

Zoning Board Agenda Memo

Date: August 16, 2016

To: Eric Boyd, Zoning Board Chair
Members of the Zoning Board of Appeals

From: Emily Rodman, Assistant Village Manager *ER*

RE: 1515 W. Ogden Avenue – SPECIAL USE PERMIT FOR CELL TOWER & VARIATION [#2016-05]

GENERAL BACKGROUND

T-Mobile and AT&T currently have wireless communication equipment located on the rooftop of the six-story building located at 1515 W. Ogden Avenue (the “H” building or motherhouse owned by the Sisters of St. Joseph of La Grange). The Sisters are proposing to deconstruct the existing building and construct a two-story building in its place (part of a separate Application for an Amendment to a PUD). The height of the two-story building will be insufficient for the two existing telecommunication providers. As a result, T-Mobile has submitted an application for a Special Use Permit to construct a monopole telecommunications tower and an Application for a Variation to exceed the maximum allowable height of a telecommunications tower by 25’.

The proposed tower will be located on property owned by the Sisters (see Exhibit “K” of Application – Site Location Map) generally located north of the existing parking lot between the Nazareth Academy softball field and the football field. The property is zoned I Institutional District. Construction of a new telecommunication tower in this zoning district requires a special use permit per the Village’s Zoning Code.

It should be noted that the Village of La Grange Park also has radio equipment located on the rooftop of the Sisters building which will require re-location should the building be deconstructed.

PROPOSED IMPROVEMENTS

The proposed tower will be a monopole structure designed to accommodate three wireless carriers, per the Village’s Zoning Code requirements. The proposed tower is 120’ tall, with a 5’ lighting rod, for a total height of 125’. The structure will be located within a 35’ by 40’ lease area and secured by a six foot high chain link fence. The ground area will house cabinets and associated equipment for the telecommunication providers. Access to the tower will be restricted to those entities that lease space on the tower and secured via a locked gate. A paved access drive will be constructed adjacent to the existing parking lot to provide vehicular access to the tower. The lease area will be screened by a combination of deciduous and evergreen trees. An access easement has been proposed that will run the entire length of the existing access from Ogden Avenue to the proposed lease area. The easement will grant rights to all carriers on the tower for ingress/egress to the leased area.

T-Mobile proposes to mount their equipment at 120’ and AT&T at 110’. T-Mobile and the Sisters have also agreed to allow the Village to mount its radio equipment on the tower (at 90’). The tower will be capable of accommodating a third carrier’s equipment at 100’.

While the application materials reference installations for both T-Mobile and AT&T, only the installation of the T-Mobile equipment is being considered at this time. AT&T will submit a separate application for Site Plan Review for the installation of their equipment at a later date.

SPECIAL USE PERMIT

Section 4.4.E of the Zoning Code states that a special use shall not be granted unless the Zoning Board of Appeals and Village make the following findings:

- 1. The establishment, maintenance and operation of the special use in the specific location proposed will not endanger the public health, safety or general welfare of any portion of the community.**

The proposed tower and wireless telecommunication equipment will not endanger the public, health, safety or general welfare of the community. T-Mobile is in compliance with the Federal Communication Commission (FCC) standards for the operation of their equipment. The EME/RF Health & Safety Compliance Report (Exhibit "F" of Application") demonstrates compliance with FCC standards.

The proposed use will enhance existing wireless coverage in the community and access to service, thereby providing a public health and safety benefit. *See page 5 of the "Special Use and Variance Application for T-Mobile" narrative for additional details.*

- 2. The proposed special use is compatible with adjacent properties and/or other properties within the immediate vicinity of the special use.**

The location of the proposed tower was selected to minimize the aesthetic impact on neighboring properties. The proposed location is as far north from Ogden Avenue as possible, to minimize visibility from the public right-of-way and adjacent residential homes. The property to the north and west of the proposed location is owned by the Forest Preserve of Cook County. The property to the east of the proposed tower is leased by Nazareth Academy and includes the football field. The field has existing light poles that are 70' and 80' in height. The proposed tower, although taller than the light poles, will be placed further west and therefore will have a similar aesthetic impact as the light poles to neighboring property owners to the east.

