACK TO BACK LUG CONNECTIONS ARE ACCEPTABLE WHEN BONDED TO A GROUND BAR OR STEEL OBJECT.
4. AT CONNECTIONS MADE TO STEEL OR ANY OTHER DISSIMILAR METALS, A DRAGON TOOTH WASHER SHALL BE USED BETWEEN THE CONNECTOR AND METAL.
5. IF NO DRAGON TOOTH WASHER IS USED, THOROUGHLY REMOVE A SECTION OF THE COATING APPROXIMATELY THE SIZE OF THE CONNECTOR WITH AN ABRASIVE STYLE TOOL.
6. NO-OX-ID ANTI-OXIDATION COMPOUND (SANCHEM) SHALL BE USED AT ALL COPPER TO COPPER CONNECTIONS.
7. A ZINC BASED (GRAY COLORED) ANTI-OXIDATION COMPOUND SHALL BE USED AT ALL COPPER TO STEEL CONNECTIONS.
8. PENTROX OR EQUAL ANTI-OXIDATION COMPOUND SHALL BE USED AT ALL COPPER TO ALUMINUM CONNECTIONS.

GROUND LUG INSTALLATION DETAIL

SCALE: N.T.S.

2
G-5

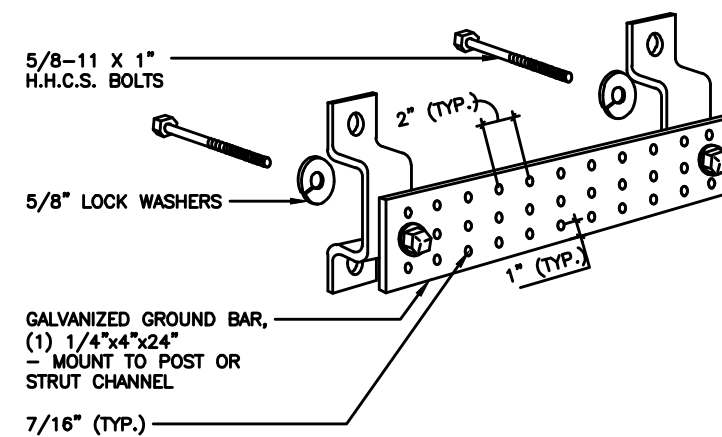


1. ALL HARDWARE SHALL BE 18-8 STAINLESS STEEL.
2. INSTALL ANCHOR LENGTH TO ALLOW EXPOSURE OF AT LEAST TWO THREADS.
3. AT CONNECTIONS MADE TO STEEL OR ANY OTHER DISSIMILAR METALS, A DRAGON TOOTH WASHER SHALL BE USED BETWEEN THE CONNECTOR AND METAL.
4. IF NO DRAGON TOOTH WASHER IS USED, THOROUGHLY REMOVE A SECTION OF THE COATING APPROXIMATELY THE SIZE OF THE CONNECTOR WITH AN ABRASIVE STYLE TOOL.
5. NO-OX-ID ANTI-OXIDATION COMPOUND (SANCHEM) SHALL BE USED AT ALL COPPER TO COPPER CONNECTIONS.
6. A ZINC BASED (GRAY COLORED) ANTI-OXIDATION COMPOUND SHALL BE USED AT ALL COPPER TO STEEL CONNECTIONS.
7. PENTROX OR EQUAL ANTI-OXIDATION COMPOUND SHALL BE USED AT ALL COPPER TO ALUMINUM CONNECTIONS.

GROUND LUG TO BASEPLATE INSTALLATION DETAIL

SCALE: N.T.S.

3
G-5



OVP GROUND ASSEMBLY (OGA)

SCALE: N.T.S.
(BY VZW GC)

3
G-5

TILLMAN
INFRASTRUCTURE

verizon

LCC
LAWYERS
COUNSEL

DRAWN BY: DS

CHECKED BY: MC

REV	DATE	DESCRIPTION
A	04/27/26	PRELIMINARY CD
B	05/21/26	PRELIMINARY CD

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THE STATE OF MICHIGAN

SHEET TITLE

TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
NEWPORT MI - LRELHR
VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE

