

ISABELLA COUNTY
Application for Special Use Permit

Applicant:

Name Amy Rodriguez, as agent for Verizon and APC Owner/Agent/Other interest (circle one)

Address 1961 Northpoint Blvd., Suite 130, Hixson, TN 37343

Phone 248-217-0989

Fax 423-843-9509

Property Owner: (if different from applicant)

Name Lary Sheffert

Address 3114 Hill Top Lane, Mt. Pleasant, MI 48858

Phone 989-205-0094

Fax n/a

Property Location:

Township Gilmore

Section 027

Zoning District C-1

Address 7866 North Winn Road, Farwell, MI 48622

Tax I.D. Number 08-027-10-001-00

Description of Project and Proposed Use: Proposed telecommunications facility
with a 199' monopole and associated equipment within a
fenced 100' x 100' compound

Amy Rodriguez Digitally signed by Amy Rodriguez
Date: 2020.01.08 05:52:45 -05'00'

1/8/2020

Signature of Applicant

Date

Optional: I hereby grant permission for members of the Isabella County Planning Commission and Zoning Administrator to enter the above described property for the purposes of gathering information related to this application.

Signature of Applicant

Date

NOTE: All information received by this department is subject to the Freedom of Information Act. Under this Act, persons are allowed to request copies of said information. This includes, but not limited to, all copyrighted drawings/blueprints.

Office Use Only

File No. 003 Fee \$175.00 Check # 16228 Receipt No. 5169

Date Application Received 1-22-2020 Application Received By RS

Legal Description Attached? YES NO

Site Plan Attached? YES NO

Applicable Ordinance Section(s) 12.05H

ISABELLA COUNTY INSTRUCTIONS FOR SPECIAL LAND USE
APPLICANTS

(SECOND PAGE OF APPLICATION)

1. The proposed location is in C-1 Zoning District.
2. The facility will not be detrimental to adjacent properties- The location is approx. 375' from right of way and approx. 400' from the nearest property line.
3. The facility is proposed in an area that is mostly farmland and agriculture. The proposed use and structure are not anticipated to be outside the parameters outlined in the Ordinance for such facilities.
4. The proposed wireless communication tower and associated facilities are not anticipated to generate off-site impacts as described under this item.
5. N/A
6. N/A

20110000917
Filed for Record in
ISABELLA COUNTY
EXAMON & BROWN, REGISTER OF DEEDS
12-31-2011 AT 00:15:06 PM.
FEE: 20.00
Taxes: (See Page 50)



State of Michigan
Estate Transfer Tax
ISABELLA COUNTY
20110000917 31 JAN 2011
00028668
946.00
121.00 €
825.00 S

20110000917
JAMES BROWN & JAMES P.
C/O

PERSONAL REPRESENTATIVE'S DEED

The Grantor, **Madelyn D. Arnold, Personal Representative of the Estate of Elsie M. VanBuskirk, Deceased**, of 7950 North Winn Road, Farwell, MI 48622,

grants, bargains, sells and conveys to **Lary Sheffert and Sonya Sheffert, husband and wife**, of 3393 Hill Top Lane, Mt. Pleasant, MI 48858,

the following described premises situated in the Township of Gilmore, County of Isabella, and State of Michigan:

The North Half (N 1/2) of the Northwest Quarter (NW 1/4) of Section 27, T16N, R5W, Gilmore Township, Isabella County, Michigan, **except** the following 10 parcels:

Parcel 1: Commencing 963.09 feet South of the North 1/4 corner of Section 27, T16N, R5W, thence South 208.71 feet, S 89°50' W, 208.71 feet, North 208.71 feet, N 89°50' E, 208.71 feet to the point of beginning.

Parcel 2: Commencing at the Northwest corner of the North Half (N 1/2) of the Northwest Quarter (NW 1/4) of Section 27, T16N, R5W, for the point of beginning, thence South 208 feet, thence East 208 feet; thence North 208 feet; thence West to the point of beginning, Gilmore Township, Isabella County, Michigan.

Parcel 3: Part of the Northwest Quarter (NW 1/4) of Section 27, Gilmore Township, T16N, R5W, Isabella County, Michigan, described as beginning at a point on the North line of Section 27 which is West 865.34 feet from the North 1/4 corner of said Section 27; thence West 208.71 feet, thence South 208.71 feet; thence East 208.71 feet; thence North 208.71 feet; to the point of beginning.

Parcel 4: Part of the North Half (N 1/2) of the Northwest Quarter (NW 1/4) of Section 27, T16N, R5W, described as beginning at the North 1/4 corner of Section 27, thence South 450 feet along the N & S 1/4 line; thence N 89°55'30" W, 660.00 feet; thence North 450 feet; thence S 89°55'30" E, 660.00 feet along the North Section line to the point of beginning, **except** the West 124 feet of the North 208.71 feet of above description.

Parcel 5: Part of the Northwest Quarter (NW 1/4) of the Northwest Quarter (NW 1/4), Section 27, T16N, R5W, Gilmore Township, Isabella County, Michigan, described as: Beginning S 89°59'10" E, along the North Section line, 438.71 feet from the Northwest corner of said Section 27, thence continuing S 89°59'10" E, along said North Section line, 187.42 feet; thence S 00°16'28" E, parallel to the West Section line, 417.42 feet; thence N 89°59'10" W, 417.42 feet; thence N 00°16'28" W, 228.02 feet; thence S 89°59'10" E, 230.00 feet; thence N 00°16'28" W, 189.40 feet, back to the place of beginning.

Parcel 6: Part of the Northwest Quarter (NW 1/4) of the Northwest Quarter (NW 1/4), Section 27, T16N, R5W, Gilmore Township, Isabella County, Michigan, described as: Beginning S 00°16'28" E, along the West Section line 208.71 feet from the Northwest corner of said Section 27; thence continuing S 00°16'28" E, along said West Section line, 208.71 feet; thence S 89°59'10" E, parallel to the North Section line, 208.71 feet; thence N 00°16'28" W, 208.71 feet; thence N 89°59'10" W, 208.71 feet back to the place of beginning.

Parcel 7: Part of the North Half (N 1/2) of the Northwest Quarter (NW 1/4) of Section 27, T16N, R5W, described as beginning 536 feet West of the North 1/4 corner of said Section; thence South 208.71 feet, West 329.34 feet, North 208.71 feet, thence East to the point of beginning.

Parcel 8: Part of the North Half (N ½) of the Northwest Quarter (NW ¼) of Section 27, T16N, R5W, Gilmore Township, Isabella County, Michigan, described as: Beginning at a point on the N & S ¼ line which is South 450.0 feet from the North ¼ corner of Section 27, thence South 290.4 feet; thence N 89°55'30" W, 150.0 feet; thence North 290.4 feet; thence S 89°55'30" E, 150.0 feet to the point of beginning.

Parcel 9: Part of the North Half (N ½) of the Northwest Quarter (NW ¼) of Section 27, T16N, R5W, Gilmore Township, Isabella County, Michigan, described as: Beginning at a point on the N & S ¼ line which is South, 1171.80 feet from the North ¼ corner of Section 27; thence South 150.0 feet; thence S 89°50' W, 290.40 feet along the North E & W ¼ line; thence North 150.0 feet; thence N 89°50' E, 290.40 feet to the point of beginning.

Parcel 10: Part of the Northwest Quarter (NW ¼) of Section 27, T16N, R5W, Gilmore Township, Isabella County, Michigan, described as: Beginning at a point on the North line of Section 27 which is East 208.71 feet from the NW corner of said Section; thence East 230.00 feet; thence S 0°17' E, 189.4 feet; thence West 230.00 feet; thence N 0°17' W, 189.4 feet to the point of beginning.

Together with a 1979 14 x 70 Commodore Mobile Home, **except** the content therein,

for the sum of One Hundred Ten Thousand and 00/100 (\$110,000.00) Dollars,

subject to easements and building and use restrictions of record, and further subject to restrictions, reservations, rights-of-way and mineral interests of record, if any, and further subject to the lien of any taxes which are not yet due and payable.

This conveyance is subject to a reservation of a life estate ("Life Estate") in favor of and grant to **Leroy V. Dangler, a single man**, ("Life Tenant") in the following portion of the premises ("Homestead"):

A one (1) acre parcel, together with use of a 1979 14 x 70 Commodore Mobile Home, located in the Southwest corner of the North Half (N ½) of the Northwest Quarter (NW ¼) of Section 27, T16N, R5W, Gilmore Township, Isabella County, Michigan, on the following terms:

1. Life Tenant shall be responsible for the costs of any and all repairs or improvements that he may desire to make to any of the buildings on the Homestead, however, Grantees shall not be required to make any repairs or improvements to the buildings on the Homestead.
2. Life Tenant shall be responsible for the costs of any utilities or other services to the Homestead during the Life Estate.
3. The Life Estate shall be for the natural life of the Life Tenant, subject to an automatic termination at such time as the Life Tenant shall fail to reside on and/or occupy the Homestead for a period in excess of 180 days.
4. Life Tenant may not assign this Life Estate or permit anyone else to use, occupy or possess the Homestead or any portion thereof.
5. Life Tenant shall obtain and keep in force casualty and public liability insurance upon the premises listing the Life Tenant and Grantees as insured parties to the extent of their interest in the premises. The casualty insurance shall be in an amount equal to the cost of replacement of the 1979 Commodore Mobile Home on the premises.
6. Notwithstanding the Life Tenant's use and occupancy of the Homestead, Grantees shall be allowed to construct, maintain, possess and have access to a pole barn on the Homestead premises.
7. Life Tenant shall not be obligated to pay Grantees any rent or other charges for occupancy of the Homestead during the term of the Life Estate.

A) This property may be located within the vicinity of farmland or farm operation. Generally accepted agricultural and management practices which may generate noise, dust, odors, and other associated conditions may be used and are protected by the Michigan Right to Farm Act

B) The Grantor grants to the Grantees the right to make all permissible division(s) under Section 108 of the Land Division Act No. 288 of the Public Acts of 1967.

Dated this 14th day January, 2011

Grantor:

Madelyn D. Arnold
Madelyn D. Arnold, Personal
Representative of the Estate of Elsie M.
VanBuskirk, Deceased

STATE OF MICHIGAN)
) ss
COUNTY OF ISABELLA)

The foregoing instrument was acknowledged before me in Isabella County this 14th day of January, 2011, by **Madelyn D. Arnold, Personal Representative of the Estate of Elsie M. VanBuskirk, Deceased.**

Lisa Vogel

Lisa Vogel - Esq. Notary Public
Isabella County, Michigan
My Commission Expires: 7-10-12



Notice Criteria Tool

[Notice Criteria Tool - Desk Reference Guide V_2014.2.0](#)

The requirements for filing with the Federal Aviation Administration for proposed structures vary based on a number of factors: height, proximity to an airport, location, and frequencies emitted from the structure, etc. For more details, please reference [CFR Title 14 Part 77.9](#).

You must file with the FAA at least 45 days prior to construction if:

- your structure will exceed 200ft above ground level
- your structure will be in proximity to an airport and will exceed the slope ratio
- your structure involves construction of a traverseway (i.e. highway, railroad, waterway etc...) and once adjusted upward with the appropriate vertical distance would exceed a standard of 77.9(a) or (b)
- your structure will emit frequencies, and does not meet the conditions of the [FAA Co-location Policy](#)
- your structure will be in an instrument approach area and might exceed part 77 Subpart C
- your proposed structure will be in proximity to a navigation facility and may impact the assurance of navigation signal reception
- your structure will be on an airport or heliport
- filing has been requested by the FAA

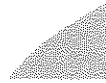
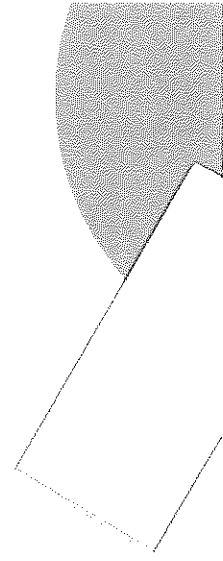
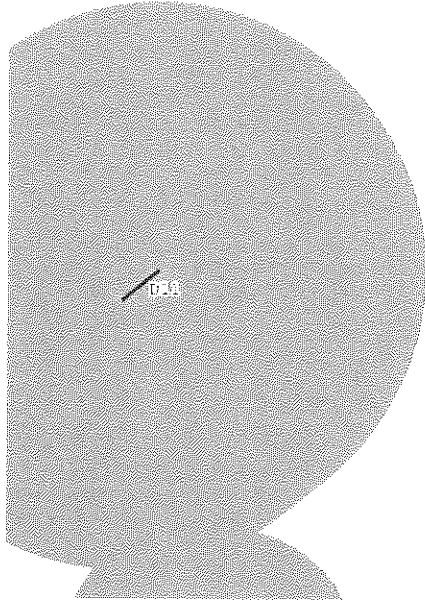
If you require additional information regarding the filing requirements for your structure, please identify and contact the appropriate FAA representative using the [Air Traffic Areas of Responsibility map](#) for Off Airport construction, or contact the [FAA Airports Region / District Office](#) for On Airport construction.

The tool below will assist in applying Part 77 Notice Criteria.

Latitude:	43 Deg 45 M 11.85 S N
Longitude:	84 Deg 54 M 24.9 S W
Horizontal Datum:	NAD83
Site Elevation (SE):	928 (nearest foot)
Structure Height :	199 (nearest foot)
Traverseway:	No Traverseway (Additional height is added to certain structures under 77.9(c) User can increase the default height adjustment for Traverseway, Private Roadway and Waterway
Is structure on airport:	<input checked="" type="radio"/> No <input type="radio"/> Yes

Results

You do not exceed Notice Criteria.



TOWAIR Determination Results

A routine check of the coordinates, heights, and structure type you provided indicates that this structure does not require registration.

*** NOTICE ***

TOWAIR's findings are not definitive or binding, and we cannot guarantee that the data in TOWAIR are fully current and accurate. In some instances, TOWAIR may yield results that differ from application of the criteria set out in 47 C.F.R. Section 17.7 and 14 C.F.R. Section 77.13. A positive finding by TOWAIR recommending notification should be given considerable weight. On the other hand, a finding by TOWAIR recommending either for or against notification is not conclusive. It is the responsibility of each ASR participant to exercise due diligence to determine if it must coordinate its structure with the FAA. TOWAIR is only one tool designed to assist ASR participants in exercising this due diligence, and further investigation may be necessary to determine if FAA coordination is appropriate.

DETERMINATION Results

PASS SLOPE(100:1): NO FAA REQ-RWY MORE THAN 10499 MTRS & 7459.67 MTRS (7.45969 KM) AWAY

Type	C/R	Latitude	Longitude	Name	Address	Lowest Elevation (m)	Runway Length (m)
AIRP	C	43-43-12.00N	085-00-10.00W	OJIBWA AIRPARK	ISABELLA WEIDMAN, MI	289.6	1097.3

Your Specifications

NAD83 Coordinates

Latitude 43-45-11.5 north
Longitude 084-54-24.9 west

Measurements (Meters)

Overall Structure Height (AGL) 60.7
Support Structure Height (AGL) 59.4
Site Elevation (AMSL) 282.9

Structure Type

MTOWER - Monopole

Tower Construction Notifications

Notify Tribes and Historic Preservation Officers of your plans to build a tower.

CLOSE WINDOW

SITE NAME	SITE ADDRESS	CITY	COUNTY	STATE	ZIP	Tower Height/RAD	Type of Tower
Bus-27 & Pickard	1104 North Washington Street	Mt. Pleasant/Isabella County	Isabella	MI	48858	140	Monopole
CMU	5420 S. Mission Road	Mt. Pleasant	Isabella	MI	48858	223	Guyed
CMU Campus	1999 E. Campus Drive	Mt. Pleasant	Isabella	MI	48893	120	Monopole
CMU South	6775 East Millbrook	Shepherd	Isabella	MI	48883	150	Monopole
CMU South Shepherd	6775 East Millbrook	Shepherd	Isabella	MI	48883	177	Lattice
Coleman	5386 North County Line Road	Coleman	Midland	MI	48618	?	Guyed
Farwell	11475 Willow Road	Farwell	Clare	MI	48622	220	Monopole
Isabella	3010 S Leaton Road	Mt. Pleasant	Isabella	MI	48858	?	Water Tower
Lake Isabella	3165 Old State Road	Weidman	Isabella	MI	48893	250	Lattice
M20 Coldwater	2589 Coldwater Road	Mt. Pleasant	Isabella	MI	48858	300	Monopole
Mt. Pleasant / CMU Campus	2385 W Campus	Mt. Pleasant	Isabella	MI	48859	120	Guyed
Mt. Pleasant North	708 W Pickard Street	Mt. Pleasant	Isabella	MI	48858	155	Lattice
Mt. Pleasant West	2560 S. Nottawa Road	Mt. Pleasant	Isabella	MI	48858	191	Lattice
Oil City	2909 W Isabella Road	Midland	Midland	MI	48640	300	Lattice
Rosebush	4401 East Denver	Rosebush	Isabella	MI	48878	297	Guyed
Shepherd	8685 E. Pleasant Valley	Shepherd	Isabella	MI	48883	220	Lattice
US-27 & M-20	1635 Gover Parkway	Mt. Pleasant	Isabella	MI	48858	180	Monopole
Weidman	3321 North Gilmore	Weidman	Isabella	MI	48893	230	Guyed
West Mission	1999 East Campus Drive, Suite A	Mt. Pleasant	Isabella	MI	48859	120	Monopole
Clare South	10651 N Isabella Road	Clare	Isabella	MI	48617	183	Guyed
Loomis	11206 N. Loomis	Rosebush	Isabella	MI	48878	248	Lattice
Beal City	4302 E. Beal City Road	Mt. Pleasant	Isabella	MI	48858	195	Monopole
Littlefield Lake	5225 W. Stevenson Road	Lake	Isabella	MI	48632	195	Monopole
W. Little Turtle Road	925 N. School Road	Weidman	Isabella	MI	48893	150	Monopole
Peas Lake	400 E Millbrook Road	Mt. Pleasant	Isabella	MI	48858	195	Monopole

* Federal Airways & Airspace *
* Summary Report: New Construction *
* Antenna Structure *

Airspace User: Barbara Evans

File: 6238

Location: Farwell, MI

Latitude: 43°-45'-11.5" Longitude: 84°-54'-24.9"

SITE ELEVATION AMSL.....927.5 ft.

STRUCTURE HEIGHT.....199 ft.

OVERALL HEIGHT AMSL.....1126 ft.

NOTICE CRITERIA

FAR 77.9(a): NNR (DNE 200 ft AGL)

FAR 77.9(b): NNR (DNE Notice Slope)

FAR 77.9(c): NNR (Not a Traverse Way)

FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for D11

FAR 77.9: NNR FAR 77.9 IFR Straight-In Notice Criteria for D15

FAR 77.9(d): NNR (Off Airport Construction)

NR = Notice Required

NNR = Notice Not Required

PNR = Possible Notice Required (depends upon actual IFR procedure)

For new construction review Air Navigation Facilities at bottom
of this report.

Notice to the FAA is not required at the analyzed location and height for
slope, height or Straight-In procedures. Please review the 'Air Navigation'
section for notice requirements for offset IFR procedures and EMI.

OBSTRUCTION STANDARDS

FAR 77.17(a)(1): DNE 499 ft AGL

FAR 77.17(a)(2): DNE - Airport Surface

FAR 77.19(a): DNE - Horizontal Surface

FAR 77.19(b): DNE - Conical Surface

FAR 77.19(c): DNE - Primary Surface

FAR 77.19(d): DNE - Approach Surface

FAR 77.19(e): DNE - Transitional Surface

VFR TRAFFIC PATTERN AIRSPACE FOR: D11: OJIBWA AIRPARK

Type: A RD: 26393.83 RE: 950

FAR 77.17(a)(1): DNE

FAR 77.17(a)(2): DNE - Height No Greater Than 200 feet AGL.