- 3. The special use in the specific location proposed is consistent with the spirit and intent of this Code and the Comprehensive Plan.**

The Village's Comprehensive Plan does not address wireless telecommunication facilities. Section 11.3.R of the Zoning Code establishes standards for wireless telecommunication towers and equipment, which include:

- a. **Ensure public health, safety, convenience, comfort and general welfare.**
As previously noted, the proposed tower will be in compliance with FCC standards and will enhance public health, safety, and convenience and general welfare.
- b. **Ensure access to reliable wireless telecommunications services throughout the Village.**
Should the requested Amendment to the Bethlehem Woods Retirement Living Center be approved, the existing T-Mobile and AT&T equipment installations will be removed. Construction of the proposed tower will allow for the existing service to continue and be enhanced. The reliability of service will be negatively impacted without the ability to re-locate the existing wireless telecommunication equipment.
- c. **Encourage the use of existing towers and other structures for the collocation of wireless telecommunication antenna.**
The Applicant has demonstrated that there are no other structures within a 1 mile radius that could adequately house the wireless telecommunication equipment (Exhibit "I" of Application). The proposed tower is being constructed in a manner that will support the collocation of three carriers, as required by the Zoning Code.
- d. **Encourage the location of towers, to the extent possible, in areas where the adverse impact on the Village will be minimal and preferably in non-residential, as opposed to residential, districts.**
The proposed tower location is on property zoned as I Institutional District and located as far from public right-of-way and single-family residences as possible. The proposed location is the only location within a 1 mile radius that meets the minimum coverage needs for the wireless telecommunication carriers.
- e. **Minimize the potential adverse effects associated with the construction of wireless telecommunication towers through implementation reasonable design, landscaping and construction practices.**
The propose tower will be located on a parcel that is surrounded by the Forest Preserve of Cook County on two sides (north and west). The proposed plan includes fencing and landscaping that comply with the screening requirements of the Zoning Code.

VARIATION

According to the Zoning Code, a variation request must meet each of the following criteria in order for a variance to be granted.

- a. **The strict application of the terms of the Zoning Code will result in undue hardship unless the specific relief requested is granted.**

The Applicant is requesting a variation from the maximum permitted height of a telecommunications tower which is 100' to allow for the construction of a 125' tower. The Applicant asserts that if the variance is not granted and the tower were to be constructed in strict conformance with the Zoning Code, 25% of the Applicants coverage area would not have sufficient wireless coverage. Additionally, co-locating carriers would also not be able to provide adequate coverage to the area. Section 11.3.R.4 of the Zoning Code states "A tower may exceed the maximum height if the Village finds that the exception is necessary for colocation purposes." See page 8 of the "Special Use and Variance Application for T-Mobile" narrative for additional details.

- b. The plight of the owner is due to unique circumstances inherent to the subject property and not from the personal situation of the owner.**

The need to construct the proposed wireless telecommunication tower is predicated on the deconstruction of the six-story structure ("H" building) at the Sisters of St. Joseph of La Grange complex, which current houses the Applicant's telecommunication equipment. See page 8 of the "Special Use and Variance Application for T-Mobile" narrative for additional details.

- c. The variation, if granted, will not alter the essential character of the locality.**

The proposed height variance of 25' will have a negligible visual impact and will not alter the character of the neighborhood. There are two existing 80' light poles and two 70' light poles on the neighboring property (Nazareth football field) which aesthetically do not significantly differ from the proposed telecommunications tower.