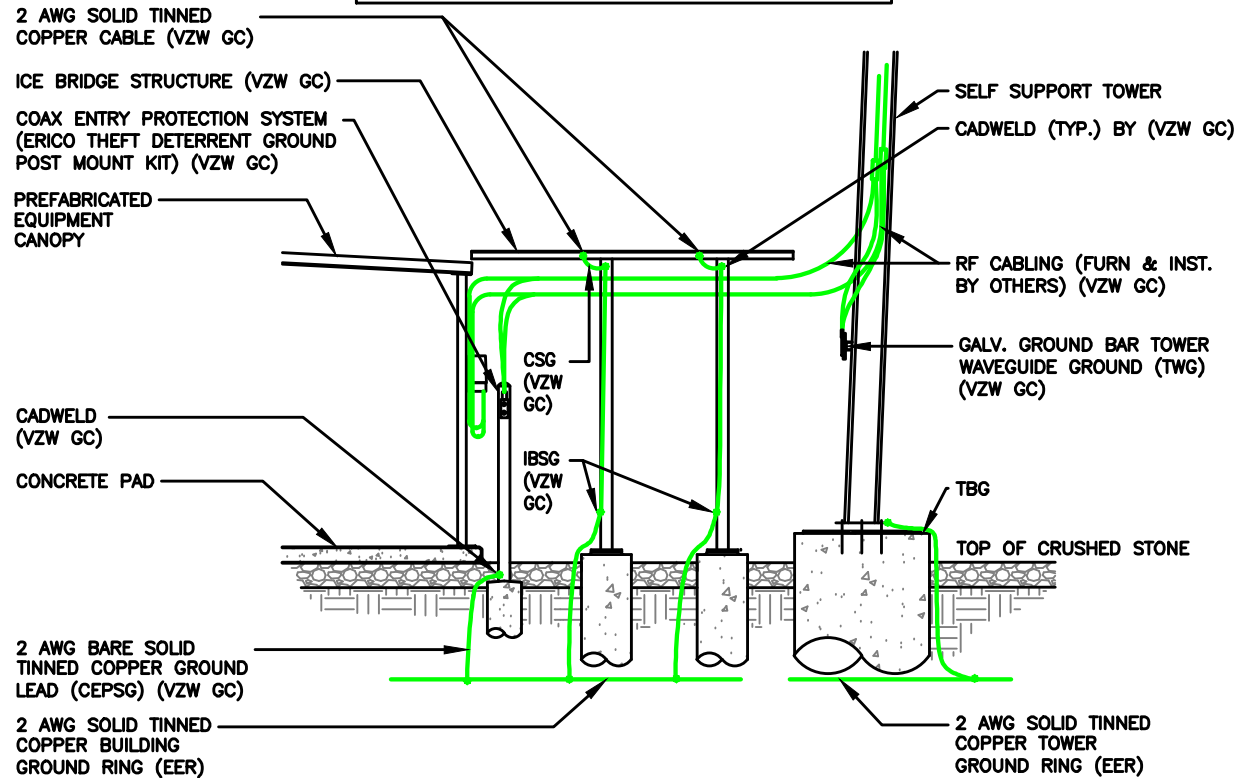
GROUNDING
DETAILS

SHEET NUMBER

G-5

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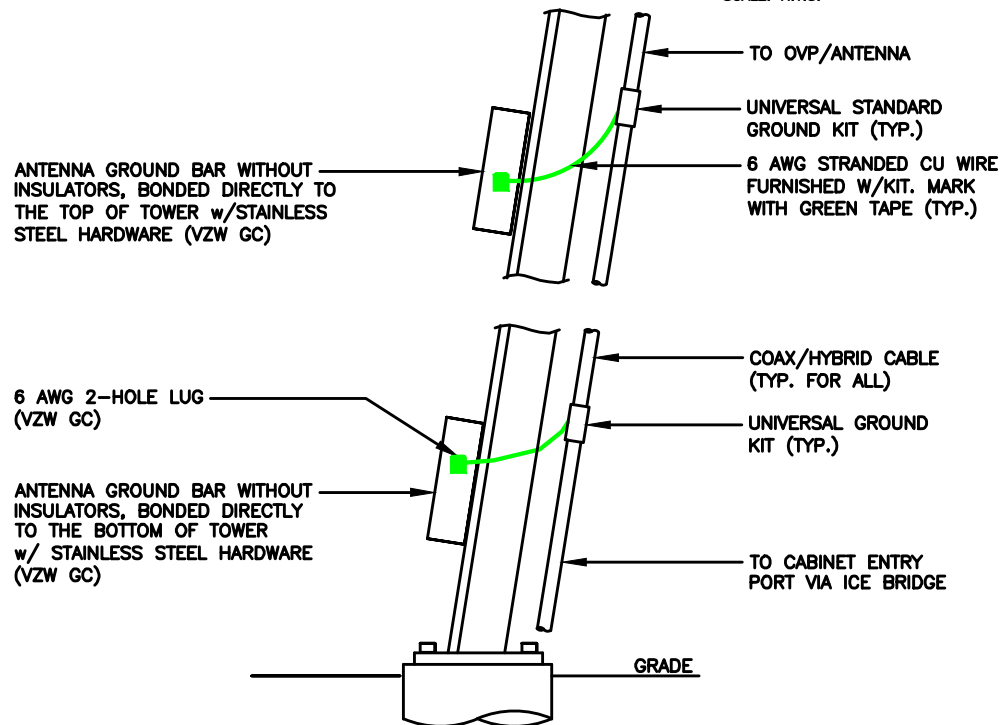
NOTE:
GROUNDING RING DOES NOT PENETRATE
SHELTER, TOWER OR ICE BRIDGE FOUNDATIONS
REFER TO ELECTRICAL SITE PLAN



INTERIOR/EXTERIOR GROUNDING DETAIL

SCALE: N.T.S.