VFR Horizontal Surface: DNE
 VFR Conical Surface: DNE
 VFR Approach Slope: DNE
 VFR Transitional Slope: DNE

VFR TRAFFIC PATTERN AIRSPACE FOR: D15: LAKE ISABELLA - CAL BREWER M

Type: A RD: 43959.17 RE: 886
 FAR 77.17(a)(1): DNE
 FAR 77.17(a)(2): Does Not Apply.
 VFR Horizontal Surface: DNE
 VFR Conical Surface: DNE
 VFR Approach Slope: DNE
 VFR Transitional Slope: DNE

TERPS DEPARTURE PROCEDURE (FAA Order 8260.3, Volume 4)

FAR 77.17(a)(3) Departure Surface Criteria (40:1)
 DNE Departure Surface

MINIMUM OBSTACLE CLEARANCE ALTITUDE (MOCA)

FAR 77.17(a)(4) MOCA Altitude Enroute Criteria
 The Maximum Height Permitted is 4000 ft AMSL

PRIVATE LANDING FACILITIES

FACIL	BEARING	RANGE	DELTA ARP	FAA
IDENT TYP NAME	To FACIL	IN NM	ELEVATION	IFR
4MI7 AIR WITBECK AERODRONE	45.74	5.17	+236	

No Impact to VFR Transitional Surface.
 Below surface height of 417 ft above ARP.

AIR NAVIGATION ELECTRONIC FACILITIES

APCH	FAC	ST	DIST	DELTA	GRND					
BEAR	IDNT	TYPE	AT	FREQ	VECTOR	(ft)	ELEVA	ST	LOCATION	ANGLE
	MOP	VOR/DME	R	110.6	136.7	65370	+374	MI	MOUNT PLEASANT	.33
	MBS	RADAR	ON	2805.	111.65	235720	+370	MI	MBS INTERNATIONAL	.09

CFR Title 47, §1.30000-§1.30004

AM STUDY NOT REQUIRED: Structure is not near a FCC licensed AM station.
 Movement Method Proof as specified in §73.151(c) is not required.
 Please review 'AM Station Report' for details.

No AM Stations were located within 3.0 km.

Airspace® Summary Version 17.1.429

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01-19-2017

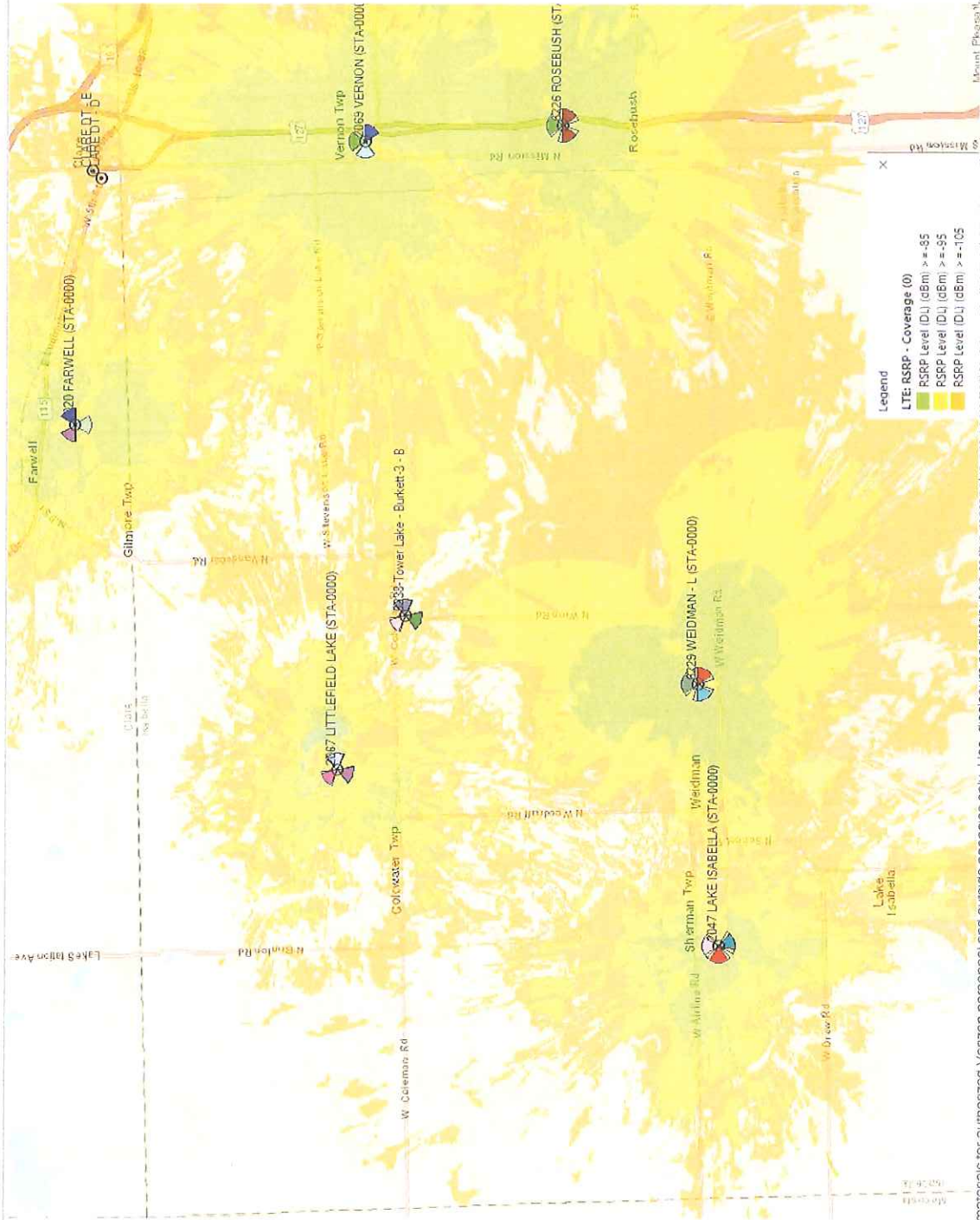
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6238- TOWER LAKE

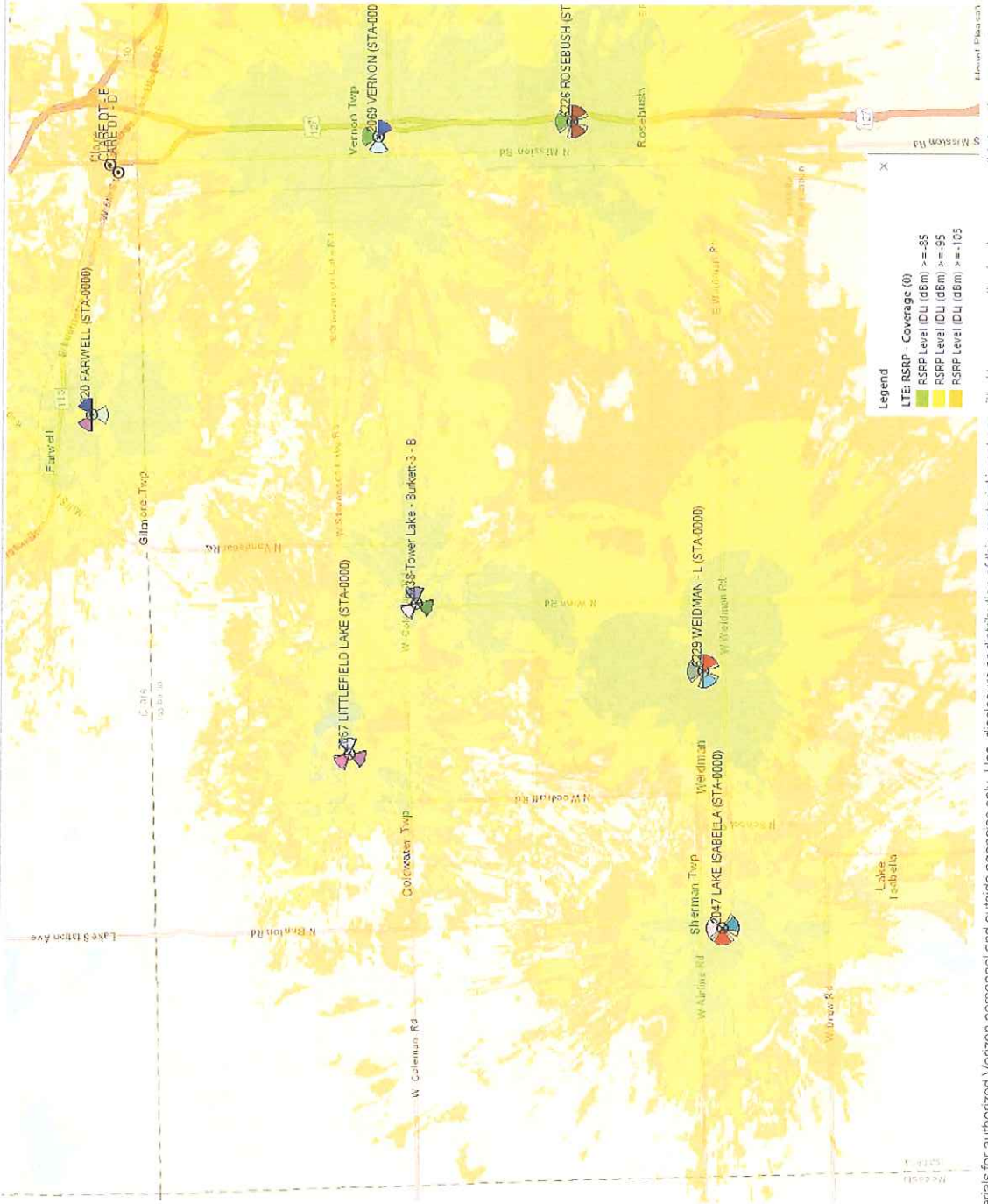


6238- TOWER LAKE – Current coverage plots



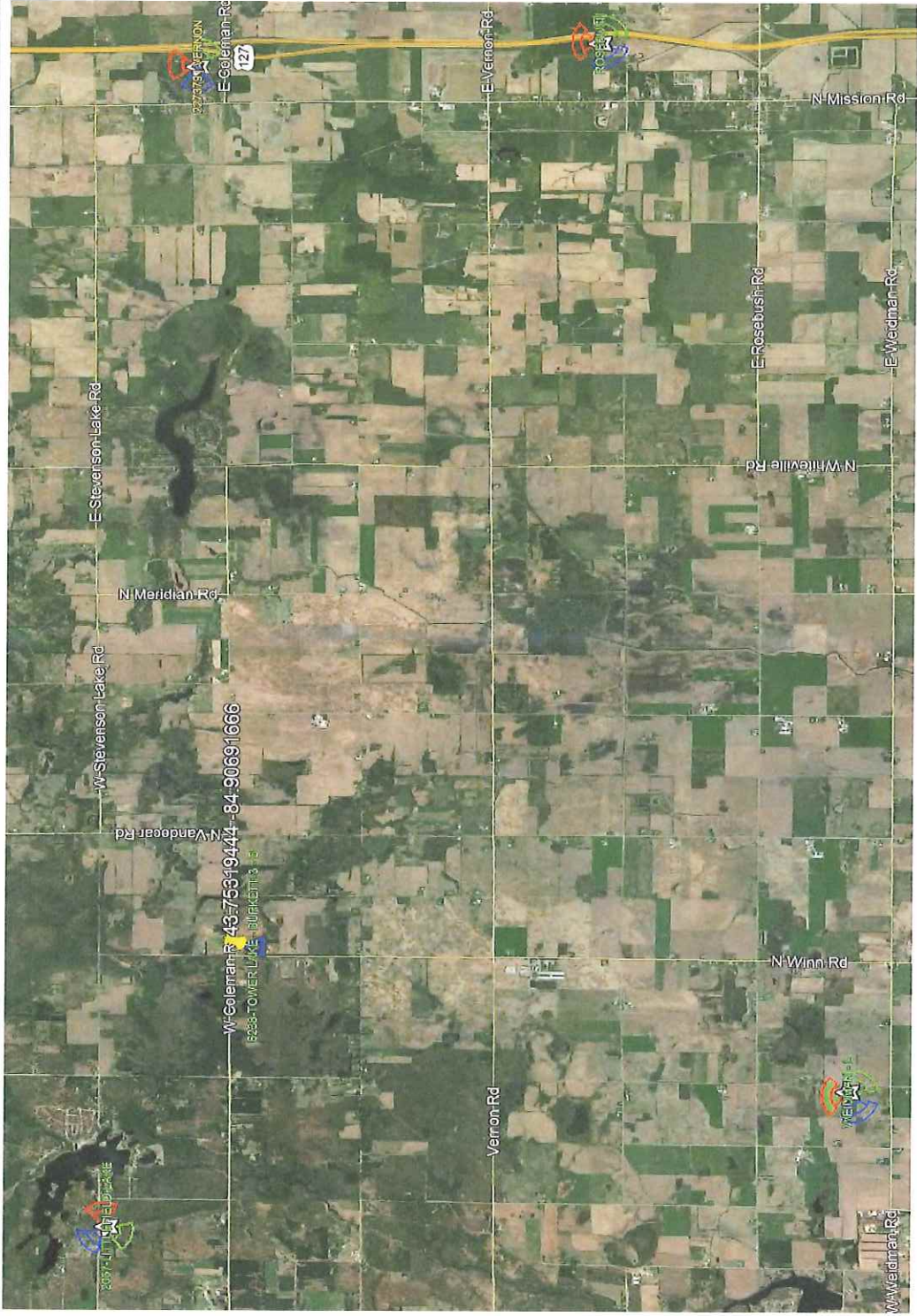


6238- TOWER LAKE – Future coverage plot





6238- TOWER LAKE – Google Earth



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GENERAL NOTES:

- All site work construction shall be in accordance with the current standards and specifications of the Township of Gilmore, where applicable.
- The proposed equipment cabinet is to be a computerized, unmanned, telephone exchange structure. No water service, sanitary facilities or gas service is needed. Telephone and electrical services will be from an existing utility pole or line adjacent to the site.
- The proposed equipment cabinet is to have security systems monitored 24 hours per day. The cabinet will also be constructed with bullet resistant materials.
- There are no lights proposed for this project.
- There are no signs proposed for this project except for:
 - Emergency contact information purposes and FCC "call" sign placed on equipment cabinet door.
- The cellular antenna and equipment cabinet will be approved by the Federal Communications Commission (FCC) and will not impact any frequency sensitive devices whatsoever. Buyer warrants no adverse radio interference with adjacent land uses.
- There are no toxic materials used by Lessee on the site. Lessee has no need for outdoor storage or garbage disposal and pick-up.
- Maintenance personnel using van type service vehicles enter and exit the site approximately 2 to 4 times per month. No loading or unloading area is needed by them.
- All areas disturbed by the construction of the antenna and cabinet shall be restored in kind. Contractor is to provide soil erosion control measures as needed or as directed by owner or government agency having jurisdiction.
- Ingress and egress by Lessee's personnel to the site shall be via a proposed gravel drive (by others) from North Winn Road.
- This site plan is based on the survey of the existing conditions conducted by Midwestern Consulting, LLC on 12-16-2014.

CONDITIONS OF APPROVAL

- Provision of a satisfactory legal description for the leased area.
- Verification of satisfactory installation of the antenna apparatus.
- Satisfactory site clean up/restoration following site construction.
- Satisfactory amendment to the existing lease agreement.

GENERAL CONSTRUCTION NOTES:

- THE FACILITY IS AN UNOCCUPIED DIGITAL TELECOMMUNICATION FACILITY. PLANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE A DIAGRAMMATIC OUTLINE ONLY, UNLESS NOTED OTHERWISE. THE WORK SHALL INCLUDE FURNISHING MATERIALS, EQUIPMENT, APPURTENANCES AND LABOR NECESSARY TO COMPLETE ALL INSTALLED WORK INDICATED ON THE DRAWINGS.
- PRIOR TO THE SUBMISSION OF BIDS, THE CONTRACTORS SHALL VISIT THE JOB SITE AND BE RESPONSIBLE FOR ALL CONTRACT DOCUMENTS, FIELD CONDITIONS AND DIMENSIONS, AND CONFIRMING THAT THE WORK MAY BE ACCOMPLISHED AS SHOWN PRIOR TO PROCEEDING WITH THE WORK. ANY DISCREPANCIES ARE TO BE BROUGHT TO THE ATTENTION OF THE IMPLEMENTATION ENGINEER AND ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK.
- THE CONTRACTOR SHALL RECEIVE, IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED OR IDENTIFIED BY THE CONTRACT DOCUMENTS.
- CONTRACTOR SHALL CONTACT MISS-DIG BEFORE PROCEEDING WITH ANY EXCAVATION, SITE WORK OR CONSTRUCTION.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS UNLESS SPECIFICALLY INDICATED OTHERWISE OR WHERE LOCAL CODES OR REGULATIONS TAKE PRECEDENCE.
- ALL WORK PERFORMED AND MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES. CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY REGARDING THE PERFORMANCE OF THE WORK. MECHANICAL AND ELECTRICAL SYSTEMS SHALL BE INSTALLED IN ACCORDANCE WITH ALL APPLICABLE MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES, ORDINANCES AND APPLICABLE REGULATIONS.
- THE GENERAL CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK USING THE BEST SKILLS AND ATTENTION. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT INCLUDING CONTACT AND COORDINATION WITH THE IMPLEMENTATION ENGINEER AND WITH THE LANDLORD'S AUTHORIZED REPRESENTATIVE.
- SEAL PENETRATIONS THROUGH FIRE RATED AREAS WITH U.L. LISTED AND FIRE CODE APPROVED MATERIALS.
- PROVIDE A PORTABLE FIRE EXTINGUISHER WITH A RATING OF NOT LESS THAN 2-A OR 2-A10BC WITHIN 75 FEET TRAVEL DISTANCE TO ALL PORTIONS OF THE PROJECT AREA DURING CONSTRUCTION.
- DETAILS ARE INTENDED TO SHOW END RESULT OF DESIGN. MINOR MODIFICATIONS MAY BE REQUIRED TO SUIT JOB DIMENSIONS OR CONDITIONS, AND SUCH MODIFICATIONS SHALL BE INCLUDED AS PART OF THE WORK.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, PAVING, CURBS, VEGETATION, GALVANIZED SURFACES, ETC., AND UPON COMPLETION OF WORK REPAIR ANY DAMAGE THAT OCCURRED DURING CONSTRUCTION TO THE SATISFACTION OF LESSEE.
- KEEP GENERAL AREA CLEAN, HAZARDOUS WASTE AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST OR SMUDGES OF ANY NATURE.
- REPRESENTATIONS OF TRUE NORTH, OTHER THAN THOSE FOUND ON THE PLOT OF SURVEY DRAWING (SHEET C1), SHALL NOT BE USED TO IDENTIFY OR ESTABLISH THE BEARING OF TRUE NORTH AT THE SITE. THE CONTRACTOR SHALL RELY SOLELY ON THE PLOT OF SURVEY DRAWING AND ANY SURVEYOR'S MARKINGS AT THE SITE FOR THE ESTABLISHMENT OF TRUE NORTH, AND SHALL NOTIFY THE ARCHITECT/ENGINEER PRIOR TO PROCEEDING WITH THE WORK IF ANY DISCREPANCY IS FOUND BETWEEN THE VARIOUS ELEMENTS OF THE WORKING DRAWINGS AND THE TRUE NORTH ORIENTATION AS DEPICTED ON THE CIVIL SURVEY. THE CONTRACTOR SHALL ASSUME SOLE LIABILITY FOR ANY FAILURE TO NOTIFY THE ARCHITECT/ENGINEER.
- PENETRATIONS OF ROOF MEMBRANES SHALL BE PATCHED/FLASHED AND MADE WATER-TIGHT USING LIKE MATERIALS IN ACCORDANCE WITH NRCA ROOFING STANDARDS AND DETAILS. CONTRACTOR SHALL OBTAIN DETAILING CLARIFICATION FOR SITE-SPECIFIC CONDITIONS FROM ARCHITECT/ENGINEER, IF NECESSARY, BEFORE PROCEEDING.