FALL ZONE SETBACK

Section 11.3.R.3.a of the Zoning Code requires that "a fall zone shall be constructed around any wireless telecommunications tower equal to one-hundred twenty five percent (124%) of the height of the tower." The Applicant is requesting that the required fall zone setback be eliminated, as the tower is designed to a zero fall radius. Although not designed to fail, the design enables the pole to fail through a combination of bending and buckling in the upper portion of the pole so that it "folds over" the intact lower half resulting in a fall radius within the leased property area.

Section 11.3.R.3.b of the Zoning Code states that, "the Village may reduce the required fall zone as part of the special use approval, but the Village must find that the tower is less visible as a result and that safety is not compromised. Such a reduction in the fall zone setback shall require submission of a written instrument signed by all adjoining property owners, and duly notarized, agreeing to such modification." The required fall zone setback falls entirely within property owned by the Sisters, so no approval from adjacent property owners is needed. Since the tower is designed to a zero fall radius, eliminating the fall zone setback would not compromise safety.

STAFF RECOMMENDATION

The proposed telecommunication tower meets the standards set forth in the Zoning Code for Special Use Permits. The proposed location is as far as feasible from adjacent single-family properties to minimize the visual impact of the tower. The proposed tower height is necessary in order to provide adequate coverage to the service area and to meet the Village's minimum co-location requirements. The tower has been designed to a zero-fall radius, should the tower fail, as certified by State of Illinois Professional Engineer.

Staff recommends the Zoning Board of Appeals recommend to the Village Board of Trustees of:

1. Approval of a Special Use Permit for a wireless telecommunication tower to be located on the subject property, with a zero fall zone setback.
2. Approval of a Variation for a wireless telecommunication tower to be constructed up to 125' in height on the subject property.

DOCUMENTATION

- Attachment 1 – Application for Special Use Permit for a Wireless Telecommunications Tower
Application for a Variation
 - Project Summary & Approval Standards for SUP & Variation
 - Exhibit A – Construction Drawings (T-Mobile)
 - Exhibit B – Maintenance Plan
 - Exhibit C – Coverage Areas
 - Exhibit D – Radio Frequency Justification
 - Exhibit E – Service Area of Proposed Equipment
 - Exhibit F – EME/RF Study
 - Exhibit G – Description of Applicants Interest in the Property
 - Exhibit H – Identity/Address of Owners and Persons with Real Property Recorded Interest in Tower
 - Exhibit I – Collocation Opportunities
 - Exhibit J – Certification by State of Illinois Professional Engineer Regarding Structure Failure
 - Exhibit K – Visual Simulations
 - Exhibit L – Fall Zone Setback
- Attachment 2 – Public Hearing Notice to Adjacent Property Owners

C: Mark Boehlke – Hoffman Planning, Design & Construction (on behalf of Applicant)
Adam Kauffman – NTP Wireless (on behalf of Applicant)
Julia Cedillo, Village Manager
Dean Maggos, Director of Fire & Building
Paul Flood, Village Engineer
Cathy Keating, Village Attorney



APPLICATION FOR ZONING SPECIAL USE PERMIT

ADDRESS OF SUBJECT PROPERTY: 1515 W Ogden

NAME OF APPLICANT(S): NTP Wireless as agent for T-Mobile Central LLC

INTEREST IN PROPERTY: Leasehold

ADDRESS: 520 W Erie St, Suite 400

CITY, STATE, ZIP: Chicago, IL 60654

EMAIL: adam.kauffman@ntpwireless.com PHONE: 773-818-0041 FAX: 773-275-5713

NAME OF PROPERTY OWNER/TRUSTEE(S): Sisters of St. Joseph of LaGrange

ADDRESS: 1515 W Ogden Ave

CITY, STATE, ZIP: La Grange Park, IL 60526

EMAIL: esutoris@csjoseph.org PHONE: 708-482-5017 FAX: _____

NAME OF ATTORNEY (IF APPLICABLE): _____

ADDRESS: _____

CITY, STATE, ZIP: _____

EMAIL: _____ PHONE: _____ FAX: _____

NAME OF ENGINEER (IF APPLICABLE): _____

ADDRESS: _____

CITY, STATE, ZIP: _____

EMAIL: _____ PHONE: _____ FAX: _____

NAME OF ARCHITECT (IF APPLICABLE): W-T Communication Design Group, LLC.