1
G-6



NOTE:
1. NUMBER OF GROUNDING BARS MAY VARY DEPENDING ON THE TYPE OF TOWER, ANTENNA LOCATIONS AND CONNECTION ORIENTATION. PROVIDE AS REQUIRED (VZW GC)

2. INSTALL UNIVERSAL GROUND KITS AT ALL GROUND BAR LOCATIONS. (VZW GC)

ANTENNA CABLE GROUNDING INSTALLATION DETAIL

SCALE: N.T.S.

2
G-6

ACTIVE ANTENNA
(TYP. OF 2 PER
SECTOR, TOTAL OF 6)
(VZW GC)

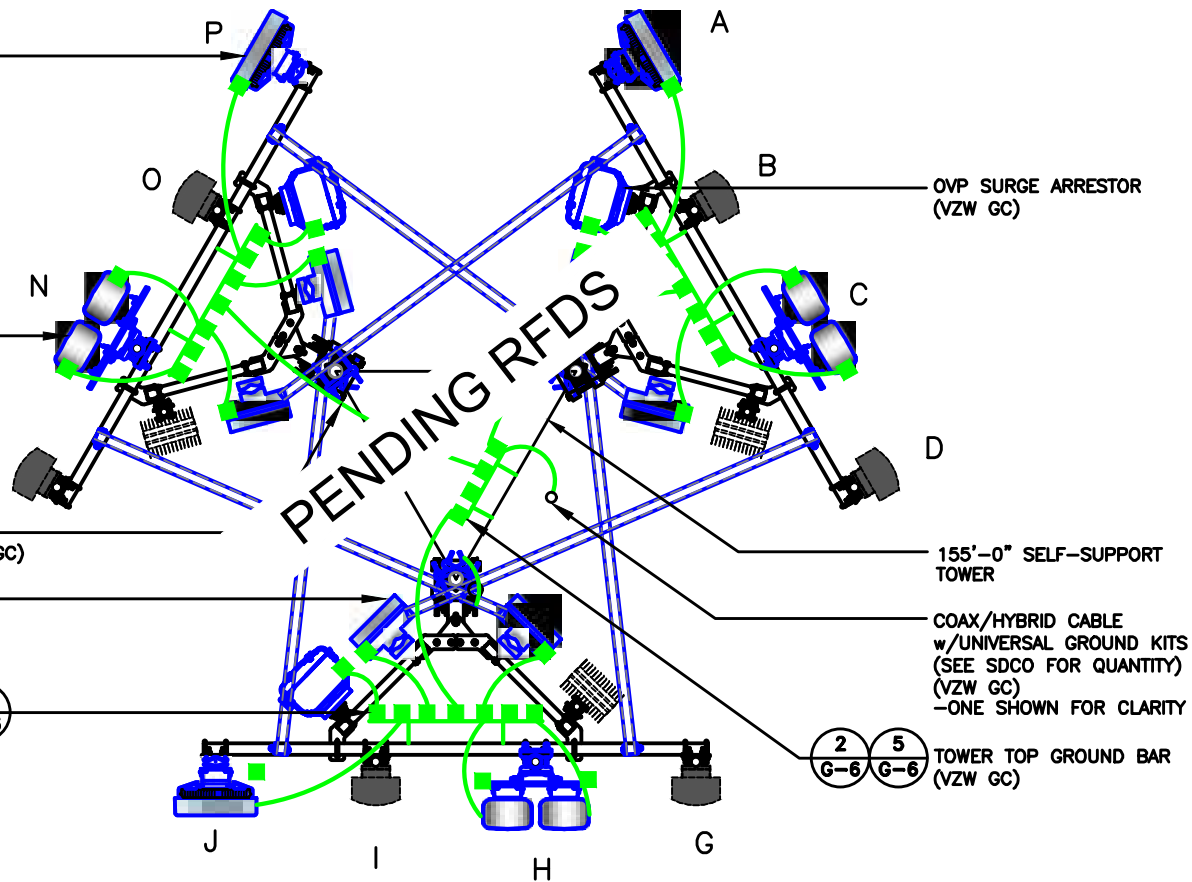
PANEL ANTENNA
(TYP. OF 1 PER
SECTOR, TOTAL OF 3)
(VZW GC)

6 AWG GREEN INSULATED
GROUND LEAD (TYP.) (VZW GC)

REMOTE RADIO UNIT
(TYP. OF 1 PER
SECTOR, TOTAL OF 3)
(VZW GC)

ANTENNA GROUND BAR
(TYP. EACH SECTOR)
(VZW GC)