STANDARD CIVIL NOTES:

- ALL SITE WORK SHALL BE AS INDICATED ON THE DRAWINGS AND STIPULATED IN THE SPECIFICATION PROJECT SUMMARY.
- RUBBISH, STUMPS, DEBRIS, STICKS, STONES AND OTHER REFUSE SHALL BE REMOVED FROM THE SITE AND DISPOSED OF LEGALLY.
- 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.
- THE SUB GRADE SHALL BE COMPACTED AND BROUGHT TO A SMOOTH UNIFORM GRADE PRIOR TO THE CRUSHED STONE APPLICATION.
- 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 ENGINEERS. EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.
- ALL EXISTING INACTIVE SEWER, WATER, GAS, ELECTRIC AND OTHER UTILITIES, WHICH INTERFERE WITH THE EXECUTION OF THE WORK, SHALL BE REMOVED AND SHALL BE CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AT POINTS WHICH WILL NOT INTERFERE WITH THE EXECUTION OF THE WORK, SUBJECT TO THE APPROVAL OF THE ENGINEER.
- THE AREAS OF THE PROPERTY DISTURBED BY THE WORK AND NOT COVERED BY THE BUILDING, DRIVEWAY OR CRUSHED STONE, SHALL BE GRADED TO A UNIFORM SLOPE, FERTILIZED, SEED, AND COVERED WITH MULCH AS SPECIFIED IN THE SPECIFICATION LANDSCAPE WORK.
- CONCRETE MASONRY UNITS SHALL BE MEDIUM WEIGHT UNITS CONFORMING TO ASTM C90, GRADE N-1, WITH MAXIMUM LINEAR SHRINKAGE OF 0.96" (F'M=1,500 PSI), MEDIUM WEIGHT (115 PCF).
- MORTAR SHALL BE TYPE "S" CONFORMING TO TABLE 24-A OF THE UBC, (MINIMUM 1,800 PSI AT 28 DAYS). ADMIXTURE SHALL BE 1-PINT OF RED LABEL SUCONEM PER SACK OF CEMENT.
- GROUT SHALL BE COMPOSED OF THE FOLLOWING RATIO BY VOLUME: 1-PART PORTLAND CEMENT, 3-PARTS SAND, 2-PARTS PEA GRAVEL AND SUFFICIENT WATER FOR POURING WITHOUT SEGREGATION OF GROUT CONSTITUENTS (MINIMUM COMPRESSIVE STRENGTH OF 2,000 PSI AT 28 DAYS). ADMIXTURE SHALL BE 1-PINT OF RED LABEL SUCONEM PER SACK OF CEMENT. WEIGHT SHALL BE 105 PCF.

STANDARD STRUCTURAL STEEL NOTES:

- ALL METAL WORK SHALL BE IN ACCORDANCE WITH THE SPECIFICATION GALVANIZED ASTM A36 UNLESS NOTED OTHERWISE.
- STRUCTURAL TUBING MEMBERS SHALL CONFORM TO ASTM A500, GRADE B OR A501.
- ALL WELDING SHALL BE DONE USING E70XX ELECTRODES AND WELDING SHALL CONFORM TO AISC AND AWS D1.1. WHERE FILLET WELD SIZES ARE NOT SHOWN, PROVIDE THE MINIMUM SIZE PER TABLE J2.4 IN THE AISC "MANUAL OF STEEL CONSTRUCTION", 9TH EDITION.
- BOLTED CONNECTIONS SHALL USE BEARING TYPE GALVANIZED ASTM A325 BOLTS (3/4" DIA) AND SHALL HAVE A MINIMUM OF TWO BOLTS U.N.O.
- NON-STRUCTURAL CONNECTIONS FOR HANDRAIL, LADDERS AND STEEL GRATING MAY USE 5/8" DIA. GALVANIZED ASTM A307 BOLTS U.N.O.

GENERAL STRUCTURAL NOTES:

- WHERE A CONSTRUCTION DETAIL IS NOT SHOWN OR NOTED, THE DETAIL SHALL BE THE SAME AS FOR OTHER SIMILAR WORK.
- NOTES AND DETAILS ON DRAWINGS SHALL TAKE PRECEDENCE OVER GENERAL NOTES.
- NO PIPES, DUCTS, SLEEVES, CHASES, ETC., SHALL BE PLACED IN SLABS, BEAMS, OR WALLS UNLESS SPECIFICALLY SHOWN OR NOTED, NOR SHALL ANY STRUCTURAL MEMBER BE CUT FOR PIPES, DUCTS, ETC., UNLESS OTHERWISE NOTED. CONTRACTOR SHALL OBTAIN PRIOR APPROVAL FOR INSTALLATION OF ANY ADDITIONAL PIPES, DUCTS, ETC.
- CONTRACTOR AGREES THAT HE SHALL ASSUME SOLE AND COMPLETE RESPONSIBILITY FOR JOB SITE CONDITIONS DURING THE COURSE OF CONSTRUCTION OF THIS PROJECT INCLUDING SAFETY OF ALL PERSONS AND PROPERTY. THAT THIS REQUIREMENT SHALL APPLY CONTINUOUSLY AND NOT BE LIMITED TO NORMAL WORKING HOURS; AND THAT THE CONTRACTOR SHALL DEFEND, INDEMNIFY AND HOLD LESSEE AND THE ARCHITECT/ENGINEER HARMLESS FROM ANY AND ALL LIABILITY, REAL OR ALLEGED, IN CONNECTION WITH THE PERFORMANCE OF WORK ON THIS PROJECT, EXCEPTING FOR LIABILITY ARISING FROM THE SOLE NEGLIGENCE OF LESSEE OR THE ARCHITECT/ENGINEER.
- THE CONTRACT DRAWINGS AND SPECIFICATIONS REPRESENT THE FINISHED STRUCTURE. THEY DO NOT INDICATE THE METHOD OF CONSTRUCTION. THE CONTRACTOR SHALL PROVIDE ALL MEASURES NECESSARY TO PROTECT THE STRUCTURE, WORKERS AND PEDESTRIANS DURING CONSTRUCTION. SUCH MEASURES SHALL INCLUDE, BUT NOT BE LIMITED TO BRACING, SHORING FOR LOADS DUE TO CONSTRUCTION EQUIPMENT, TEMPORARY STRUCTURES, AND PARTIALLY COMPLETED WORK, ETC. OBSERVATION VISITS TO THE SITE BY THE ARCHITECT/ENGINEER SHALL NOT INCLUDE INSPECTION OF SUCH ITEMS.
- ASTM SPECIFICATIONS NOTED ON THE DRAWINGS SHALL BE OF THE LATEST REVISION.
- CONSTRUCTION MATERIALS SHALL BE SPREAD OUT IF PLACED ON FRAMED FLOOR OR ROOF. LOAD SHALL NOT EXCEED THE DESIGN LIVE LOAD PER SQUARE FOOT. PROVIDE ADEQUATE SHORING/BRACING WHERE STRUCTURE HAS NOT ATTAINED DESIGN STRENGTH.
- IT SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR TO LOCATE ALL EXISTING UTILITIES WHETHER SHOWN HEREON OR NOT AND TO PROTECT THEM FROM DAMAGE. THE CONTRACTOR SHALL BEAR ALL EXPENSE OF REPAIR OR REPLACEMENT IN CONJUNCTION WITH THE PROTECTION OF THIS WORK.
- DIMENSIONS SHALL TAKE PRECEDENCE OVER SCALES SHOWN ON DRAWINGS.
- THESE NOTES SHALL BE CONSIDERED A PART OF THE WRITTEN SPECIFICATIONS.
- ALL ITEMS REMOVED DURING CONSTRUCTION WORK (I.E., DRYWALL, PLYWOOD, CEILING PANELS, ETC.) SHALL BE REPLACED TO MATCH EXISTING.
- THE FOLLOWING REQUIREMENTS SHALL BE MET FOR SPECIAL INSPECTION:
 - THE SPECIAL INSPECTOR SHALL BE UNDER THE SUPERVISION OF A REGISTERED PROFESSIONAL ENGINEER.
 - THE SPECIAL INSPECTOR SHALL FURNISH INSPECTION REPORTS TO THE ARCHITECT/ENGINEER, AND OTHER DESIGNATED PERSONS. ALL DISCREPANCIES SHALL BE BROUGHT TO THE IMMEDIATE ATTENTION OF THE CONTRACTOR FOR CORRECTION. THEN, IF UNCORRECTED, TO THE PROPER DESIGN AUTHORITY AND THE BUILDING OFFICIAL.
 - THE SPECIAL INSPECTOR SHALL SUBMIT A FINAL REPORT SIGNED BY BOTH HE AND HIS SUPERVISOR STATING WHETHER THE WORK REQUIRING SPECIAL INSPECTION WAS IN CONFORMANCE WITH THE APPROVED PLANS AND SPECIFICATIONS AND THE APPLICABLE WORKMANSHIP PROVISIONS OF THE UNIFORM BUILDING CODE.
 - COMPLY WITH ALL CITY SPECIAL INSPECTION REQUIREMENTS.

STANDARD CONCRETE NOTES:

- ALL CONCRETE WORK SHALL BE IN ACCORDANCE WITH THE ACI 318-02 AND THE SPECIFICATION FOR CAST-IN-PLACE CONCRETE.
- ALL CONCRETE SHALL HAVE A MINIMUM COMPRESSIVE STRENGTH OF 2,500 PSI AT 28 DAYS UNLESS NOTED OTHERWISE.
- REINFORCING STEEL SHALL CONFORM TO ASTM A 615, GRADE 60, DEFORMED UNLESS NOTED OTHERWISE. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185 WELDED WIRE FABRIC UNLESS NOTED OTHERWISE. SPLICES CLASS "B" AND ALL HOOKS SHALL BE STANDARD UNLESS NOTED OTHERWISE.
- THE FOLLOWING MINIMUM CONCRETE COVER SHALL BE PROVIDED FOR REINFORCING STEEL UNLESS SHOWN OTHERWISE ON DRAWINGS:

CONCRETE CAST AGAINST EARTH	
CONCRETE EXPOSED TO EARTH OR WEATHER:	
#6 AND LARGER3 IN.
#5 AND SMALLER & WWF2 IN.
CONCRETE NOT EXPOSED TO EARTH OR WEATHER OR NOT CAST AGAINST THE GROUND:	
SLAB AND WALL3/4 IN.
BEAMS AND COLUMNS1-1/2 IN.
5. A CHAMFER 3/4" SHALL BE PROVIDED AT ALL EXPOSED EDGES OF CONCRETE U.N.O. IN ACCORDANCE WITH ACI 301 SECTION 4.2.4.	
6. HOLES TO RECEIVE EXPANSION/WEDGE ANCHORS SHALL BE 1/8" LARGER IN DIAMETER THAN THE ANCHOR BOLT, DOWEL OR ROD AND SHALL CONFORM TO MANUFACTURER'S RECOMMENDATION FOR EMBEDMENT DEPTH OR AS SHOWN ON THE DRAWINGS. LOCATE AND AVOID CUTTING EXISTING REBAR WHEN DRILLING HOLES IN ELEVATED CONCRETE SLABS.	
7. USE AND INSTALLATION OF CONCRETE EXPANSION/WEDGE ANCHOR, SHALL BE PER ICBO & MANUFACTURER'S WRITTEN RECOMMENDED PROCEDURES.	

LEASE AGREEMENT NOTES:

- PRIOR TO A STATION BEING PLACED IN SERVICE, IT MUST BE EQUIPPED WITH THE FOLLOWING PROTECTIVE DEVICES:
 - PROPER ISOLATION, FILTER AND INTERFERENCE PROTECTION EQUIPMENT.
 - A FREQUENCY COMPATIBILITY STUDY SHOULD BE PERFORMED BY TENANT TO ENSURE THAT NO INTERFERENCE WILL OCCUR TO EXISTING EQUIPMENT OR TO THE SURROUNDING AREA. COMPLIANCE WITH ALL REGULATIONS AND SPECIFICATIONS AS WELL AS INTERFERENCE RESOLUTION IS THE RESPONSIBILITY OF EACH TENANT.
- ALL EQUIPMENT ANTENNAS, CABLES, CABINETS, ETC. SHALL HAVE WEATHERPROOF ID TAGS AND A COPY OF A VALID FCC LICENSE, CALL SIGN OR EQUIVALENT AFFIXED TO IT IN FULL VIEW. ALL ID TAGS SHALL BE LEGIBLE AND SHALL SHOW THE LESSEE'S NAME, ADDRESS, TELEPHONE NUMBER, AND CALL SIGN (OR EQUIVALENT). IN ADDITION, THE AUTHORIZED MAINTENANCE PERSON OR ORGANIZATION SHALL BE SHOWN ALONG WITH CURRENT CONTACT INFORMATION TO INCLUDE ADDRESS AND TELEPHONE NUMBER.
- VAPOR LOCK OR EQUIVALENT WILL BE USED ON ALL CONNECTORS AND CONNECTIONS THAT ARE EXPOSED TO WEATHER ELEMENTS. ELECTRICAL TAPE WILL NOT BE UTILIZED OUTSIDE THE CONFINES OF THE INTERNAL BUILDING STRUCTURE FOR WEATHERPROOFING CONNECTIONS.

GENERAL NOTES / CONDITIONS OF APPROVAL

2


MISCELLANEOUS NOTES AND MATERIAL LIST

1

APPLICANT/LESSEE:

CELCO PARTNERSHIP
680 VERIZON WIRELESS
24242 NORTHWESTERN HIGHWAY
SOUTHFIELD, MICHIGAN 48075

PHONE: (248) 915-3000



MIDWESTERN CONSULTING

3815 Plaza Drive Ann Arbor, Michigan 48108
734.995.0200 • www.midwesternconsulting.com
Land Development • Land Survey • Institutional • Municipal
Wireless Communications • Transportation • Landfill Services

JOB No. **05268-6238**

REVISIONS:

1. UPDATE GENERAL NOTES

DATE: 7/28/17

SHEET 2 OF 14

REV. DATE: 12/17/19

ADD: JJB

ENG: SCF

TECH: SCF

CDS: 05268-623817

verizon

SITE #6238 - "TOWER LAKE"

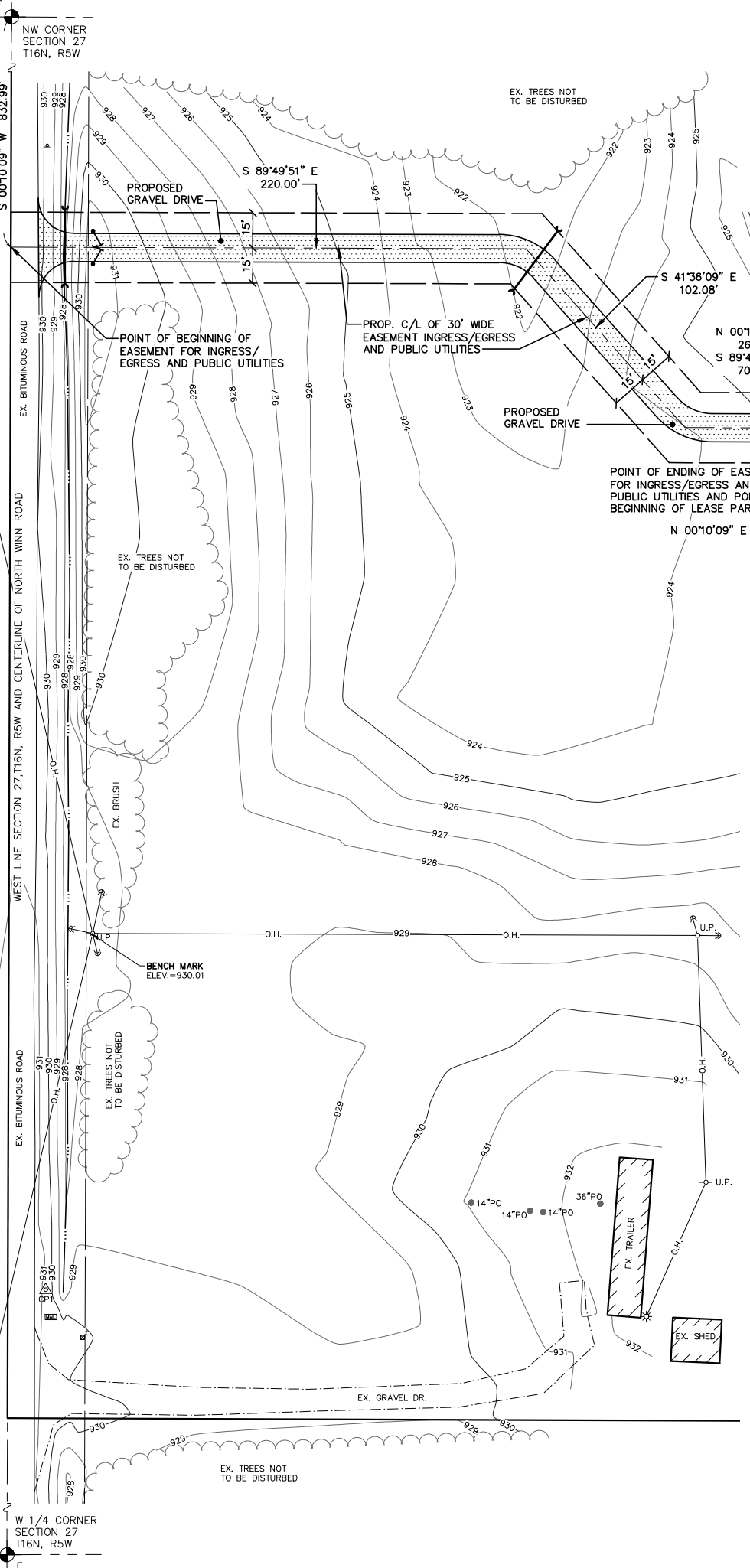
GILMORE TOWNSHIP, ISABELLA COUNTY, MICHIGAN

GENERAL NOTES AND MATERIAL LIST

T2

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NORTH WINN ROAD (66' WIDE)



ZONED: C-1 (GENERAL COMMERCIAL)

ZONED: AG-2 (GENERAL AGRICULTURE)

LEGAL DESCRIPTION OF OVERALL PARCEL

(Taken from Title Commitment)
 Real property in the Township of Gilmore, County of Isabella, State of Michigan, described as follows:

The North Half (N 1/2) of the Northwest Quarter (NW 1/4) of Section 27, Town 16 North, Range 5 West, Gilmore Township, Isabella County, Michigan, except the following 10 parcels:
 Parcel 1: Commencing 963.09 feet South of the North 1/4 corner of Section 27, Town 16 North, Range 5 West, thence South 208.71 feet, South 89°50' West, 208.71 feet, North 208.71 feet, North 89°50' East, 208.71 feet to the point of beginning.
 Parcel 2: Commencing at the Northwest corner of the North Half (N 1/2) of the Northwest Quarter (NW 1/4) of Section 27, Town 16 North, Range 5 West, for the point of beginning, thence South 208 feet; thence East 208 feet; thence North 208 feet; thence West to the point of beginning, Gilmore Township, Isabella County, Michigan.
 Parcel 3: Part of the Northwest Quarter (NW 1/4) of Section 27, Gilmore Township, Town 16 North, Range 5 West, Isabella County, Michigan, described as beginning at a point on the North line of Section 27 which is West 865.34 feet from the North 1/4 corner of said Section 27; thence West 208.71 feet; thence South 208.71 feet; thence East 208.71 feet; thence North 208.71 feet; to the point of beginning.
 Parcel 4: Part of the North Half (N 1/2) of the Northwest Quarter (NW 1/4) of Section 27, Town 16 North, Range 5 West, described as beginning at the North 1/4 corner of Section 27; thence South 450 feet along the North and South 1/4 line; thence North 89°55'30" West, 660.00 feet; thence North 450 feet; thence South 89°55'30" East, 660.00 feet along the North Section line to the point of beginning, except the West 124 feet of the North 208.71 feet of above description.
 Parcel 5: Part of the Northwest Quarter (NW 1/4) of the Northwest Quarter (NW 1/4), Section 27, Town 16 North, Range 5 West, Gilmore Township, Isabella County, Michigan, described as: Beginning South 89°59'10" East, along the North Section line, 438.71 feet from the Northwest corner of said Section 27, thence continuing South 89°59'10" East, along said North Section line, 187.42 feet; thence South 00°16'28" East, parallel to the West Section line, 417.42 feet; thence North 89 degrees 59'10" West, 417.42 feet; thence North 00°16'28" West, 228.02 feet; thence South 89°59'10" East, 230.00 feet; thence North 00°16'28" West, 189.40 feet; back to the place of beginning.
 Parcel 6: Part of the Northwest Quarter (NW 1/4) of the Northwest Quarter (NW 1/4), Section 27, Town 16 North, Range 5 West, Gilmore Township, Isabella County, Michigan, described as: Beginning South 00°16'28" East, along the West Section line 208.71 feet from the Northwest corner of said Section 27; thence continuing South 00°16'28" East, along said West Section line, 208.71 feet; thence South 89°59'10" East, parallel to the North Section line, 208.71 feet; thence North 00°16'28" West, 208.71 feet; thence North 89°59'10" West, 208.71 feet back to the place of beginning.
 Parcel 7: Part of the North Half (N 1/2) of the Northwest Quarter (NW 1/4) of Section 27, Town 16 North, Range 5 West, described as beginning 536 feet West of the North 1/4 corner of said Section; thence South 208.71 feet, West 329.34 feet, North 208.71 feet, thence East to the point of beginning.
 Parcel 8: Part of the North Half (N 1/2) of the Northwest Quarter (NW 1/4) of Section 27, Town 16 North, Range 5 West, Gilmore Township, Isabella County, Michigan, described as: Beginning at a point on the North and South 1/4 line which is South 450.0 feet from the North 1/4 corner of Section 27; thence South 290.4 feet; thence North 89°55'30" West, 150.0 feet; thence North 290.4 feet; thence South 89°55'30" East, 150.0 feet to the point of beginning.
 Parcel 9: Part of the North Half (N 1/2) of the Northwest Quarter (NW 1/4) of Section 27, Town 16 North, Range 5 West, Gilmore Township, Isabella County, Michigan, described as: Beginning at a point on the North and South 1/4 line which is South, 1171.80 feet from the North 1/4 corner of Section 27; thence South 150.0 feet; thence South 89°50' West, 290.40 feet along the north East and West 1/8 line; thence North 150.0 feet; thence North 89°50' East, 290.40 feet to the point of beginning.
 Parcel 10: Part of the Northwest Quarter (NW 1/4) of Section 27, Town 16 North, Range 5 West, Gilmore Township, Isabella County, Michigan, described as: Beginning at a point on the North line of Section 27 which is East 208.71 feet from the Northwest corner of said Section; thence East 230.00 feet; thence South 0°17' East, 189.4 feet; thence West 230.00 feet; thence North 0°17' West, 189.4 feet to the point of beginning.