ADDRESS: 2675 Pratum Ave

CITY, STATE, ZIP: Hoffman Estates, IL 60192

EMAIL: ryan.madsen@wtengineering.com PHONE: 224-293-6433 FAX: 224-293-6444

VILLAGE PERSONAL: Provide the following information for any officer or employee of the Village with an interest in the Owner, Applicant, Consultant or the Subject Property and the nature and extent of that interest.

NAME: N/A

ADDRESS: _____

CITY, STATE, ZIP: _____

EMAIL: _____ PHONE: _____ FAX: _____

NATURE/EXTENT OF INTEREST: N/A



PERMANENT INDEX NUMBER OF SUBJECT PROPERTY (TAX ID NO.): 15-32-400-013

CURRENT ZONING CLASSIFICATION: Institutional (I)

ADJACENT ZONING CLASSIFICATION:

NORTH: Open Space (OS)

SOUTH: I & R-1A

EAST: I

WEST: OS & R-1A

ZONING STANDARDS/STATEMENT OF COMPLIANCE:

REQUIREMENT	CODE SECTION	CODE REGULATION	PROPOSED
MIN. LOT AREA	N/A	N/A	N/A
MIN. LOT WIDTH	N/A	N/A	N/A
MIN. LOT DEPTH	N/A	N/A	N/A
MIN. FRONT SETBACK	N/A	N/A	N/A
MIN. INTERIOR SIDE SETBACK	N/A	N/A	N/A
MIN. CORNER SIDE SETBACK	N/A	N/A	N/A
MIN. REAR YARD SETBACK	N/A	N/A	N/A
BUILDING COVERAGE	N/A	N/A	N/A
IMPERVIOUS SURFACE COVERAGE	N/A	N/A	N/A
BUILDING HEIGHT	N/A	N/A	N/A
BUILDING HEIGHT SETBACK PLANE	N/A	N/A	N/A
LOADING*	N/A	N/A	N/A
PARKING*	N/A	N/A	N/A

**If there are parking or loading requirements for the Subject Property, please provide detailed calculation of both the required and proposed number of spaces.*

REQUIRED DOCUMENTATION: All required documents must be submitted in hard copy (2 copies) and in digital form (1 copy).

- STATEMENT OF AGREEMENT TO REIMBURSE COSTS (separate document)
- PROOF OF OWNERSHIP (current title policy report or deed and current title search)
- LEGAL DESCRIPTION
- PLAT OF SURVEY (certified by registered land surveyor)
- NEIGHBORING OWNERS/AFFIDAVIT OF MAILING* (see page 3)



* The Applicant must notify the occupants/tax assesses (as shown on the records of the Proviso Township Assessor) of all properties located within 250 feet of the boundary lines of the Subject Property, excluding public rights-of-way (see §3.3 of Zoning Code) of the date, time, place and purpose of the hearing on the Special Use Permit. The Village will prepare a legal Notice of Hearing. Applicant must mail the Notice not less than 15 nor more than 30 days prior to the scheduled hearing date to all occupants/tax assesses. The applicant/agent must then fill out, sign, and notarize the Affidavit of Mailing form, returning that form and the list of all persons, addresses and PIN numbers to which Notice was sent, to the Village.

SUMMARY OF PROPOSED SPECIAL USE: (Attach additional pages if necessary)

See attached.

ORDINANCE PROVISION: The specific provisions of the Zoning Code classifying the proposed use as a Special Use:
Section 11.R.2

APPROVAL STANDARDS FOR A SPECIAL USE PERMIT: No Special Use Permit shall be granted unless the Zoning Board of Appeals and the Village Board of Trustees make specific written findings based upon the standards noted below. Please provide the specific facts you believe support each of the required special use standards (you may attach additional pages if necessary).

a. The establishment, maintenance and operation of the special use in the specific location proposed will not endanger the public health, safety or general welfare of any portion of the community.