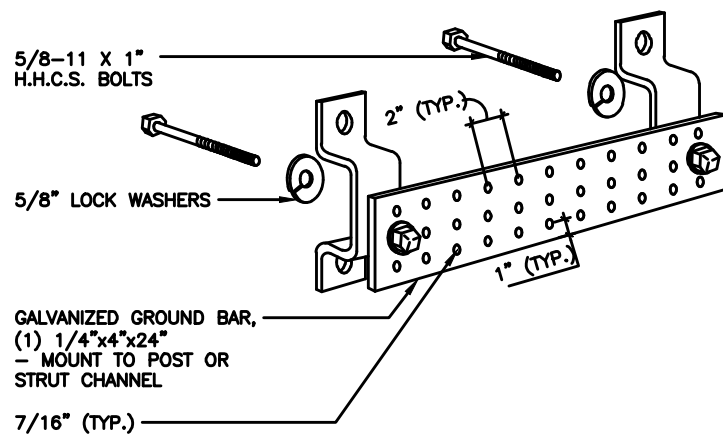
5
G-6



ANTENNA LEVEL GROUNDING PLAN

SCALE: N.T.S.

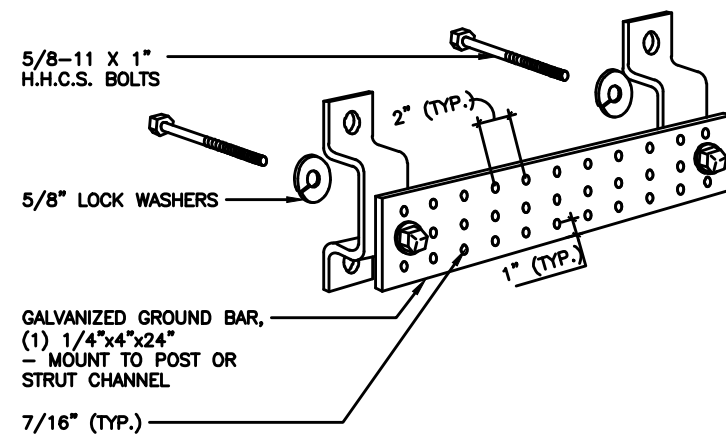
3
G-6



TOWER BOTTOM GROUND ASSEMBLY

SCALE: N.T.S.
(BY VZW GC)

4
G-6



ANTENNA & TOWER TOP GROUND BAR

SCALE: N.T.S.
(BY VZW GC)

5
G-6

TILLMAN
INFRASTRUCTURE

verizon

LCC
TRADES SERVICES

DRAWN BY: DS
CHECKED BY: MC

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VERIZON FUZE # 16953676
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4811 NEWPORT RD
NEWPORT, MI 48166