LEGEND

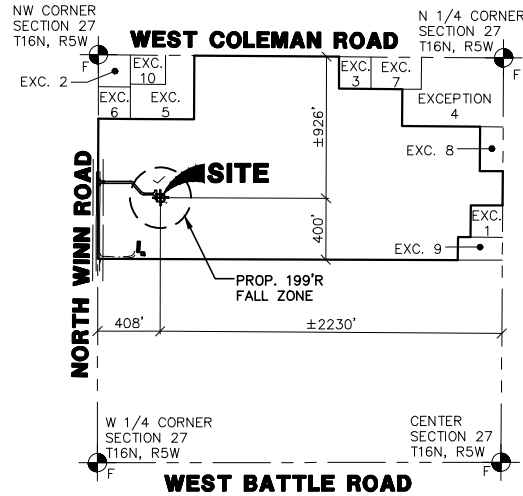
- 922 EXIST. CONTOUR
- x922.2 EXIST. SPOT ELEVATION
- o- U.P. EXIST. UTILITY POLE
- GUY WIRE
- ⊠ ELEC. TRANSFORMER
- EXIST. OVERHEAD UTILITY LINE
- EXIST. LIGHT POLE
- C/L OF DITCH SIGN
- ⊠ MAILBOX
- ⊠ TELEPHONE RISER
- ⊠ SINGLE TREE
- EXIST. TREE OR BRUSH LIMIT
- PROP. TREE OR BRUSH LIMIT
- ⊠ SECTION CORNER
- ⊠ FOUND MONUMENT
- ⊠ CONTROL PT.

TREE LEGEND

- CH CHERRY
- PO POPLAR

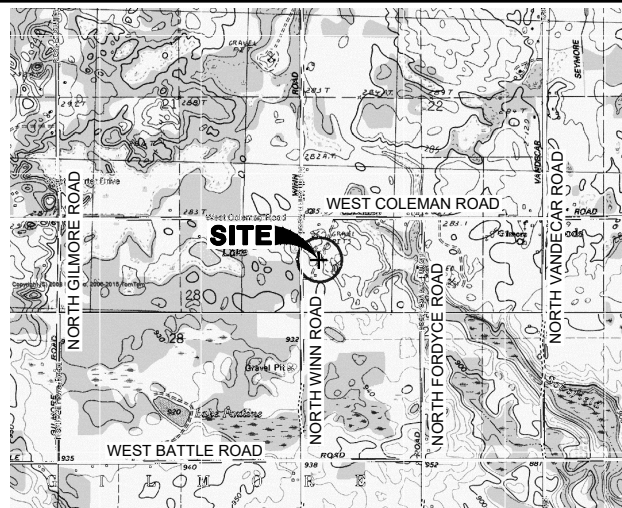
PROPERTY INFORMATION

TAX PARCEL: #08-027-10-001-00
 OWNER: LARY SHEFFERT AND SONJA SHEFFERT
 3114 HILLTOP LANE
 MOUNT PLEASANT, MICHIGAN 48858
 CELL SITE ADDRESS:
 7866 NORTH WINN ROAD
 FARWELL, MICHIGAN 48622



OVERALL PARCEL SKETCH

SCALE: 1"=60'



VICINITY SKETCH

SCALE: 1"=2000'

LOCATION

LONGITUDE 84° 54' 24.9"
 LATITUDE 43° 45' 11.5"
 GROUND ELEV. @ TOWER BASE = 927.50

LEGAL DESCRIPTION OF LEASE PARCEL

Commencing at the Northwest Corner of Section 27, T16N, R5W, Gilmore Township, Isabella County, Michigan; thence S 00°10'09" W 832.99 feet along the west line of said Section 27 (also being the centerline of North Winn Road, 66 feet wide); thence S 89°49'51" E 220.00 feet; thence S 41°36'09" E 102.08 feet; thence S 89°49'51" E 70.00 feet to the POINT OF BEGINNING;

thence N 00°10'09" E 26.00 feet;
 thence S 89°49'51" E 100.00 feet;
 thence S 00°10'09" W 100.00 feet;
 thence N 89°49'51" W 100.00 feet;
 thence N 00°10'09" E 74.00 feet to the POINT OF BEGINNING; being a part of the Northwest 1/4 of Section 27, T16N, R5W, Gilmore Township, Isabella County, Michigan; containing 10,000 sq. ft. or 0.230 acres of land, more or less; and subject to easements and restrictions of record, if any;

Together with a 30 foot wide easement for ingress, egress and public utilities, the centerline of said easement is described as:

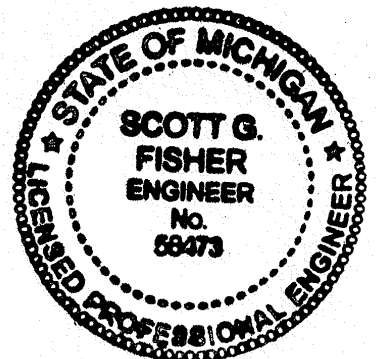
Commencing at the Northwest Corner of Section 27, T16N, R5W, Gilmore Township, Isabella County, Michigan; thence S 00°10'09" W 832.99 feet along the west line of said Section 27 (also being the centerline of North Winn Road, 66 feet wide) to the POINT OF BEGINNING;
 thence S 89°49'51" E 220.00 feet;
 thence S 41°36'09" E 102.08 feet;
 thence S 89°49'51" E 70.00 feet to the POINT OF ENDING; being a part of the Northwest 1/4 of Section 27, T16N, R5W, Gilmore Township, Isabella County, Michigan; except any part taken, deeded or used for public road purposes; and subject to easements and restrictions of record, if any.

NOTE

Rotate all bearings 00°22'07" counter-clockwise to obtain bearings based on True North as determined from global positioning system (GPS).

BENCH MARK

Railroad spike in the south face of a utility pole located ±36 feet east of North Winn Road, and ±200 feet north of the existing gravel drive to the property (trailer and shed).
 Elevation: 930.01 (NAVD 88 Datum)



PREPARED BY:
 MIDWESTERN CONSULTING, L.L.C.

Scott Fisher
 SCOTT G. FISHER P.E. #58473

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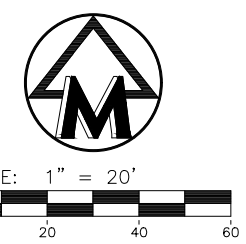
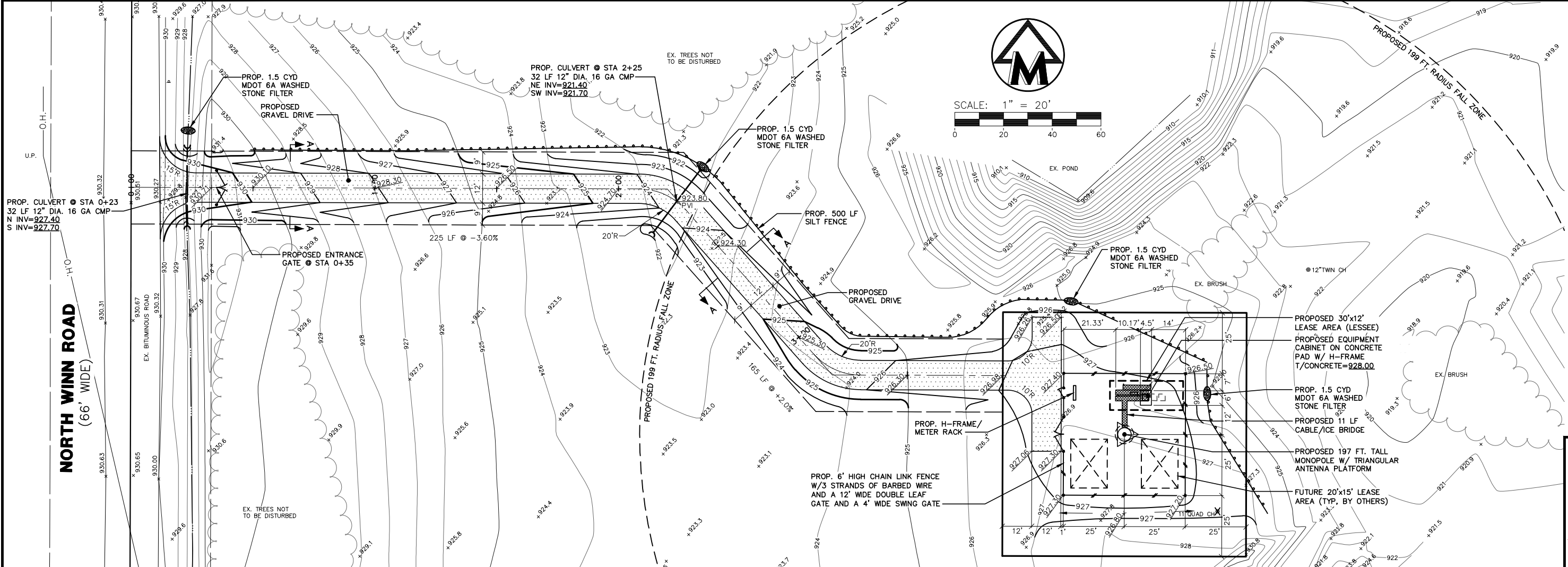
verizon
 SITE #6238 - "TOWER LAKE"
 GILMORE TOWNSHIP, ISABELLA COUNTY, MICHIGAN
 SITE SURVEY, GENERAL INFORMATION

APPLICANT/LESSEE:
 CELCO PARTNERSHIP
 dba VERIZON WIRELESS
 24242 NORTHWESTERN HIGHWAY
 SOUTHFIELD, MICHIGAN 48075
 PHONE: (248) 915-3000

JOB No. **05268-6238** DATE: 2/17/15 SHEET 1 OF 2
 REVISION: 1. CHANGE SHELTER TO CABINET 11/23/15 CADD: TES, PDR, GLS
 2. CHANGE PLATFORM TO CONC. PAD 8/11/16 ENG: SGF
 3. CHANGE TOWER HEIGHT AND TYPE 1/17/17 PM: SGF
 4. AND CHANGE CELL SITE ADDRESS 1/17/17 TECH: HLE
 5. UPDATE CONTOUR INFORMATION 1/17/19 DS: BBS, GB: BSI
 6. UPDATE EASEMENT INFORMATION 1/17/20

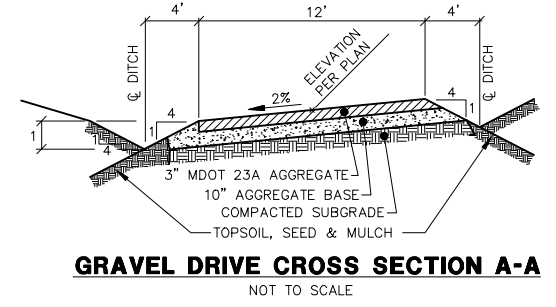
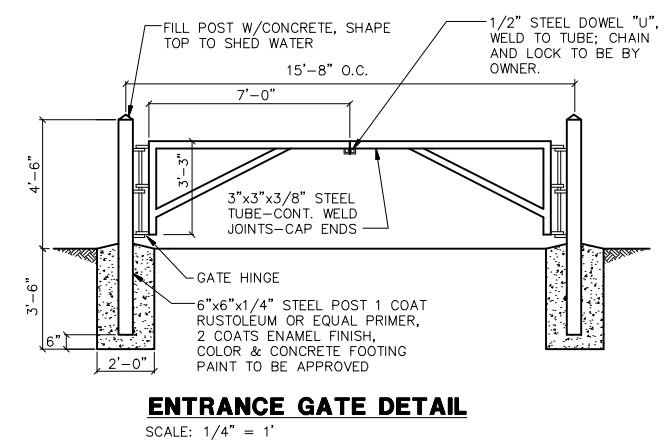
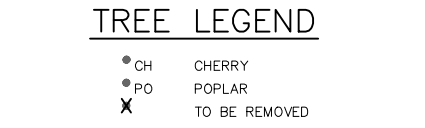
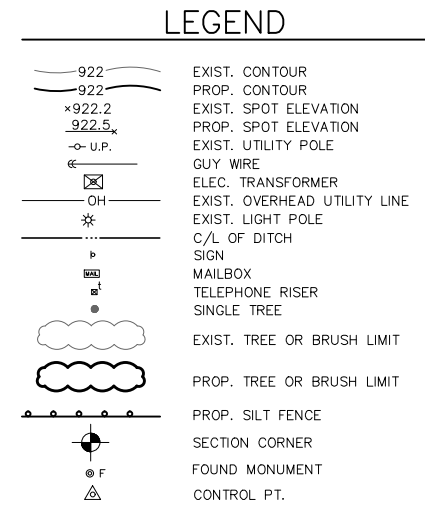
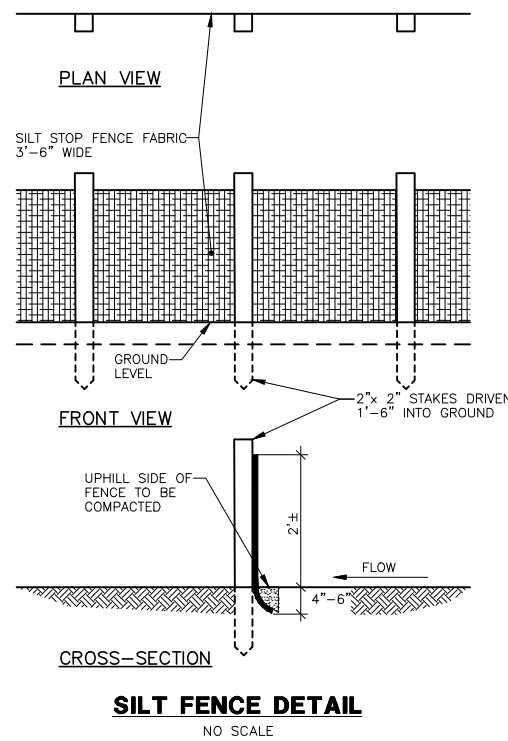
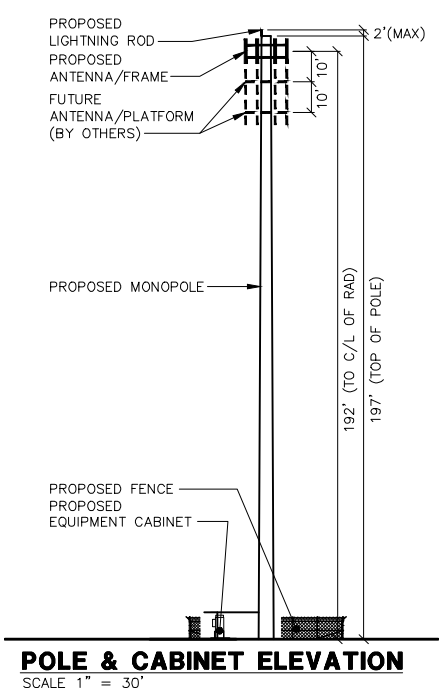
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GENERAL NOTES:

- All site work construction shall be in accordance with the current standards and specifications of the Township of Gilmore and the Isabella County Road Commission, where applicable.
- The proposed equipment cabinet is to be a computerized, unmanned, telephone exchange structure. No water service, sanitary facilities or gas service is needed. Telephone and electrical services will be from an existing utility pole or line adjacent to the site.
- The proposed equipment cabinet is to have security systems monitored 24 hours per day. The cabinet will also be constructed with bullet resistant materials.
- There are no lights proposed for this project.
- There are no signs proposed for this project except for:
 - Emergency contact information purposes and FCC "call" sign placed on equipment cabinet door;
 - FCC registration number located on fence gate.
- The cellular antenna and equipment cabinet will be approved by the Federal Communications Commission (FCC) and will not impact any frequency sensitive devices whatsoever. Buyer warrants no adverse radio interference with adjacent land uses.
- There are no toxic materials used by Lessee on the site. Lessee has no need for outdoor storage or garbage disposal and pick-up.
- Maintenance personnel using van type service vehicles enter and exit the site approximately 2 to 4 times per month. No loading or unloading area is needed by them.
- All areas disturbed by the construction of the tower and cabinet and driveway shall be restored in kind. Contractor is to provide soil erosion control measures as needed or as directed by owner or government agency having jurisdiction.
- All areas inside of and to 1'-0" outside of the fenced area shall be covered with 3" of crushed limestone placed over "Typlar" landscape fabric.
- Ingress and egress by Lessee's personnel to the site shall be via a proposed gravel drive from North Winn Road.
- The proposed drive shall consist of 3" of MDOT Class 23A crushed limestone aggregate over 10" of 1"x3" crushed concrete or slag over compacted subgrade. The subgrade shall be stripped free of all topsoil and organic material prior to placing aggregate base. Where poor subgrade soils are encountered, a woven geotextile fabric (Mirafi 500X or approved equal) shall be placed so that it is a minimum of 2 ft. wider and longer than the drive which is to be constructed over the poor soils.
- This site plan is based on the survey of the existing conditions conducted by Midwestern Consulting, LLC on 12-16-2014.