See attached.

b. The proposed special use is compatible with adjacent properties and/or other properties within the immediate vicinity of the special use.

See attached.

c. The special use in the specific location proposed is consistent with the spirit and intent of the Zoning Code and Comprehensive Plan.

See attached.



OWNER/APPLICANT REPRESENTATIONS:

The Owner states that he and/or she consent to the filing of this application and that all information contained herein is true and correct to the best of his and/or her knowledge.

Name of Owner (print): PATRICIA BERGEN CSJ Date: 7/1/16
 Signature of Owner: *Patricia Bergen CSJ* Date: 7/1/16

The applicant certifies that all of the information contained in this application is correct to the best of applicant's knowledge. The applicant understands that an incomplete or nonconforming application will not be considered. In addition, the applicant understands that the Village may require additional information prior to the consideration of this application.

Name of Applicant (print): Adam M. Kauffman Date: 6/30/16
 Signature of Applicant: *Adam M. Kauffman* Date: 6/30/16

REVOCATION OF SPECIAL USE PERMIT

A special use permit may be revoked by the Village Board after a finding of the existence of any one of the following conditions or occurrence of any of the following events: 1) the operation of the special use ceases for a continuous period of 180 days; 2) the licenses or permits required for the operation or maintenance of the special use are not obtained or are subsequently terminated; 3) any of the provisions of the Zoning Code or the terms and conditions of the ordinance approving the special use are violated; 4) a building permit for the construction of the structure(s) for which the special use permit was granted is not issued (through no fault of the Village) within 1 year of the date on which the Village Board granted the special use permit; or 5) construction of the structure(s) for which the special use permit was granted is not completed within 2 years of the date on which the Village Board granted the special use permit.

CONDITIONS AND RESTRICTIONS ON SPECIAL USES

The Zoning Board of Appeals may recommend, and the Village Board may impose, such conditions and restrictions upon a special use permit as may be necessary or appropriate to protect the public interest, adjacent properties and property values. Failure to maintain such conditions and restrictions shall constitute grounds for revocation of the special use permit. The special use permit granted, as well as any conditions or restrictions imposed in connection with the special use shall be set forth in the ordinance approving the special use permit.

SIGN REQUIREMENTS FOR ALL PUBLIC HEARINGS

Under Section 3.3C of the Zoning Code, a sign provided by the Village of La Grange Park must be posted in front of the property at least 15 days, but not more than 30 days prior to the scheduled hearing. The Applicant must maintain the sign during the required time period.

APPLICATION FEE

An application fee of \$500.00, payable to the Village of La Grange Park, must accompany this Application.

REIMBURSEMENT OF FEES REQUIRED DEPOSIT AMOUNT

A deposit in the amount of \$1,000.00, payable to the Village of La Grange Park, must accompany this Application and the executed Reimbursement of Fees Agreement.



APPLICATION FOR ZONING VARIATION

ADDRESS OF SUBJECT PROPERTY: 1515 W Ogden Ave

NAME OF APPLICANT(S): NTP Wireless as agent for T-Mobile Central LLC

INTEREST IN PROPERTY: Leasehold

ADDRESS: 520 W Erie St, Suite 400

CITY, STATE, ZIP: Chicago, IL 60654

EMAIL: adam.kauffman@ntpwireless.com PHONE: 773-818-0041 FAX: 773-275-5713

NAME OF PROPERTY OWNER/TRUSTEE(S): Sisters of St. Joseph of LaGrange

ADDRESS: 1515 W Ogden Ave

CITY, STATE, ZIP: La Grange Park, IL 60526

EMAIL: esutoris@csjoseph.org PHONE: 708-482-5017 FAX: _____

NAME OF ATTORNEY (IF APPLICABLE): _____

ADDRESS: _____

CITY, STATE, ZIP: _____

EMAIL: _____ PHONE: _____ FAX: _____

NAME OF ENGINEER (IF APPLICABLE): _____

ADDRESS: _____

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NATURE/EXTENT OF INTEREST: N/A