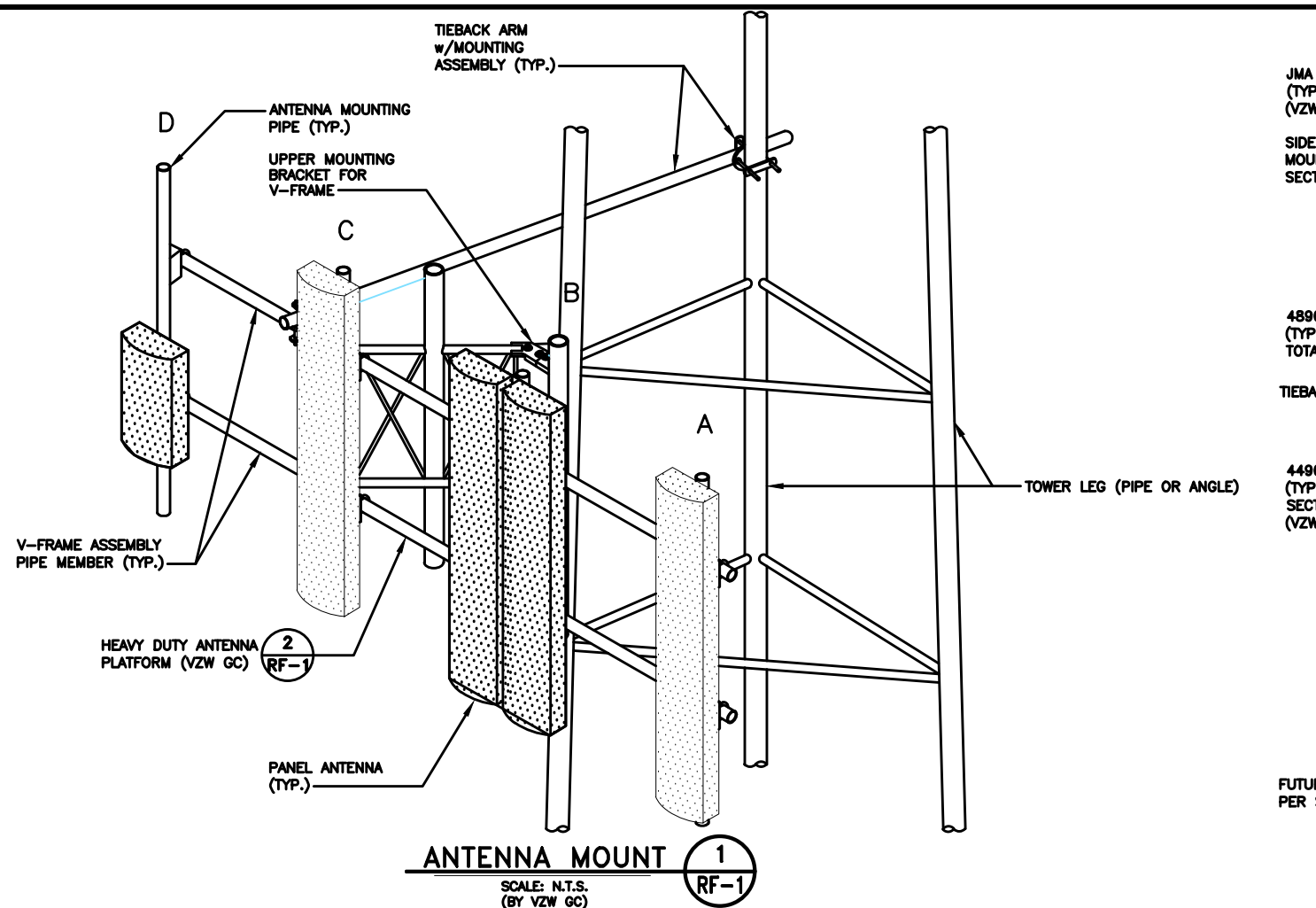
SHEET TITLE

GROUNDING
DETAILS

SHEET NUMBER

G-6

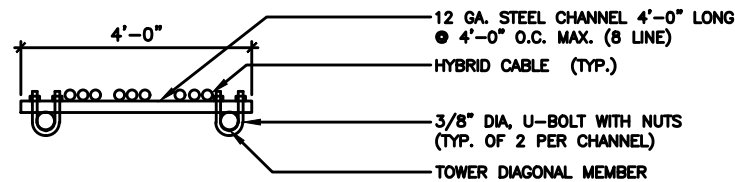
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ANTENNA AND HYBRID CABLES

CONTRACTOR MAY SUBSTITUTE AN ALTERNATE METHOD TO SUPPORT THE HYBRID CABLES, BUT SHALL SUBMIT DETAILING OF THE ALTERNATE METHOD TO STRUCTURAL ENGINEER FOR APPROVAL PRIOR TO PROCEEDING WITH THE INSTALLATION OF THE CABLES.