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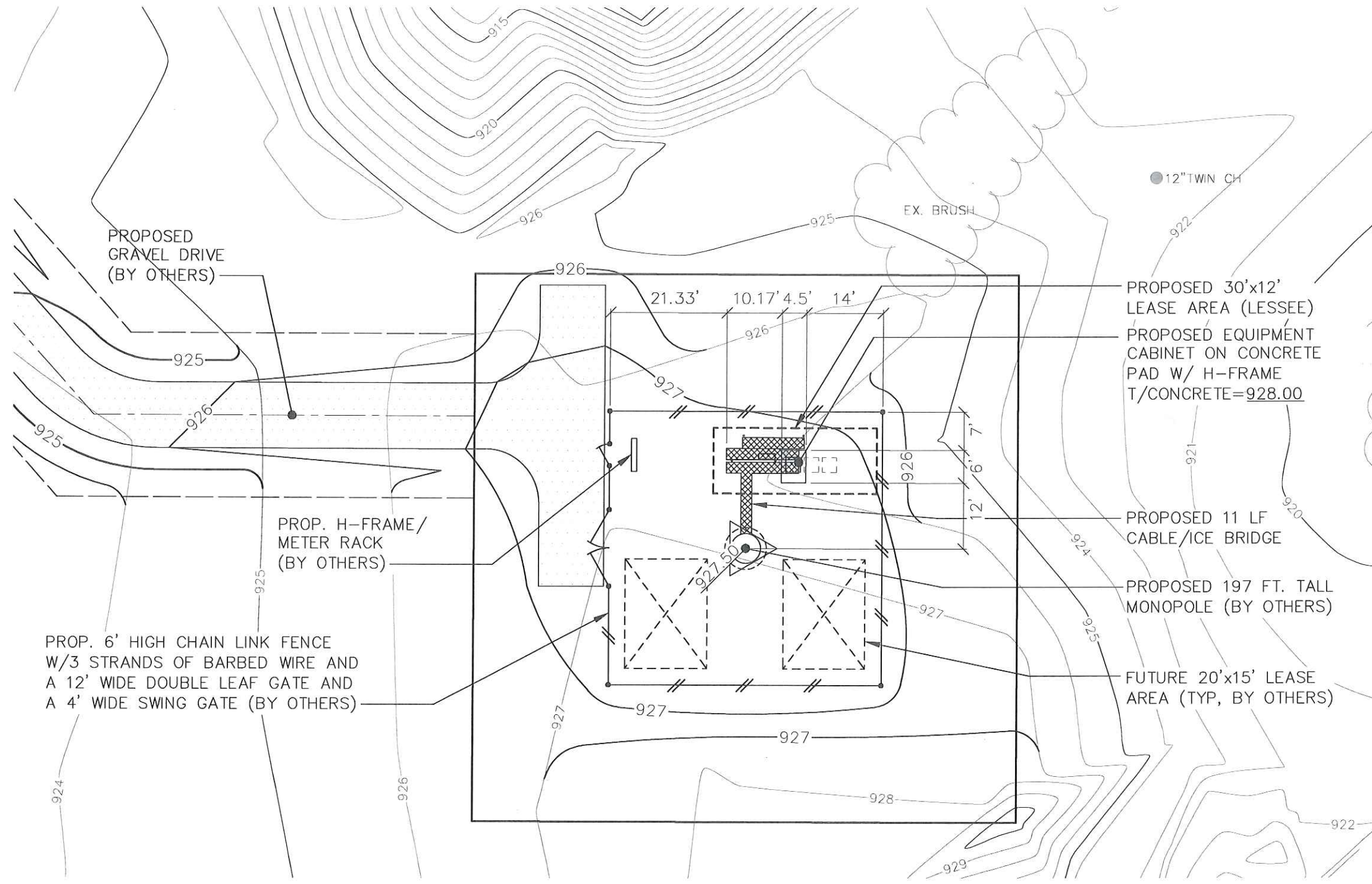
verizon
 SITE #6238 - "TOWER LAKE"
 GILMORE TOWNSHIP, ISABELLA COUNTY, MICHIGAN
 SITE PLAN DETAIL, TOWER ELEVATION AND GENERAL NOTES


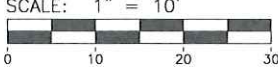

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
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 SHEET 2 OF 2
 REV. DATE: 11/23/15
 CADD: TES, PDR, GLS
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 ENG: SGF
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 TECH: HLE
 02/28/2019
 02/28/2019

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 SCALE: 1" = 10'


 Know what's below.
 Call before you dig.

- LEGEND**
-  922 EXIST. CONTOUR
 -  922 PROP. CONTOUR (BY OTHERS)
 -  922.2 EXIST. SPOT ELEVATION
 -  922.5 PROP. SPOT ELEVATION (BY OTHERS)
 -  U P EXIST. UTILITY POLE
 -  GUY WIRE
 -  OH ELEC. TRANSFORMER
 -  OH EXIST. OVERHEAD UTILITY LINE
 -  EXIST. LIGHT POLE
 -  C/L OF DITCH
 -  SIGN
 -  MAILBOX
 -  TELEPHONE RISER
 -  SINGLE TREE
 -  EXIST. TREE OR BRUSH LIMIT
 -  SECTION CORNER
 -  FOUND MONUMENT
 -  CONTROL PT.
- TREE LEGEND**
-  CH CHERRY
 -  PO POPLAR

NOTE:
 ALL REMOVALS, MASS
 GRADING AND SITE WORK
 ARE TO BE DONE BY OTHERS

verizon
 SITE #6238 - "TOWER LAKE"
 GILMORE TOWNSHIP, ISABELLA COUNTY, MICHIGAN
 SITE PLAN DETAIL

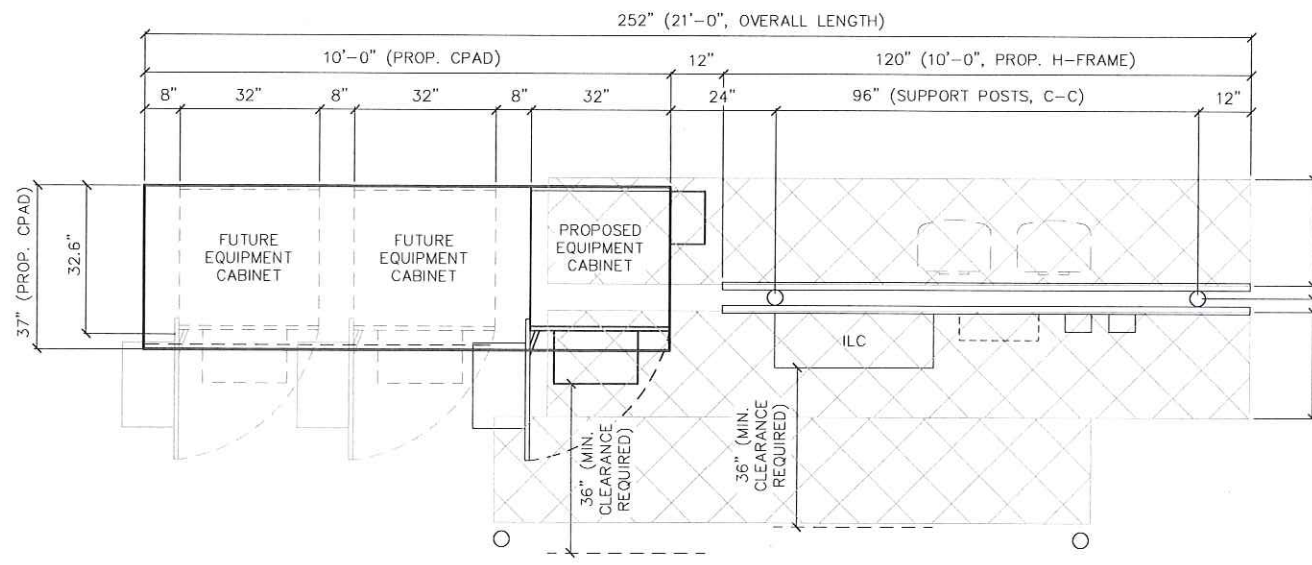
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JOB No.	05268-6238	DATE: 7/28/17	SHEET 4 OF 14	
REVISION:		REV. DATE	12/18/19	CADD: JBB
1. UPDATE COMPOUND LAYOUT		ENG: SGF		TECH: JBB
		CSX: 05268_6238C2		PRF: 557-55

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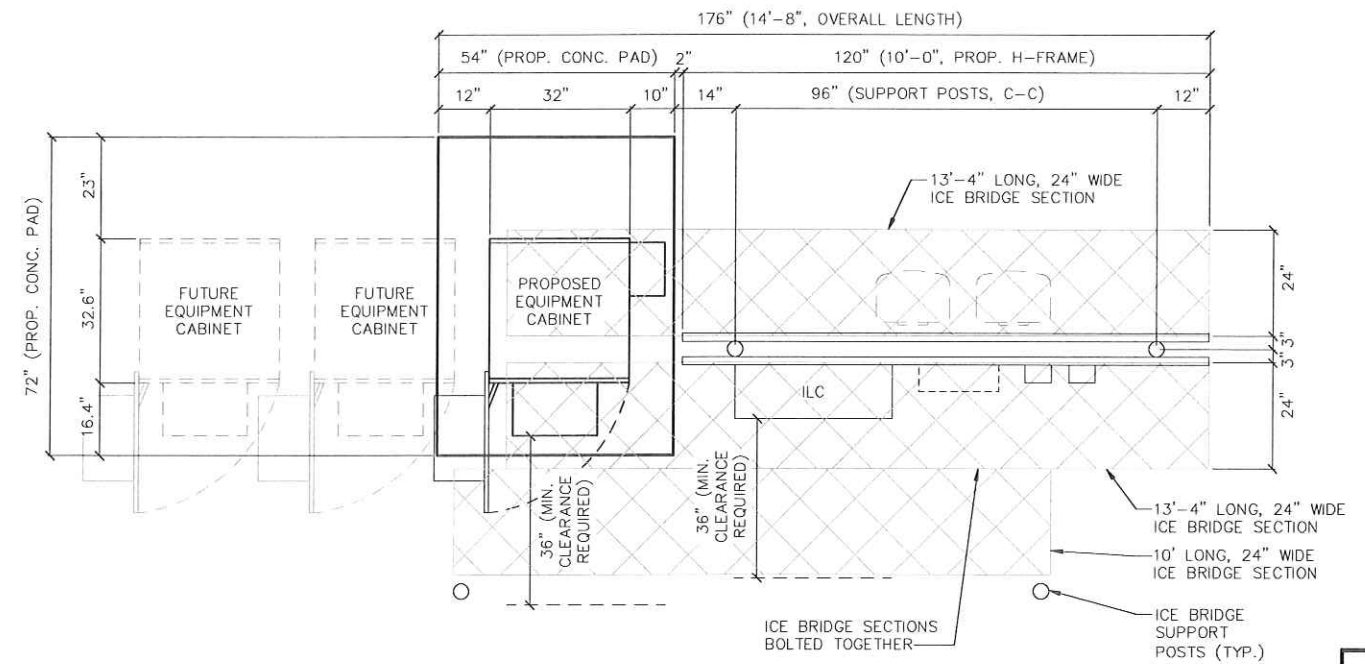
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DIMENSIONAL EQUIPMENT LAYOUT - CPAD ALTERNATE

2

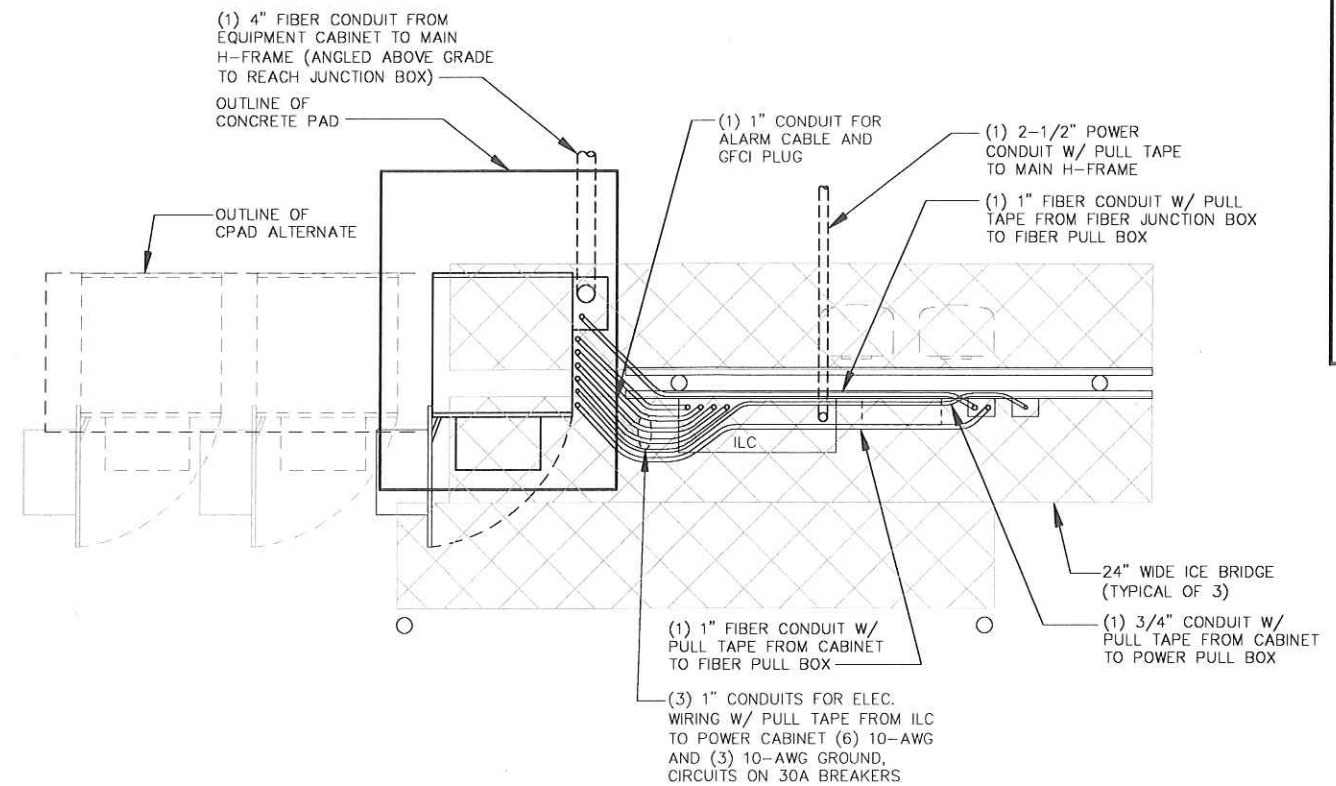


DIMENSIONAL EQUIPMENT LAYOUT - CONCRETE PAD

1

NOTES:

1. ALL EQUIPMENT MOUNTED TO CONCRETE PAD SHALL BE CONCRETE ANCHORS. EQUIPMENT MOUNTED TO CPAD SHALL USE BOLTS W/ WELDNUTS IN THE CPAD.
2. PROPOSED ILC BOX SHALL BE AA300G-1PH-3RGC OR APPROVED EQUAL.
3. ALL CONDUITS SHALL BE SCHD 40 PVC MATERIAL AND SECURED TO PAD/POST/H-FRAME USING APPROPRIATE FASTENER.
6. SEE FOUNDATION PLAN FOR LOCATION OF CONDUITS THROUGH CONCRETE PAD FOR GENERATOR.
7. ALL CONDUITS CONNECTIONS BETWEEN THE H-FRAME AND CABINET SHALL BE ROUTED ABOVE GROUND ALONG THE BOTTOM OF THE H-FRAME, EXCEPT WHERE NOTED. CONDUITS SHALL STUB UP THE SIDE OF CABINET AND PENETRATE THE CABINET AS SHOWN IN THE EQUIPMENT CABINET DETAILS. CONDUITS ARE SHOWN SIDE BY SIDE FOR GRAPHICAL PURPOSES ONLY.
8. CONTRACTOR SHALL USE LIQUID TIGHT CONDUIT FITTINGS FOR CONDUIT TRANSITION BETWEEN H-FRAME AND CABINET.
9. ALL CONDUITS ENTERING THE ILC, CABINETS, AND GENERATOR SHALL BE SEALED WITH "DUCT SEAL". EXPANDABLE FOAM IS NOT PERMITTED.
10. CONDUIT ROUTING SHALL BE THE SAME FOR BOTH FOUNDATION SYSTEMS.



CONDUIT ROUTING SCHEMATIC

2

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SITE #6238 - "TOWER LAKE"
GILMORE TOWNSHIP, ISABELLA COUNTY, MICHIGAN
EQUIPMENT CABINET LAYOUT

C4

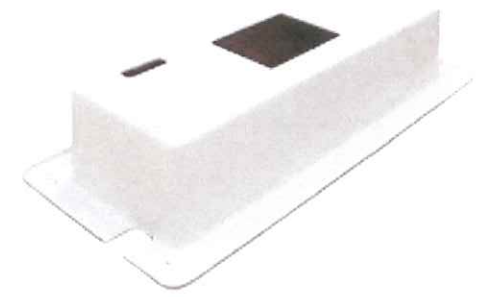
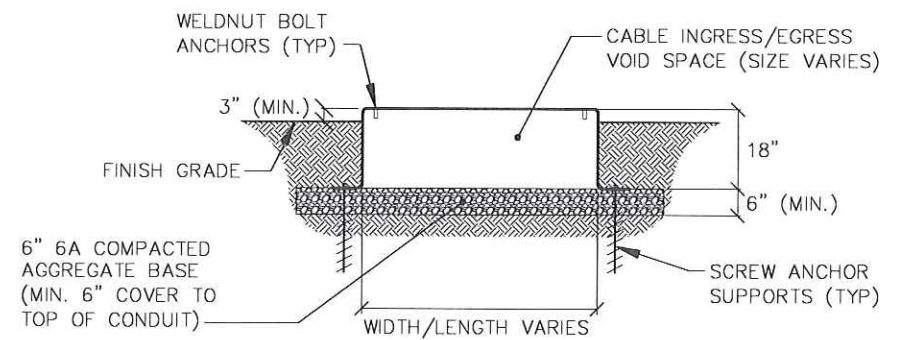
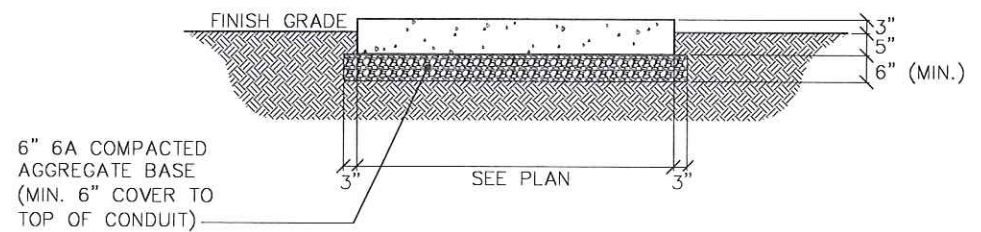
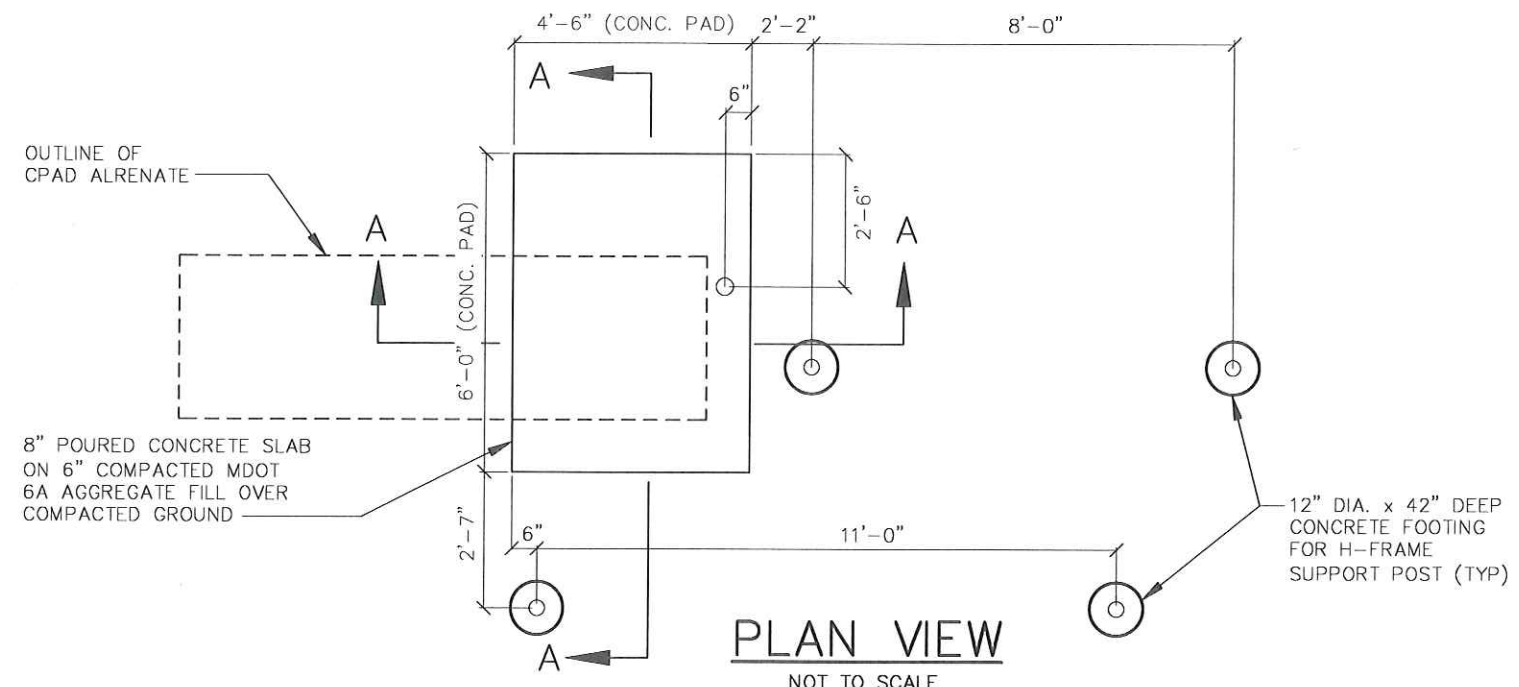
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REVISION	1. UPDATE EQUIPMENT LAYOUT	SHEET	6 OF 14
REV. DATE	12/19/19	CADD-JBB	
ENG.	SCF	TECH.	SCF
CHKD.	SCF	APP.	SCF
DATE	05/05/2018	PROJECT	05268-6238-06