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ADJACENT ZONING CLASSIFICATION:

NORTH: Open Space (OS)

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BUILDING HEIGHT	N/A	N/A	N/A
BUILDING HEIGHT SETBACK PLANE	N/A	N/A	N/A
LOADING*	N/A	N/A	N/A
PARKING*	N/A	N/A	N/A

**If there are parking or loading requirements for the Subject Property, please provide detailed calculation of both the required and proposed number of spaces.*

REQUIRED DOCUMENTATION: All required documents must be submitted in hard copy (2 copies) and in digital form (1 copy).

- STATEMENT OF AGREEMENT TO REIMBURSE COSTS (separate document)
- PROOF OF OWNERSHIP (current title policy report or deed and current title search)
- LEGAL DESCRIPTION
- PLAT OF SURVEY (certified by registered land surveyor)
- DRAWING (TO SCALE) DEPICTING PROPOSED IMPROVEMENTS
- NEIGHBORING OWNERS/AFFIDAVIT OF MAILING* (see page 3)



* The Applicant must notify the occupants/tax assesses (as shown on the records of the Proviso Township Assessor) of all properties located within 250 feet of the boundary lines of the Subject Property, excluding public rights-of-way (see §3.3 of Zoning Code) of the date, time, place and purpose of the hearing on the Variation. The Village will prepare a legal Notice of Hearing. Applicant must mail the Notice not less than 15 nor more than 30 days prior to the scheduled hearing date to all occupants/tax assesses. The applicant/agent must then fill out, sign, and notarize the Affidavit of Mailing form, returning that form and the list of all persons, addresses and PIN numbers to which Notice was sent, to the Village.

SUMMARY OF PROPOSED VARIATION: A statement of the precise variation being sought, the purpose therefor, and the specific feature of features of the proposed use, construction, or development.
See attached

ORDINANCE PROVISION: The specific provisions of the Zoning Code from which a variation is sought:
Section 11.R.5

MINIMUM VARIATION: A statement of the minimum variation of the provisions of the Zoning Ordinance that would be necessary to permit the proposed use, construction, or development.
The minimum height variation necessary is 25'.

APPROVAL STANDARDS FOR A VARIATION: No variation from the provisions of the Zoning Code shall be granted unless the Zoning Board of Appeals and the Village Board of Trustees make specific written findings based upon the fstandards noted below. Please provide the specific facts you believe support each of the required variation standards (you may attach additional pages if necessary).

a. *The strict application of the terms of the Zoning Code will result in undue hardship unless the specific relief requested is granted.*
See attached.

b. *The plight of the owner is due to unique circumstances inherent to the Subject Property and not from the personal situation of the owner.*
See attached.



- c. **The variation, if granted, will not alter the essential character of the locality.**
 See attached.

EVIDENCE RELEVANT TO STANDARDS FOR A VARIATION: You may attach a statement, present testimony or evidence and the Zoning Board of Appeals and the Village Board of Trustees may inquire into the following issues, as well as any others deemed appropriate:

- a. The particular physical surroundings, shape or topographic conditions of the Subject Property impose a particular hardship upon the owner, as distinguished from a mere inconvenience, if the strict letter of the regulations were to be carried out.
- b. The alleged difficulty or hardship has not been created by any person presently having a proprietary interest in the Subject Property.
- c. The granting of the variation will not be detrimental to the public welfare in the neighborhood in which the Subject Property is located.
- d. The proposed variation will not impair an adequate supply of light and air to adjacent property, substantially increase congestion in the public streets, increase the danger of fire, endanger the public safety or impair property values within the neighborhood.
- e. The proposed variation is consistent with the spirit and intent of the Zoning Code and the Village's Comprehensive Plan.
- f. The value of the Subject Property will be substantially reduced (as compared with other properties in the same zoning district) if permitted to be used only under the conditions allowed by regulations governing that zoning district.