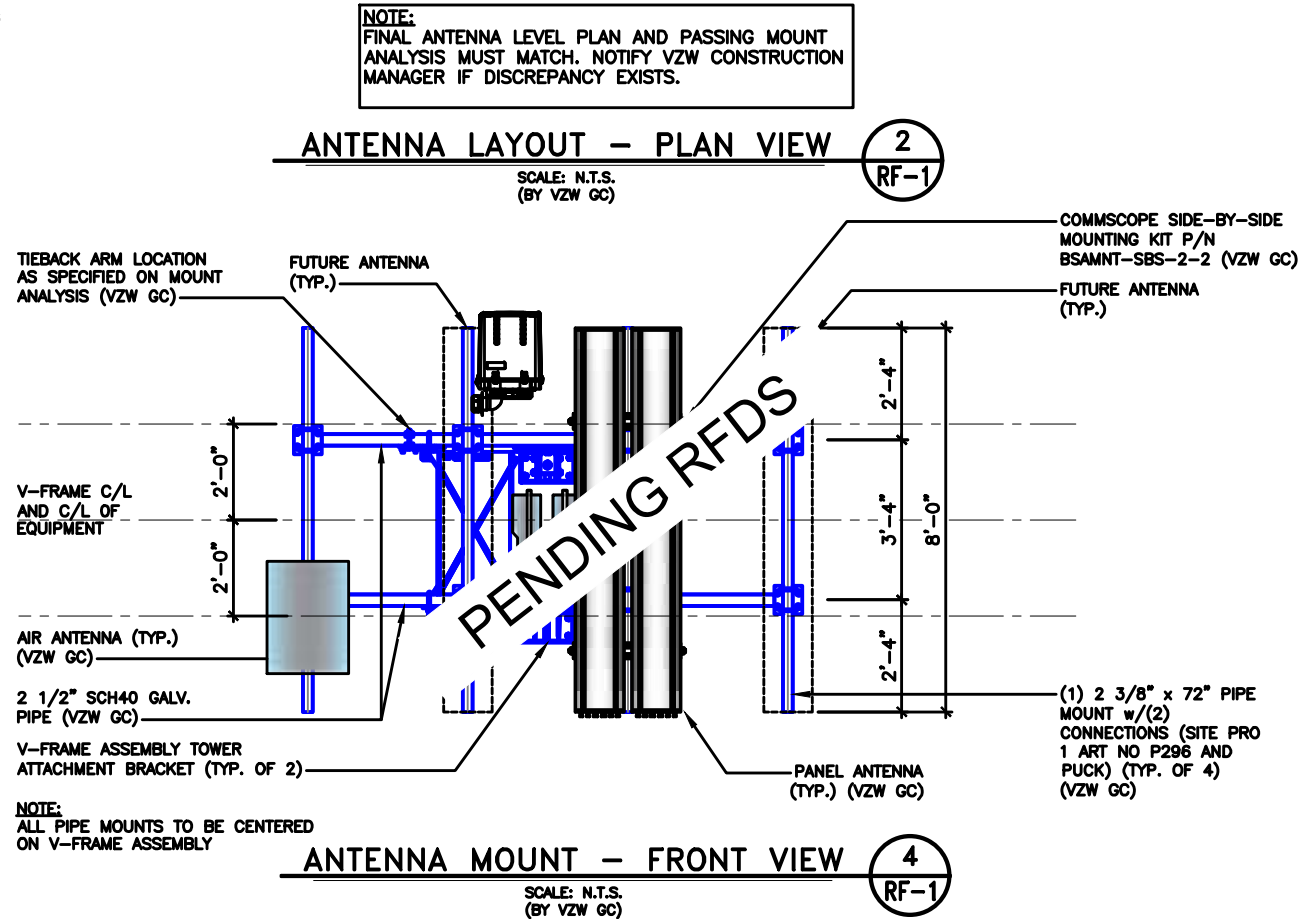
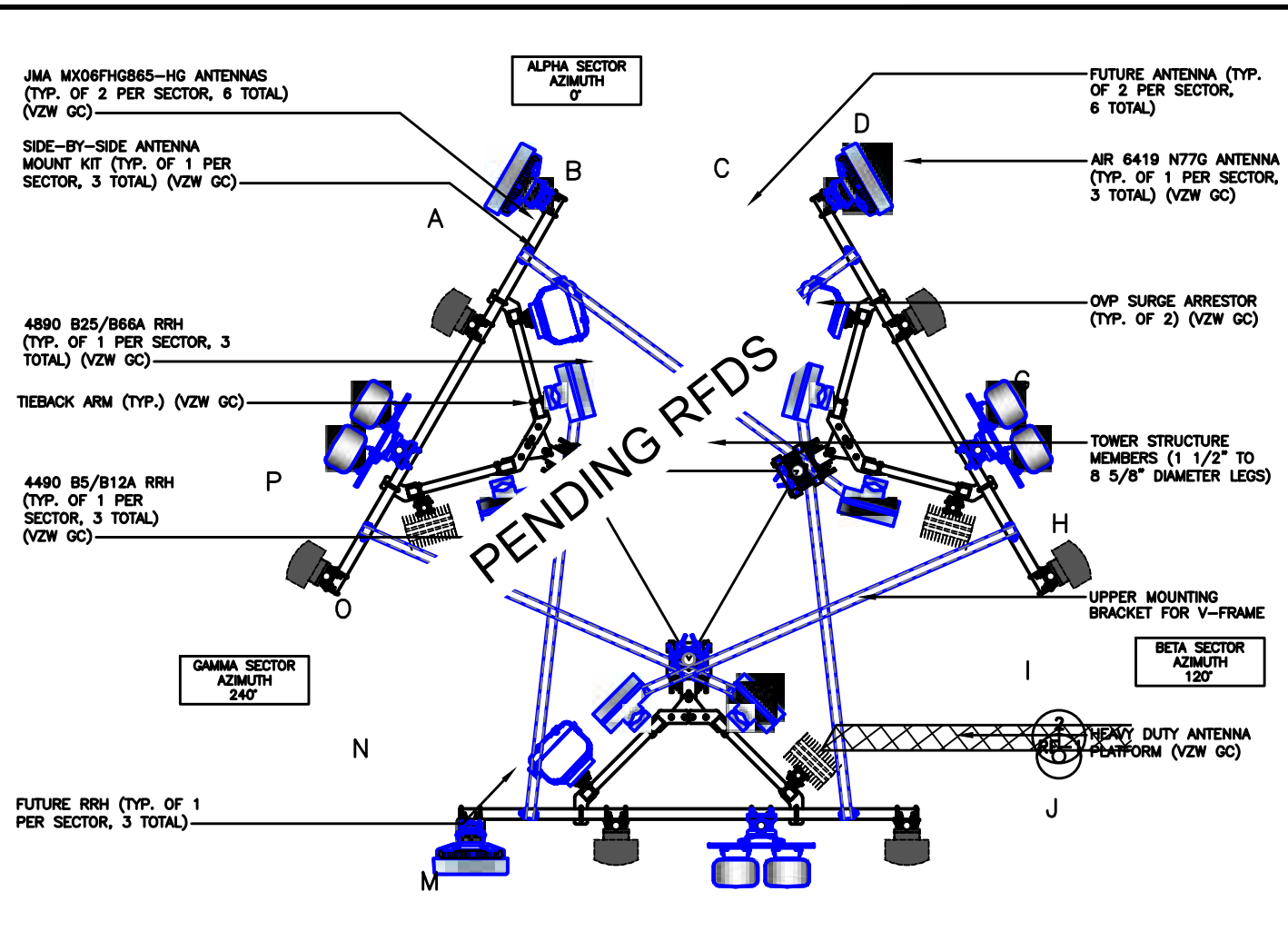
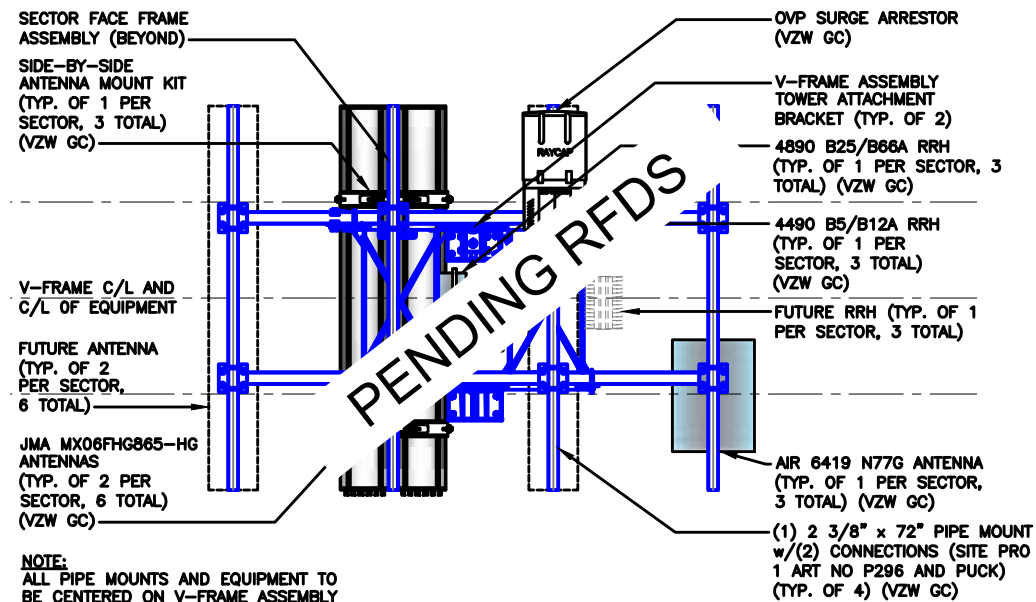
THE CONTRACTOR IS RESPONSIBLE TO REVIEW THE STRUCTURAL ANALYSIS FOR REQUIRED HYBRID CABLE SUPPORT CONFIGURATIONS NOT INDICATED ON THE DETAIL. I.E. BUNDLED CABLES.