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GENERAL NOTES

1. Work shall be in accordance with local codes, safety regulations and, unless otherwise noted, the latest revision of ACI 318 "Building Code Requirements for Reinforced Concrete." Procedures for the protection of excavations, existing construction and utilities shall be established prior to foundation installation. The contractor is responsible for contacting the utility locating company three (3) working days before excavating.
2. The contractor shall review the geotechnical report prepared by G2 Consulting Group, LLC (or the geotechnical engineering company for this project) prior to commencing operations at the site. The design load is a maximum of 10 kips based on information provided by the owner. If soil of insufficient bearing capacity is encountered at the depth indicated on the drawings, the contractor shall contact the design engineer for instructions prior to continuing construction at that location. Loose material shall be removed from the bottom of the excavation prior to the placement of concrete. The sides of the excavation shall also be free of loose cuttings.
3. Concrete materials shall conform to the appropriate State requirements for exposed structural concrete. The concrete shall have an air entrainment of between 4% and 6%.
4. The proportions of concrete materials shall be suitable for the installation method utilized and shall result in durable concrete for resistance to local anticipated aggressive actions. The durability requirements of ACI 318, Chapter 4, shall be satisfied based on the conditions expected at the site. Concrete shall develop a minimum compressive strength of 3,000 psi in 28 days. The maximum aggregate size shall not exceed 3/4 inch; size suitable for the installation method utilized; or one-third (1/3) of the distance behind or between reinforcing.
5. Concrete shall be placed in a manner that will prevent segregation of the concrete materials, infiltration of water or soil, and other occurrences which may decrease the strength or durability of the foundation. Free fall concrete may be used provided the fall is vertical without hitting the sides of the excavation, form-work, reinforcing bars, form ties, cage bracing, or other obstructions. The concrete slump shall be between 3 and 4 inches for free fall placement for the strip footing foundations.
6. Foundation inspection shall be observed by G2 Consulting Group, LLC (or other qualified geotechnical engineering company employed by the owner). The company utilized shall be coordinated for 1 day of inspection when there is not a tower foundation. Inspection tasks shall include the inspection of the grounding ring, the pre-installation concrete pad thickness and post-installation concrete pad thickness. Concrete testing is not required for the 3'x3' concrete pad. If the concrete material appears questionable, a core shall be taken of the concrete and tested for air entrainment and strength. Any concrete not meeting the requirements of the project shall be removed and replaced with all costs for replacement and testing borne by the Contractor. The contractor shall notify G2 Consulting Group, LLC (or other firm of equivalent expertise) 48 hours prior to their required presence on site.
7. Six (6) inches of MDOT 6A aggregate shall be provided under the equipment cabinet and generator concrete slabs and compacted to 95% maximum density as determined by ASTM D1557.
8. The contractor shall ensure stability of the foundation during construction and backfilling with bracing as required. Backfill along the foundation shall be placed only after the concrete has attained its design strength.
9. The foundation design has been developed in accordance with generally accepted professional engineering principles and practices within the limits of the subsurface data obtained. Foundation design modifications may be required in the event the design parameters are not applicable for the subsurface conditions encountered. Foundation modifications may be required in the event cut and/or fill operations have taken place subsequent to the geotechnical investigation and design.
10. Refer to conduit routing schematic for conduit route between sleeve locations.

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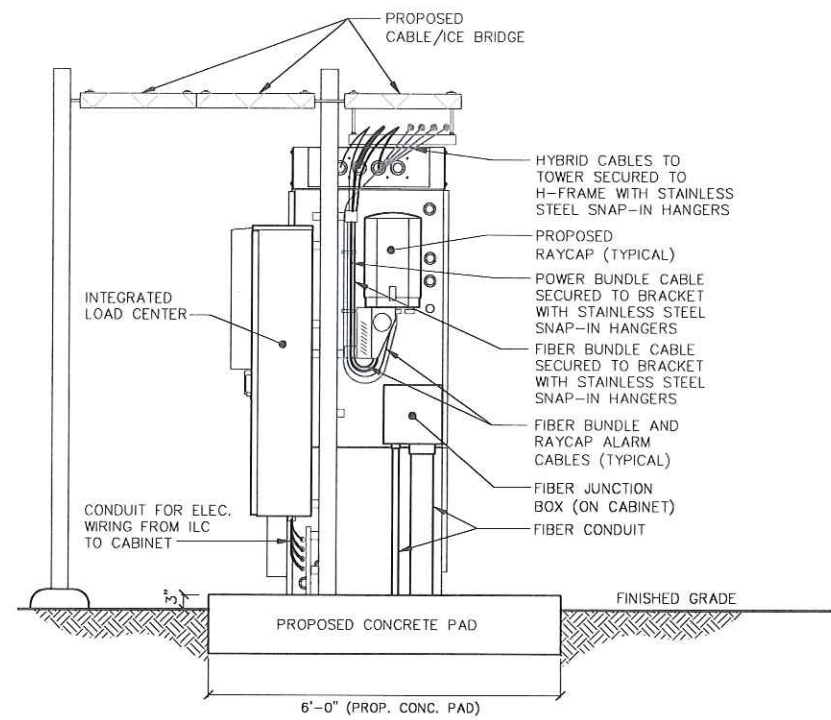
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SITE #6238 - "TOWER LAKE"
GILMORE TOWNSHIP, ISABELLA COUNTY, MICHIGAN
FOUNDATION DETAILS AND NOTES

JOB No. **05268-6238**
REVISION: L. UPDATE EQUIPMENT LAYOUT

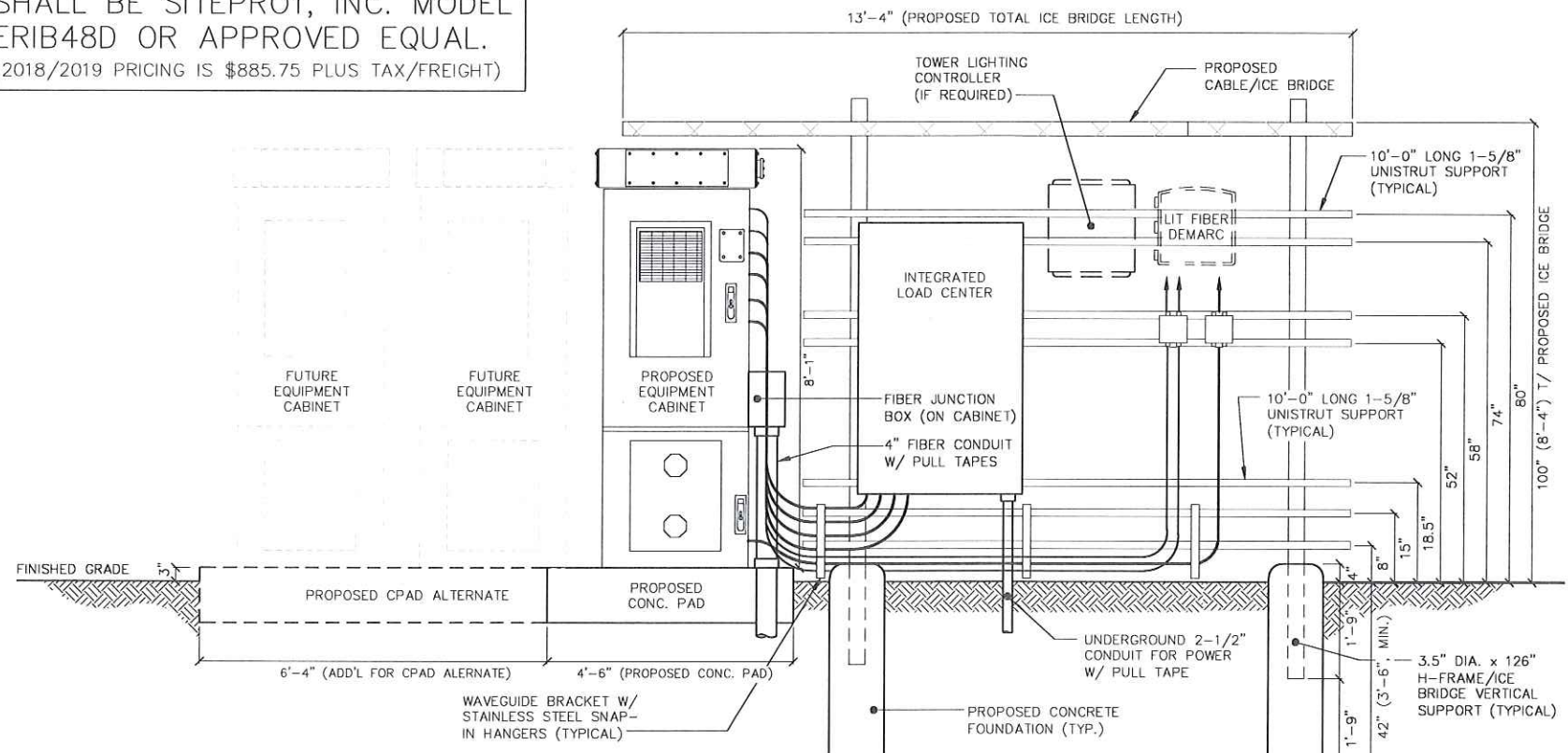
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SHEET 7 OF 14
REV. DATE: 12/12/19
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PLOT: 352-35

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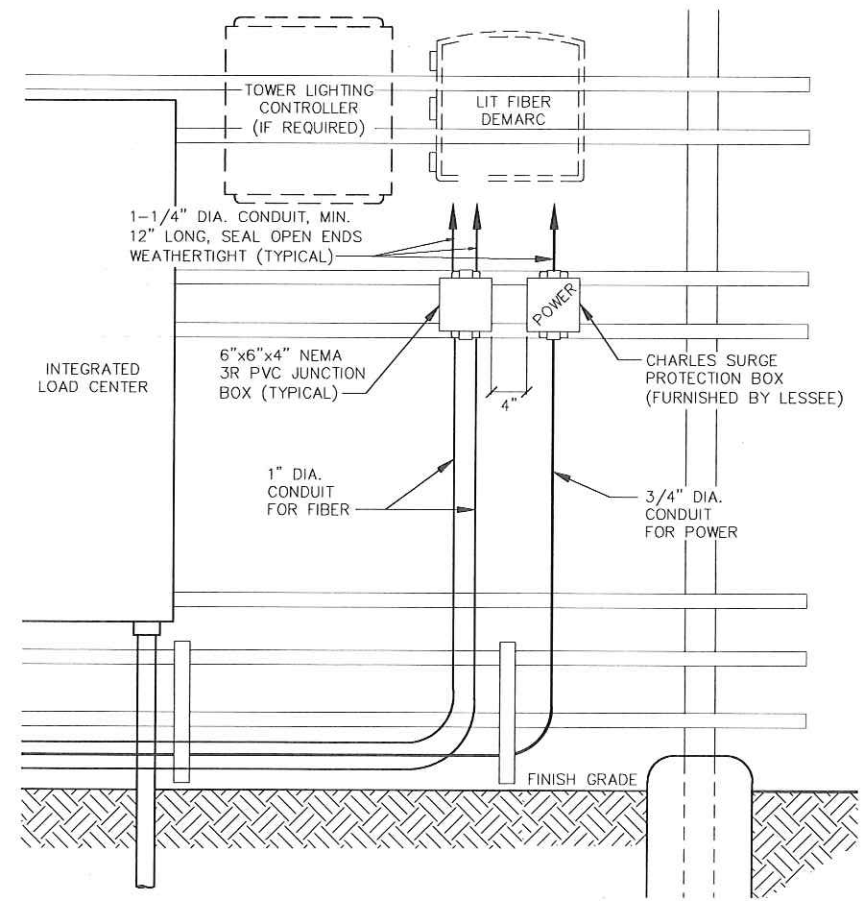
PROPOSED H-FRAME/ICE BRIDGE SHALL BE SITEPRO1, INC. MODEL ERIB48D OR APPROVED EQUAL.
(2018/2019 PRICING IS \$885.75 PLUS TAX/FREIGHT)



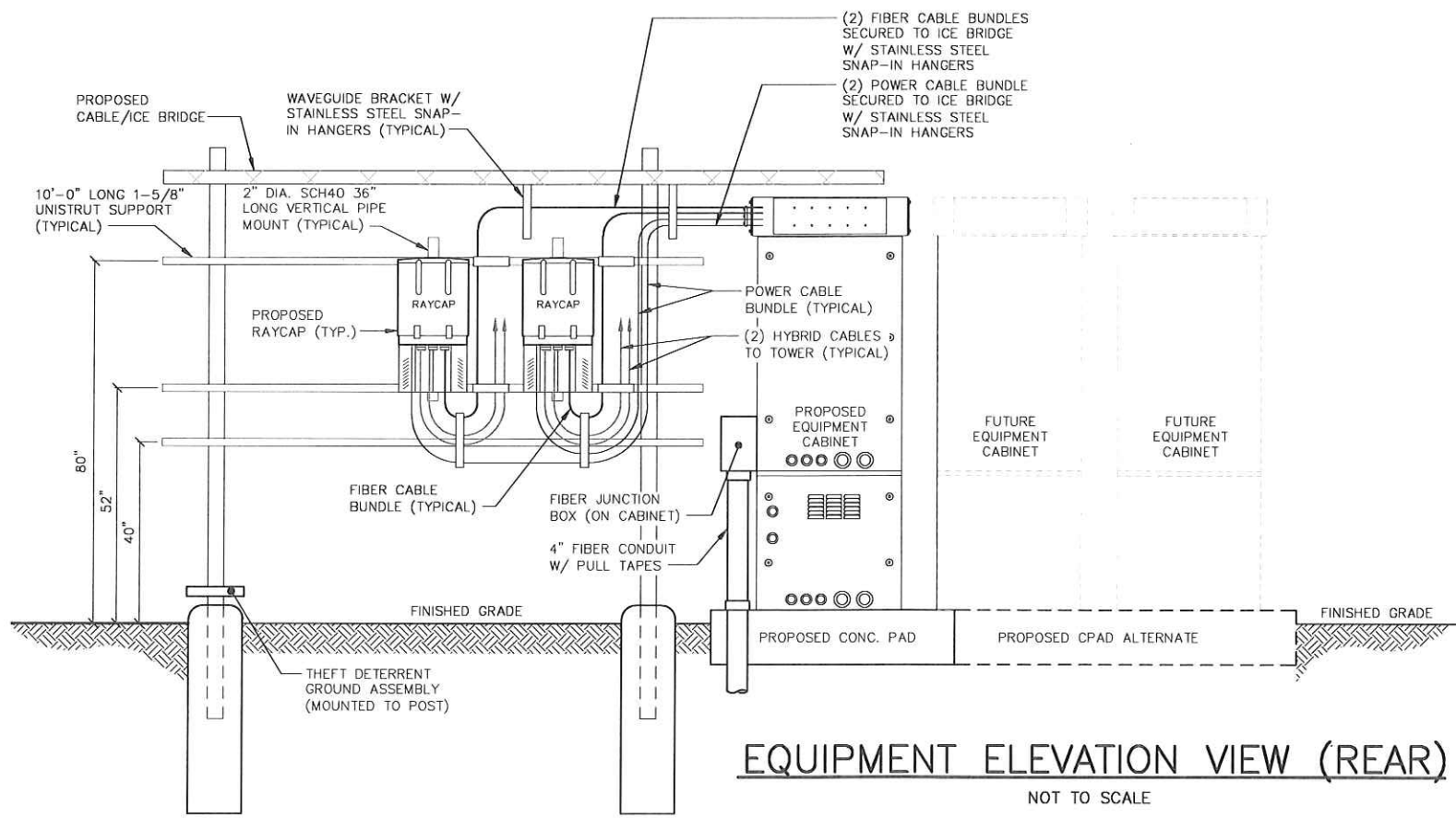
H-FRAME ELEVATION VIEW (SIDE)
NOT TO SCALE



EQUIPMENT ELEVATION VIEW (FRONT)
NOT TO SCALE



H-FRAME ELEVATION VIEW (FRONT)
NOT TO SCALE



EQUIPMENT ELEVATION VIEW (REAR)
NOT TO SCALE

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SITE #6238 - "TOWER LAKE"
GILMORE TOWNSHIP, ISABELLA COUNTY, MICHIGAN
EQUIPMENT ELEVATION VIEWS