HYBRID CABLE SUPPORT DETAIL

GENERAL NOTES:

1. VERIFY EACH HYBRID CABLE LENGTH, DIAMETER, ROUTING, AND ALL MOUNTING APPURTENANCES WITH OWNER PRIOR TO ORDER.
2. THE MAXIMUM HYBRID CABLE LENGTH HAS BEEN ESTIMATED AT _____ FEET, APPROXIMATELY. ACTUAL ANTENNA CABLE LENGTH MAY VARY FROM ESTIMATED MAXIMUM LENGTH AND MUST BE VERIFIED.
3. TAG ALL MAIN CABLES AT TWO (2) LOCATIONS. 1) AT ANTENNAS 2) OUTSIDE EQUIPMENT CABINET NEAR THE WAVEGUIDE ENTRY PORT.
4. EACH CABLE SHALL BE GROUNDED AT (3) THREE LOCATIONS. ANTENNA LEVEL ON TOWER, TOWER BASE, AND EQUIPMENT H-FRAME.
5. HYBRID CABLES TO BE SUPPORTED EVERY 36" OFF MOUNTING FRAMES WITH STAINLESS STEEL HANGERS.
6. JUMPER CABLES TO BE SUPPORTED EVERY 18" WITH STAINLESS STEEL HANGERS.



TILLMAN
INFRASTRUCTURE

verizon

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LAW OFFICES

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NEWPORT, MI 48166

SHEET TITLE

ANTENNA PLAN
AND DETAILS
(REFERENCE ONLY)

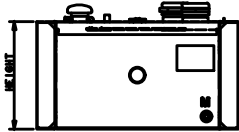
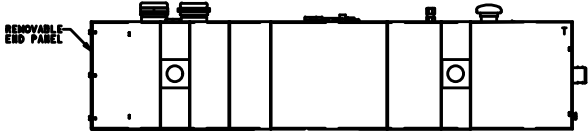
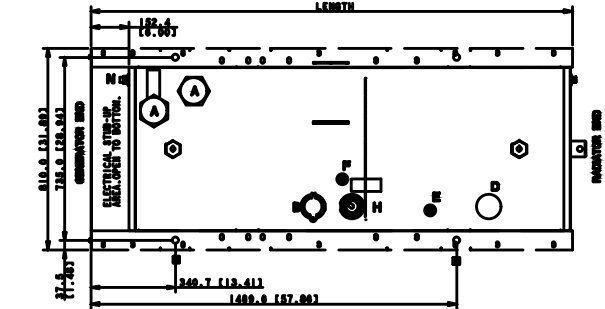
SHEET NUMBER

RF-1

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MODEL	CAPACITY		WEIGHT		LENGTH		HEIGHT		EMERGENCY VENT (A) INNER/OUTER
	LITERS	GAL	KG	LBS	MM	IN	MM	IN	
10/500W	501	132	250	550	1830.0	72.0	431.0	17.0	3/2
10/500W	265	70	220	485	1030.0	40.5	326.0	12.8	3/2
10/500W	622	164	310	685	1830.0	72.0	812.0	32.0	3/2
10/500W	701	183	342	750	2070.1	81.5	914.4	36.0	3/2

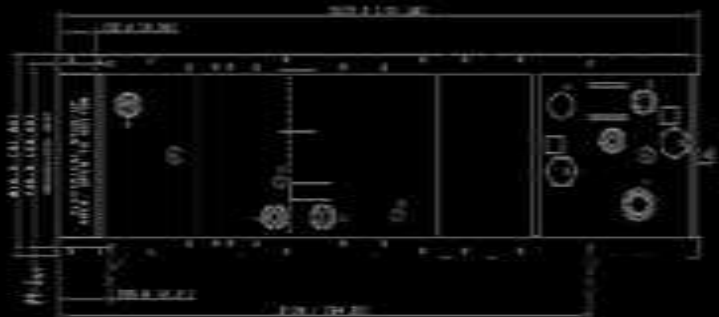
- TANK FITTINGS:
- A. 1/2" NPT EMERGENCY VENT FITTING PER NFPA 30 WITH VENT CAP (LOT 2)
 - B. 2" NPT FUEL FILL FITTING WITH LOCKABLE CAP AND 3" RISER
 - C. 2" NPT MUSHROOM VENT FITTING WITH MUSHROOM VENT CAP AND 3" RISER
 - D. 1/2" NPT FITTING FOR REMOVABLE ENGINE SUPPLY 81/2" TUBE (3/4" NPT FEMALE WITH CHECK VALVE) - 81/2" TUBE (3/4" NPT FEMALE)
 - E. 2" NPT FOR FUEL LEVEL SENDING UNIT.
 - F. 1/2" NPT BATH WASH
 - G. 1/2" NPT PIPE PLUMB
 - H. 1/2" NPT FOR FUEL IN BASIN SWITCH.



SEE FURTHER TANK DETAIL
SEE INDIVIDUAL DRAWINGS
41 425.4 (16.35)
STANDARD MOUNTING

REV	DATE	DESCRIPTION	BY	CHKD	APP'D
1	04/27/26	PRELIMINARY CD			
2	05/21/26	PRELIMINARY CD			

MODEL	CAPACITY	WEIGHT	LENGTH	HEIGHT	EMERGENCY VENT (A) INNER/OUTER
10/500W	501	132	250	550	1830.0
10/500W	265	70	220	485	1030.0
10/500W	622	164	310	685	1830.0
10/500W	701	183	342	750	2070.1



- TANK FITTINGS:
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 - E. 2" NPT FOR FUEL LEVEL SENDING UNIT.
 - F. 1/2" NPT BATH WASH
 - G. 1/2" NPT PIPE PLUMB
 - H. 1/2" NPT FOR FUEL IN BASIN SWITCH.



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CHECKED BY: MC

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TILLMAN OPP# TI-OPP-21206
VERIZON SITE NAME:
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VERIZON FUZE # 16953676
SITE ADDRESS:
4811 NEWPORT RD
NEWPORT, MI 48166

SHEET TITLE
GENERATOR
SPECIFICATIONS
(REFERENCE ONLY)

SHEET NUMBER
REF-1

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PENDING TOWER /
FOUNDATION DESIGN
BY OTHERS

TOWER ELEVATION
SCALE: N.T.S.

1
TW-1

CAISSON FOUNDATION
SCALE: N.T.S.

2
TW-1



DRAWN BY: DS
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SHEET TITLE
TOWER DETAILS
(REFERENCE ONLY)

SHEET NUMBER
TW-1