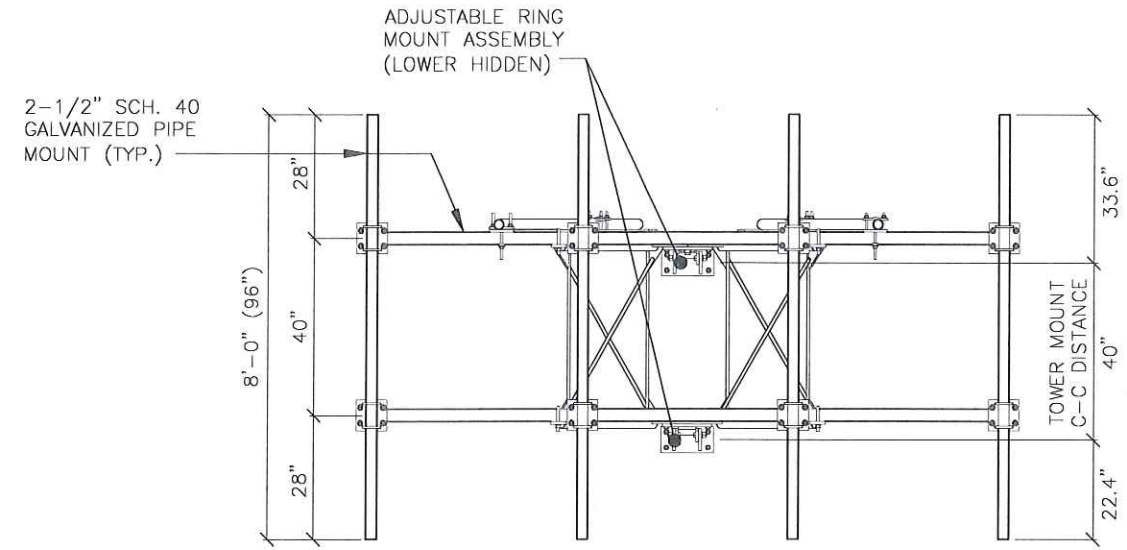
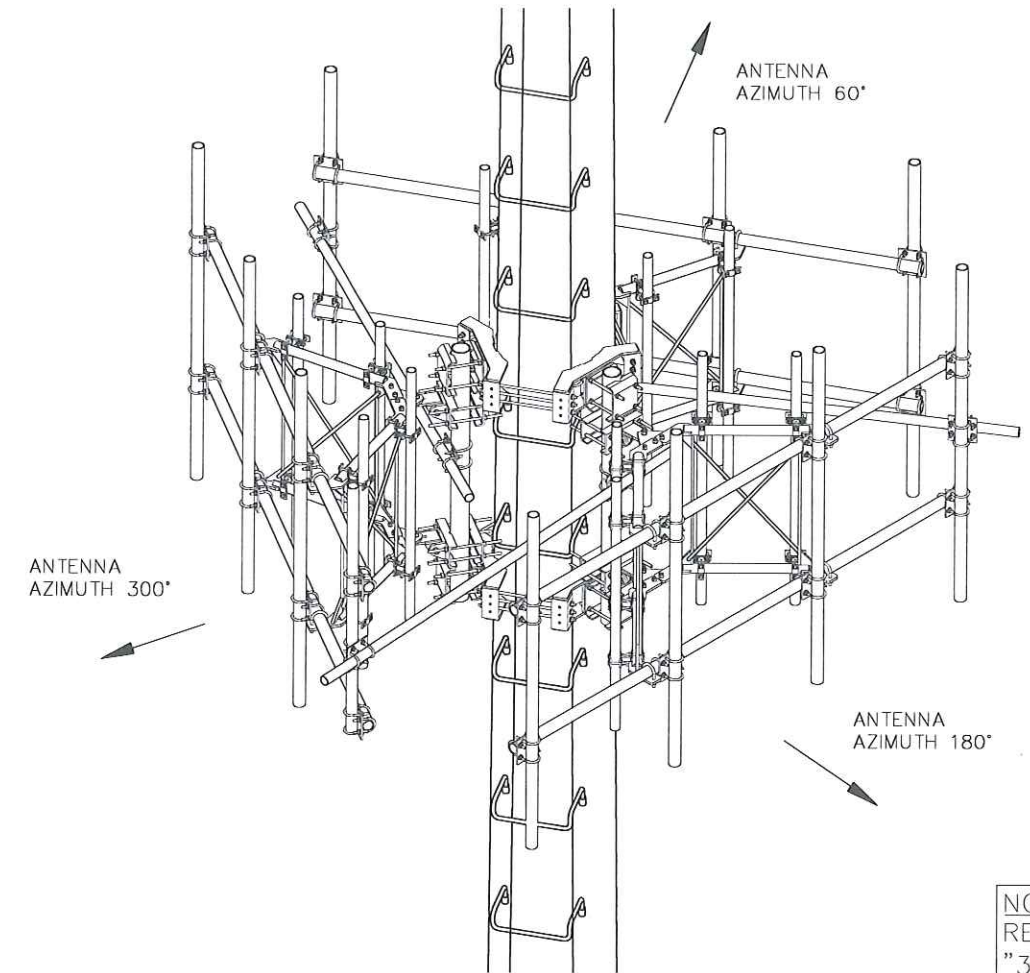
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C6

DATE: 7/25/17
SHEET 8 OF 14
REV. DATE 12/13/19
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TECH: SCF
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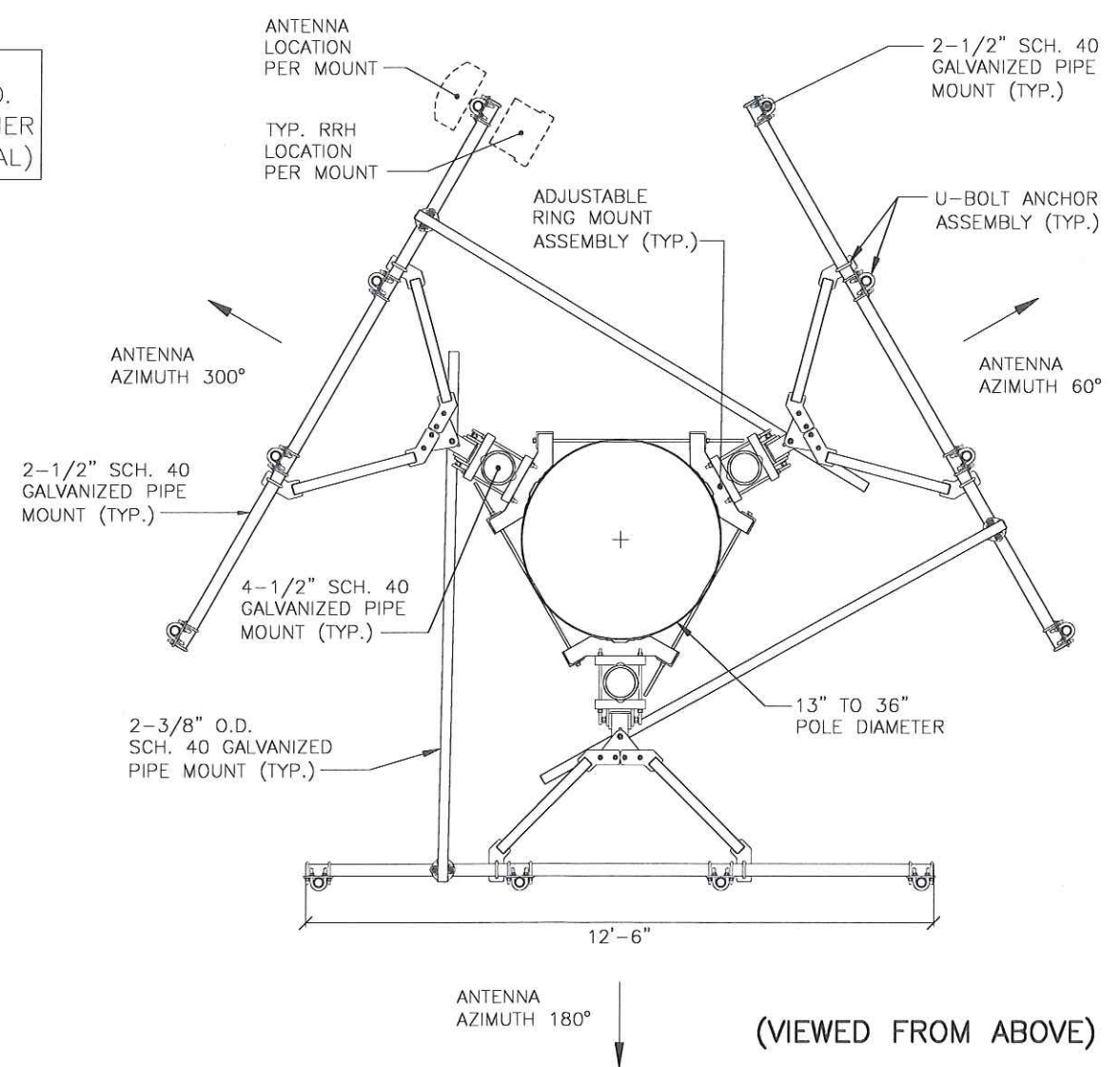
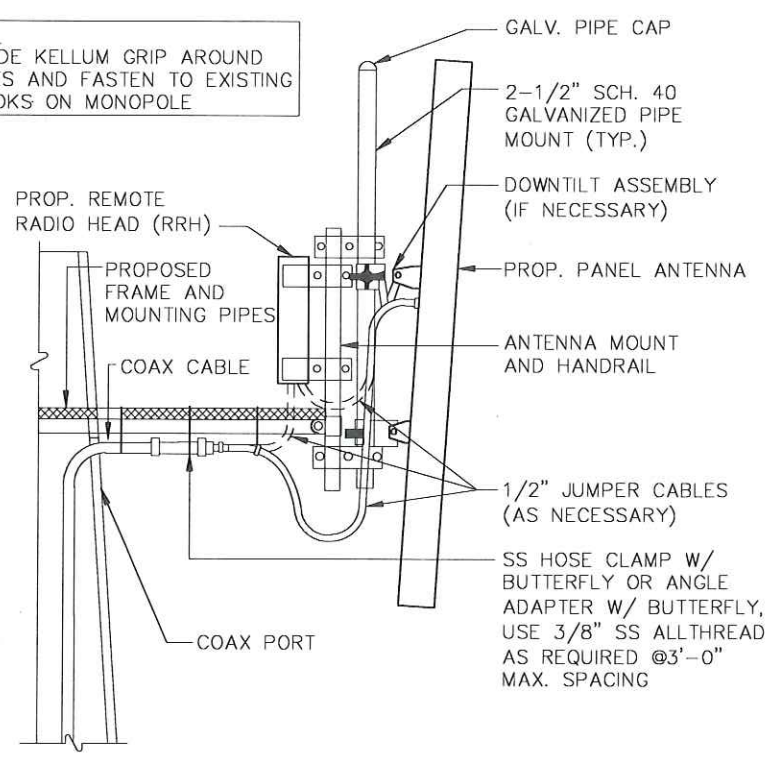
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(VIEWED FROM SIDE)

NOTE:
REFER TO SITEPRO1 PART NO. "3VFA12-HDWP" FOR FURTHER DETAILS (OR APPROVED EQUAL)

NOTE:
PROVIDE KELLUM GRIP AROUND CABLES AND FASTEN TO EXISTING J-HOOKS ON MONOPOLE



(VIEWED FROM ABOVE)

GENERAL NOTES:

1. VERIFY EACH COAXIAL OR HYBRID CABLE LENGTH, DIAMETER, ROUTING, AND ALL MOUNTING APPURTENANCES WITH OWNER PRIOR TO ORDER.
2. THE MAXIMUM COAXIAL OR HYBRID CABLE LENGTH HAS BEEN ESTIMATED AT 220 FEET APPROXIMATELY, AND IS NOT TO BE USED FOR CONSTRUCTION. ACTUAL ANTENNA CABLE LENGTH MAY VARY FROM ESTIMATED MAXIMUM LENGTH AND MUST BE VERIFIED.
3. TAG ALL MAIN CABLES AT TWO (2) LOCATIONS. A. AT ANTENNAS B. 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 CABINET PORT ENTRY.
5. COAXIAL CABLES TO BE SUPPORTED EVERY 3'-0" OFF MOUNTING FRAMES WITH STAINLESS STEEL HANGERS.
6. JUMPERS TO BE SUPPORTED EVERY 18" WITH STAINLESS STEEL HANGERS.

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verizon	
SITE #6238 - "TOWER LAKE"	
GILMORE TOWNSHIP, ISABELLA COUNTY, MICHIGAN	
ANTENNA/FRAME DETAILS	
C8	
JOB No. 05268-6238	DATE: 7/26/17
REVISION: 1	SHEET 10 OF 14
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	PK: SGF
	CDS: 05268_6238.dwg

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STANDARD SITE SIGNAGE:

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

-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.

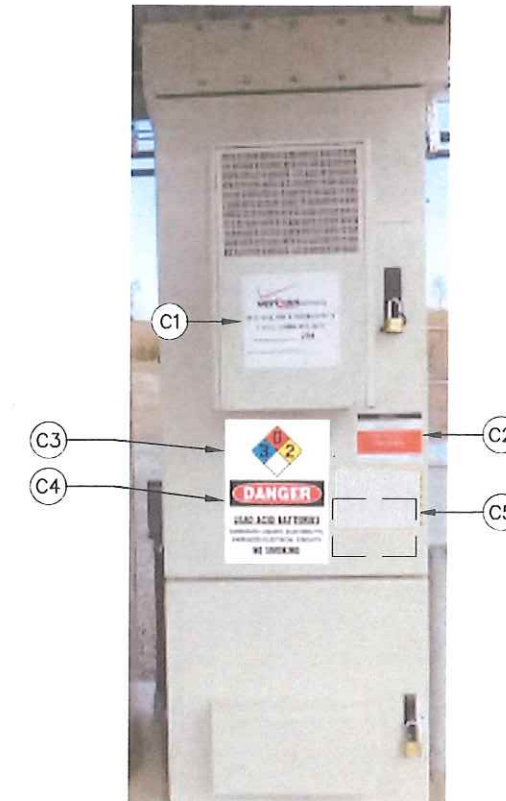


FIGURE 1 - EQUIPMENT CABINET SIGNAGE



FIGURE 2 - EME SIGN

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 2)
- 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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SITE #6238 - "TOWER LAKE"

GILMORE TOWNSHIP, ISABELLA COUNTY, MICHIGAN

SITE SIGNAGE DETAILS

JOB No. 05268-6238

REVISION: I. UPDATE DRAWING

DATE: 7/28/17

SHEET 11 OF 14

CHD: JBB

ENG: SCF

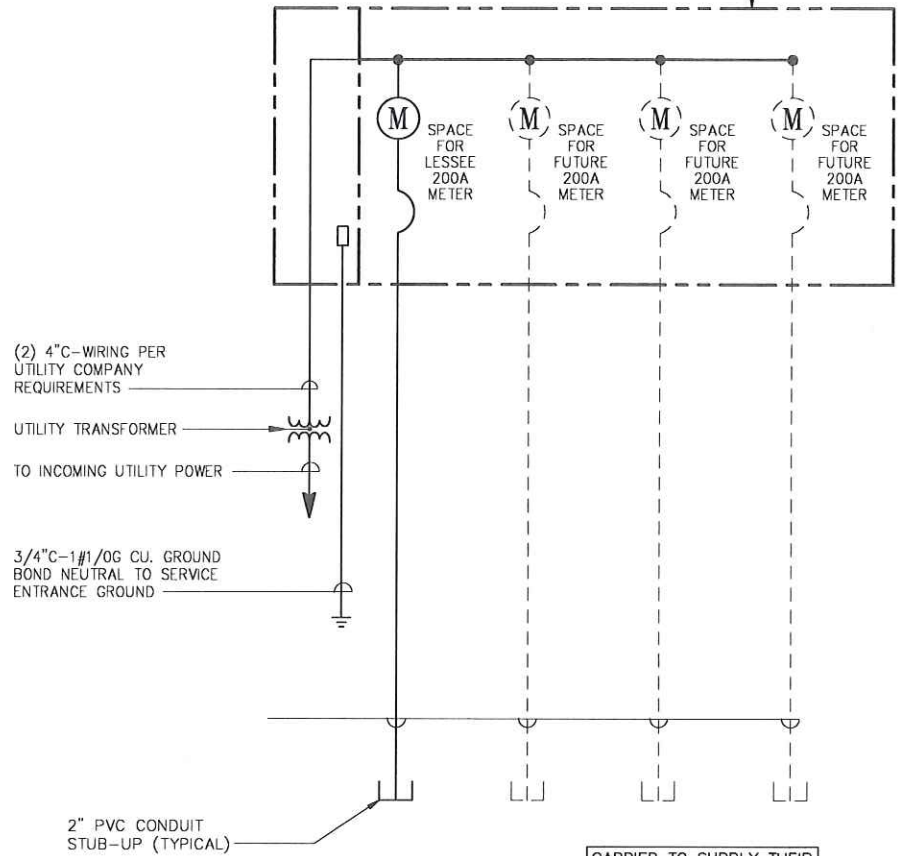
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PROPOSED MULTI-TENANT METER CENTER (800a, 120/40V, 1Ø, 3 WIRE, 200A METER SOCKETS, SE RATED, UL LISTED, NEMA 3R ENCLOSURE)

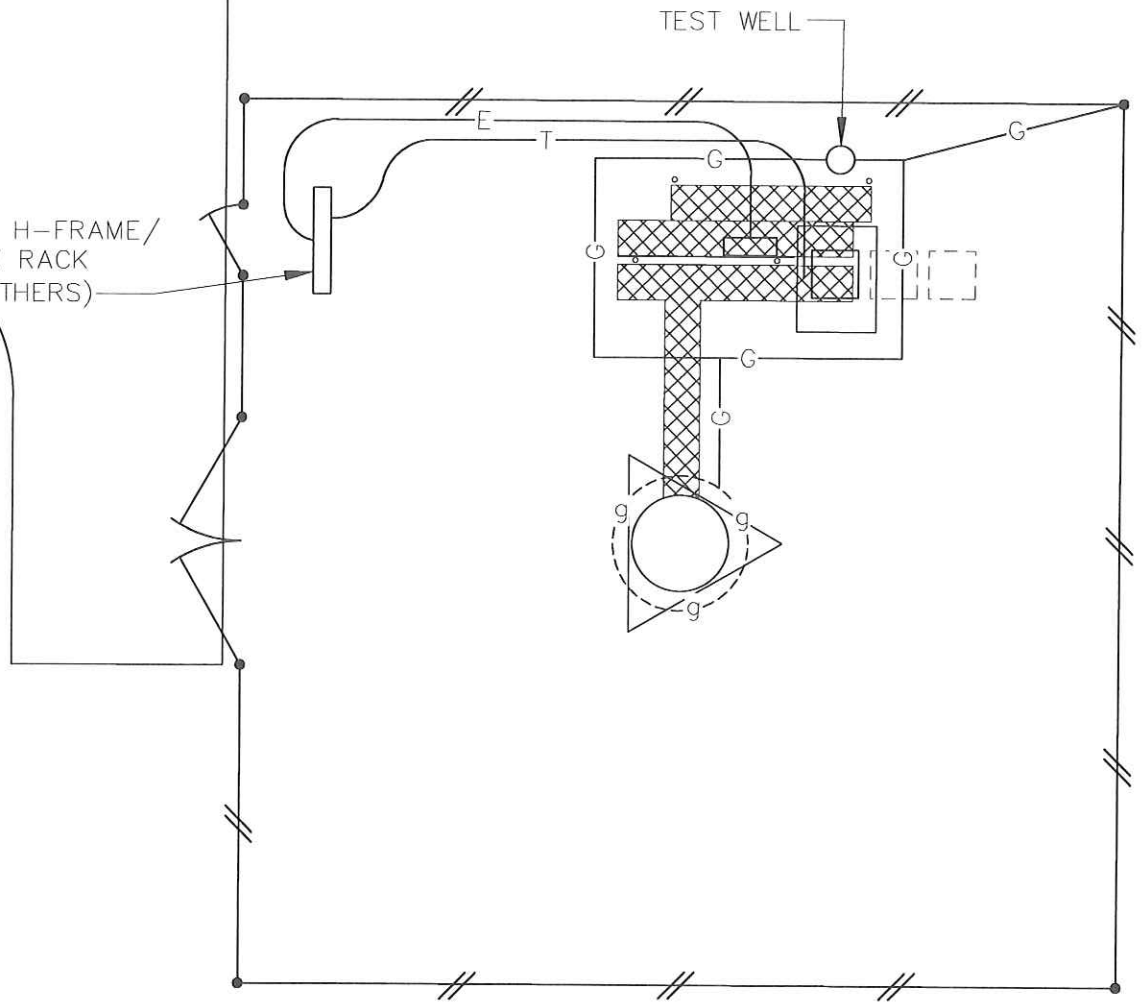


ONE LINE DIAGRAM
NOT TO SCALE

ELECTRICAL SYMBOL LIST

— UGT/UGP —	UNDERGROUND TELEPHONE/UNDERGROUND POWER
— OHT/OHP —	OVERHEAD TELEPHONE/OVERHEAD POWER
— G —	GROUNDING CONDUCTOR
— UC —	CONDUIT UNDERGROUND
— FUSE —	FUSE, SIZE AND TYPE AS INDICATED.
— DISCONNECT —	DISCONNECT SWITCH, SIZE AS INDICATED, NON-FUSIBLE UNLESS FUSE SIZE IS SHOWN ALONG SIDE SWITCH.
— GRD ROD —	5/8" X 8'-0" .CU. GRD ROD 30" MIN. BELOW GRADE.
— TEST WELL GRD ROD —	5/8" X 8'-0" .CU. GRD ROD IN TEST WELL 30" MIN. BELOW GRADE.
— CB —	CIRCUIT BREAKER
— M —	UTILITY METER
— TR —	TRANSFORMER
— TEL —	EXIST. TELEPHONE LINE
— T —	PROP. TELEPHONE LINE
— E —	EXIST. ELECTRIC LINE
— E —	PROP. ELECTRIC LINE
— G —	PROP. GROUNDING LINE
— G —	PROP. GROUNDING LINE (BY OTHERS)

PROP. H-FRAME/
METER RACK
(BY OTHERS)

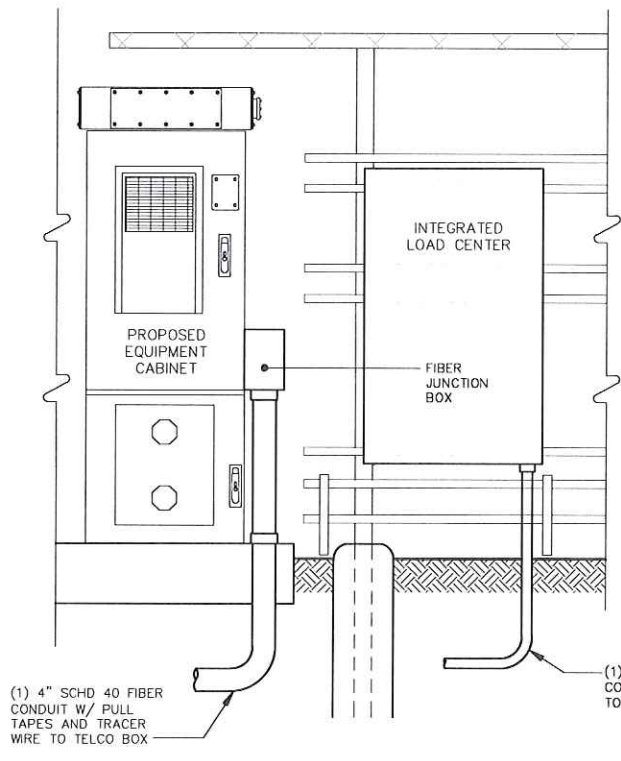
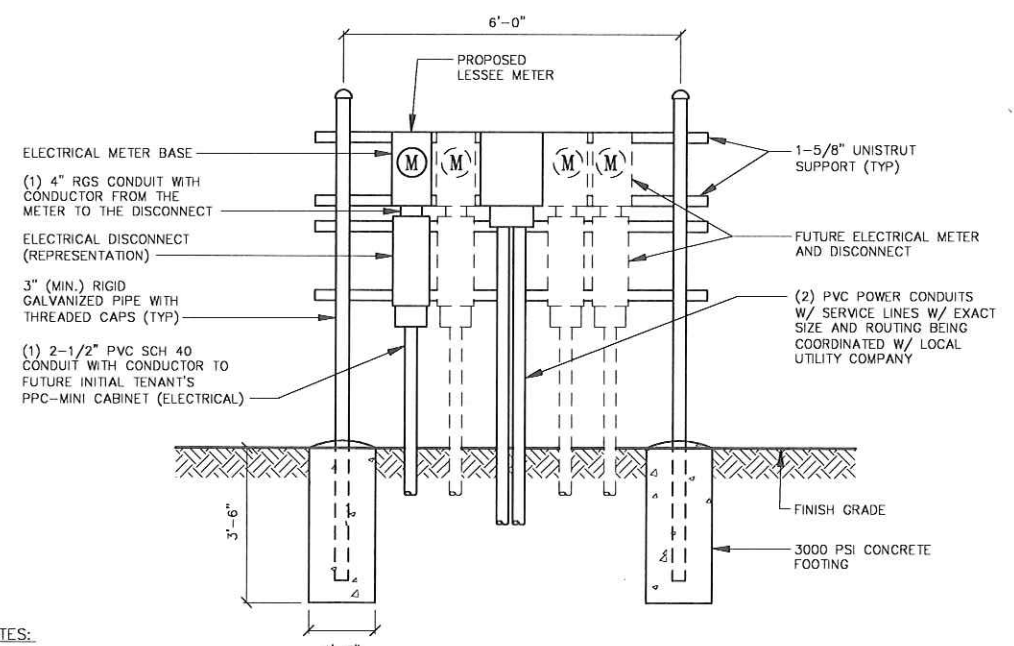


ELECTRIC/TELEPHONE/GROUNDING LAYOUT
SCALE: 1" = 5'

NOTE:
EXACT LOCATION OF TEST WELL AND ROUTE OF ELECTRIC & TELEPHONE LINES TO BE DETERMINED IN FIELD BASED ON FIELD CONDITIONS

ELECTRICAL - GENERAL NOTES

- PROVIDE 2 PULL STRINGS SECURELY FASTENED AT EACH END OF ALL CONDUITS. THE PULL STRINGS ARE TO BE 200 LB. TEST POLYETHYLENE CORD. PROVIDE A CAP ON THE END OF EACH CONDUIT AND MARK AS SHOWN ON THE ENLARGED SITE PLAN.
- STOP THE POWER AND TELCO CONDUITS 8 FEET MAXIMUM BEYOND THE FENCE. STUB CONDUITS UP 2'-0" ABOVE FINISHED GRADE. CAP AND LABEL.
- THE CONTRACTOR SHALL LOCATE ALL EXISTING UNDERGROUND POWER, TELCO AND GROUNDING CONDUITS AND/OR WIRES PRIOR TO TRENCHING. ANY DAMAGE CAUSED TO THE EXISTING UNDERGROUND SERVICES OR SYSTEMS SHALL BE REPAIRED AT THE CONTRACTOR'S EXPENSE. VERIFY WITH UTILITY NEW SERVICE HAS BEEN APPLIED FOR.
- ALL GROUNDING CABLE IN CONCRETE SHALL BE IN SEAL TIGHT. NO METALLIC CONDUIT IS TO BE USED FOR GROUNDING CONDUCTOR SLEEVES.
- DO NOT INSTALL BURIED GROUND RING OUTSIDE OF PROPERTY LINE. NOTIFY OWNER 24 HOUR IN ADVANCE WHEN THE BURIED GROUND RING IS INSTALLED SO THAT A REPRESENTATIVE CAN INSPECT THE GROUND RING BEFORE IT IS BACKFILLED WITH SOIL.
- ALL EXTERIOR GROUNDING CONDUCTORS INCLUDING GROUND RING SHALL BE #2 AWG SOLID TINNED COPPER. MAKE ALL GROUND CONNECTIONS AS SHORT AND DIRECT AS POSSIBLE. AVOID SHARP BENDS. ALL BENDS SHALL BE A MINIMUM OF 8" RADIUS AND GREATER THAN 90°. GROUNDING CONDUCTORS SHALL BE ROUTED DOWNWARD TOWARD BURIED GROUND RING.
- ALL EXOTHERMIC WELDS TO BURIED GROUND RING SHALL BE THE PARALLEL TYPE, EXCEPT FOR THE GROUND RODS WHICH ARE SPICE EXOTHERMIC WELDS. ALL CADWELDS SHALL BE COLD GALVANIZED EXCEPT FOR COPPER TO COPPER. REPAIR ALL GALVANIZED SURFACES THAT HAVE BEEN DAMAGED BY EXOTHERMIC WELDING.
- WHERE MECHANICAL CONNECTORS (TWO-HOLE OR CLAMP) ARE USED, APPLY A LIBERAL PROTECTIVE COATING OF AN ANTI-OXIDE COMPOUND ON ALL CONNECTORS. PROVIDE LOCK WASHERS ON ALL MECHANICAL CONNECTORS. USE STAINLESS STEEL HARDWARE THROUGHOUT. THOROUGHLY REMOVE ALL PAINT AND CLEAN ALL DIRT FROM SURFACES REQUIRING GROUND CONNECTIONS. REPAIR TO MATCH EXISTING AFTER CONNECTION IS MADE TO MAINTAIN CORROSION RESISTANCE. ALL GROUND CONNECTIONS SHALL BE APPROVED FOR THE TYPES OF METALS BEING ATTACHED TO.
- EXOTHERMICALLY WELD GROUNDING CONDUCTOR TO COMMUNICATION STRUCTURE MINIMUM 1'-0" ABOVE TOWER FLANGE AND BOND TO BURIED GROUND RING WITHIN A 3/4" FLEXIBLE CONDUIT SLEEVE. VERIFY BEND IS 45 DEGREES FROM GROUND TO TOWER.
- THE TOP OF THE UTILITY METER GROUND ROD SHALL BE 6" ABOVE THE SUB-GRADE OR PER LOCAL JURISDICTION REQUIREMENTS.
- CONTRACTOR SHALL PERFORM MEC TESTS (GROUND RESISTANCE) ON THE GROUNDING SYSTEM. CONTRACTOR SHALL SEND RESULTS TO THE CONSTRUCTION MANAGER. SHALL BE TESTED TO 5 OHMS OR LESS.
- ALL CONDUCTORS SHALL BE COPPER TYPE THWN OR THHN INSULATION UNLESS OTHERWISE NOTED.
- SEE SHEET E2 FOR DETAILED EQUIPMENT PAD GROUNDING DIAGRAM. SEE SHEET E3 FOR GROUNDING DETAILS.



ELECTRICAL & TELCO DIAGRAM
NOT TO SCALE

NOTES:

THE LAYOUT SHOWN IS SCHEMATIC AND IS INTENDED TO SHOW THE REQUIRED CONDUIT CONFIGURATION.

THE LAYOUT SHOWN OMITTS SOME EQUIPMENT FOR CLARITY.

FOR ADDITIONAL NOTES SEE CONSUMERS ENERGY DETAIL FOR COMMUNICATION TOWERS.

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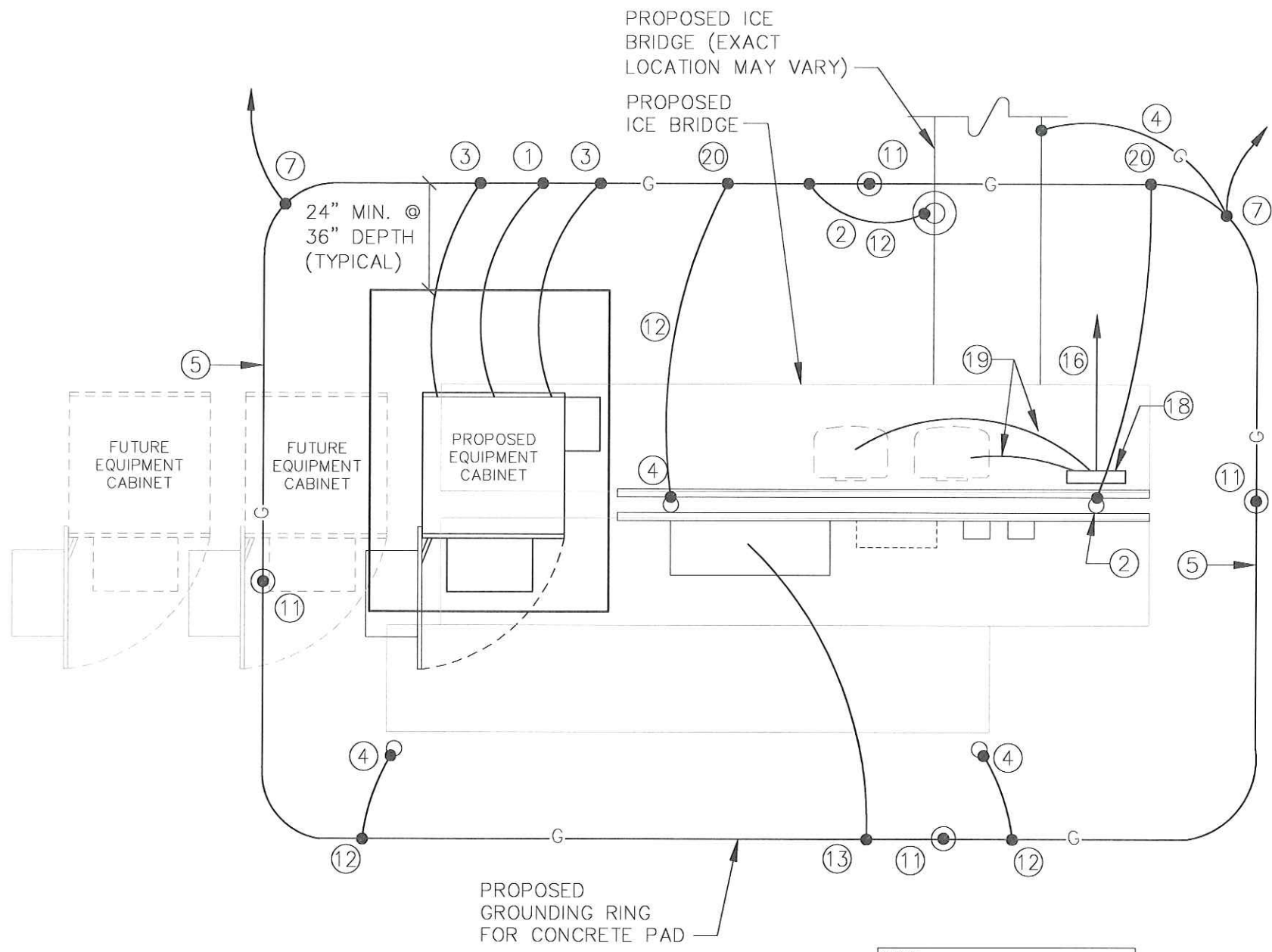


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GILMORE TOWNSHIP, ISABELLA COUNTY, MICHIGAN
POWER, TELCO & GROUNDING LAYOUT

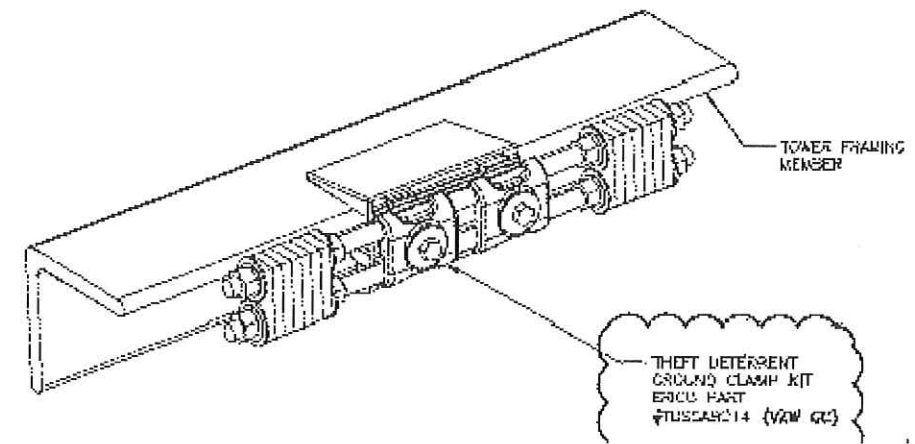
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EQUIPMENT PAD GROUNDING PLAN
NOT TO SCALE

NOTE:
SEE SHEET E1 FOR SITE SPECIFIC
GROUND DESIGN DRAWINGS FOR
GROUNDING NOTES AND DETAILS



GROUND BAR DETAIL
NOT TO SCALE

LEGEND	
BBG	BATTERY BAY GROUND
CEPSC	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
GRE	GROUND ROD ELECTRODE
IBSG	ICE BRIDGE SUPPORT GROUND
OGB	OVP GROUND BAR
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 BAR
UG	UFER GROUND (PIER FOUNDATION)
●	CABLE TO CABLE CADWELDED CONNECTION
○	GROUND ROD, CADWELDED TO GROUNDING WIRE
—G—	PROP. GROUNDING LINE
- - -G- - -	PROP. GROUNDING LINE (CPAD ALTERNATE)

EQUIPMENT GROUNDING REFERENCE NOTES:

- ① BBG: CONNECT THE 1 - 2/0 AWG INSULATED STRANDED COPPER GROUND WIRE TO THE BATTERY BAY GROUND. CONNECTION TO THE BURIED EXTERIOR ELECTRODE GROUND RING (EER) SHALL BE CADWELDED. CONNECTION TO THE GROUND BAR IN THE BATTERY BAY SHALL BE MECHANICAL. ROUTE LEAD IN LIQUIDTIGHT FLEXIBLE NONMETALLIC CONDUIT.
- ② CEPSC: INSTALL THE THEFT DETERRENT GROUND POST ASSEMBLY FOR THE COAX ENTRY PROTECTION SYSTEM TO THE POST. CONNECT THE EER TO THE POST WITH 1 - 2 AWG BARE SOLID TINNED COPPER GROUND WIRE. THE CONNECTION TO THE POST SHALL BE CADWELDED. REFER TO THE GENERAL INSTALLATION GUIDE AS SUPPLIED WITH THEFT DETERRENT POST MOUNT GROUND ASSEMBLY.
- ③ CG: INSTALL 2 AWG BARE SOLID TINNED COPPER GROUND WIRE WITH TWO HOLE LONG BARREL LUGS, 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 ANTIOXIDANT COMPOUND BETWEEN METAL AND WASHER. ROUTE LEAD IN GALVANIZED FLEX CONDUIT CRIMPED TO LEAD AT 6" O.C. ALL LEADS SHALL BE DRESSED TO REDUCE TRIP HAZARDS. CONNECTION TO EER SHALL BE CADWELDED.
- ④ CSG: INSTALL 1 - 2 AWG BARE SOLID TINNED COPPER GROUND WIRE FROM EER TO THE ICE BRIDGE CHANNEL. CONNECTION TO EER AND ICE BRIDGE CHANNEL SHALL BE CADWELDED.
- ⑤ EER: INSTALL 2 AWG BARE SOLID TINNED COPPER BURIED EXTERIOR ELECTRODE GROUND RING (EER) AROUND RADIO EQUIPMENT PAD AND TOWER BURIED AT 42" OR 6" BELOW FROST LINE (WHICHEVER IS GREATER). MAINTAIN 24" FROM EQUIPMENT PAD AND TOWER FOUNDATIONS MINIMUM.
- ⑥ FEG: N/A
- ⑦ FG: INSTALL 1 - 2 AWG BAR SOLID TINNED COPPER GROUND WIRE FROM EER TO GROUNDING WIRE AROUND PERIMETER OF FENCED COMPOUND. CONNECTION BETWEEN WIRES SHALL BE CADWELDED.
- ⑧ GRE: INSTALL GROUND RODS TO 42" BELOW FINISH GRADE (OR 6" BELOW FROST LINE, WHICHEVER IS GREATER) AT A MINIMUM SPACING OF 10'-0" AROUND EQUIPMENT PAD, TOWER AND SITE EXTERIOR GROUND SYSTEM. CONNECTION TO EER SHALL BE CADWELDED.
- ⑨ IBSG: INSTALL 1 - 2 AWG BARE SOLID TINNED COPPER GROUND WIRE TO CONNECT EER TO ICE BRIDGE SUPPORT POST. CONNECTION TO EER AND ICE BRIDGE SUPPORT POST SHALL BE CADWELDED.
- ⑩ PEG: INSTALL 1 - 2 AWG BARE SOLID TINNED COPPER GROUND WIRE TO THE INTEGRATED LOAD CENTER SWITCH. CONNECTION TO THE GROUND BAR SHALL BE MECHANICAL. ROUTE LEAD IN GALVANIZED FLEXIBLE METALLIC CONDUIT CRIMPED TO LEAD AT 6" O.C. CONNECTION TO EER SHALL BE CADWELDED.
- ⑪ PCSG: N/A
- ⑫ TWG: CONNECT THE THEFT DETERRENT GROUND ASSEMBLY KIT FOR THE TOWER WAVEGUIDE GROUND DIRECTLY TO THE TOWER (SEE SITE SPECIFIC GROUNDING PLAN OF DESIGN DRAWINGS).
- ⑬ OGB: CONNECT THE THEFT DETERRENT GROUND ASSEMBLY KIT FOR THE RAYCAP GROUND DIRECTLY TO THE RAYCAP H-FRAME POST.
- ⑭ OGL: INSTALL 1 - 6 AWG GREEN INSULATED STRANDED COPPER GROUND WIRE FROM RAYCAP GROUND POINT TO RAYCAP GROUND BAR (TYPICAL FOR EACH RAYCAP). CONNECTION TO GROUND BAR SHALL BE MECHANICAL.
- ⑮ OHG: INSTALL 1 - 2 AWG BARE SOLID TINNED COPPER GROUND WIRE FOR THE RAYCAP H-FRAME SUPPORT POST AND CONNECT TO THE EER. CONNECTION TO THE POST AND THE EER SHALL BE CADWELDED.

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EQUIPMENT GROUNDING PLAN AND NOTES

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