OWNER/APPLICANT REPRESENTATIONS:

The Owner states that he and/or she consent to the filing of this application and that all information contained herein is true and correct to the best of his and/or her knowledge.

Name of Owner (print): PATRICIA BERGEN CSJ Date: 7/1/16

Signature of Owner: *Ar Patricia Bergen CSJ* Date: 7/1/16

The applicant certifies that all of the information contained in this application is correct to the best of applicant's knowledge. The applicant understands that an incomplete or nonconforming application will not be considered. In addition, the applicant understands that the Village may require additional information prior to the consideration of this application.

Name of Applicant (print): Adam M. Kauffman Date: 6/30/16

Signature of Applicant: *Adam M Kauffman* Date: 6/30/16



LIMITATIONS ON VARIATIONS; REVOCATION

No variation shall be granted for relief prohibited by Section 4.3D of the La Grange Park Zoning Code.

No ordinance granting a variation shall be valid for a period longer than 180 days from the effective date of such ordinance. The Applicant must obtain a building permit for the particular construction or improvement for which the variation was issued and commence the construction or alteration within such 180 day period. The Zoning Board of Appeals may recommend, and the Village Board may grant, one (1) extension of this 180-day period, valid for not more than an additional 180 days, upon written application and good cause shown.

CONDITIONS AND RESTRICTIONS ON VARIATIONS

The Zoning Board of Appeals may recommend, and the Village Board may impose, such conditions and restrictions upon the location, construction, design and use of the Property benefitted by a variation as may be necessary or appropriate to protect the public interest, adjacent properties and property values. Failure to maintain such conditions and restrictions as may be imposed shall constitute grounds for revocation of the variation. The variation granted, as well as any conditions or restrictions on that variation, shall be set forth in the ordinance approving the variation.

SIGN REQUIREMENTS FOR ALL PUBLIC HEARINGS

Under Section 3.3C of the Zoning Code, a sign provided by the Village of La Grange Park must be posted in front of the property at least 15 days, but not more than 30 days prior to the scheduled hearing. The Applicant must maintain the sign during the required time period.

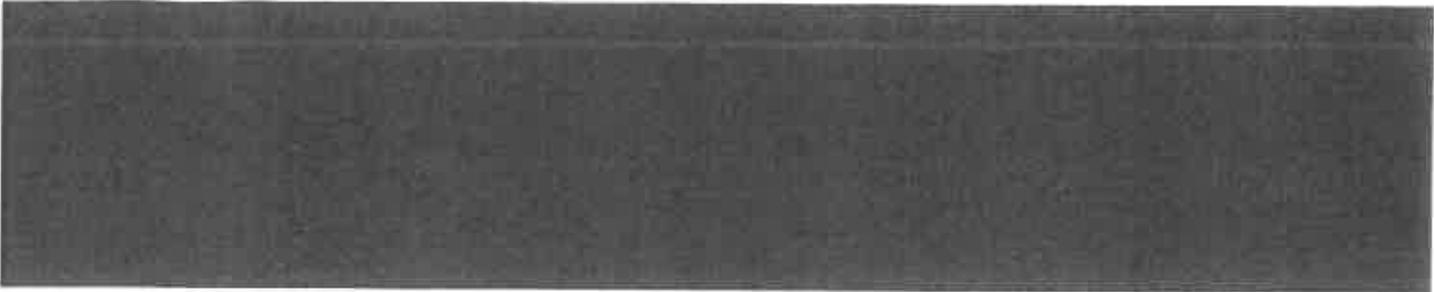
APPLICATION FEE

An application fee of \$500.00, payable to the Village of La Grange Park, must accompany this Application.

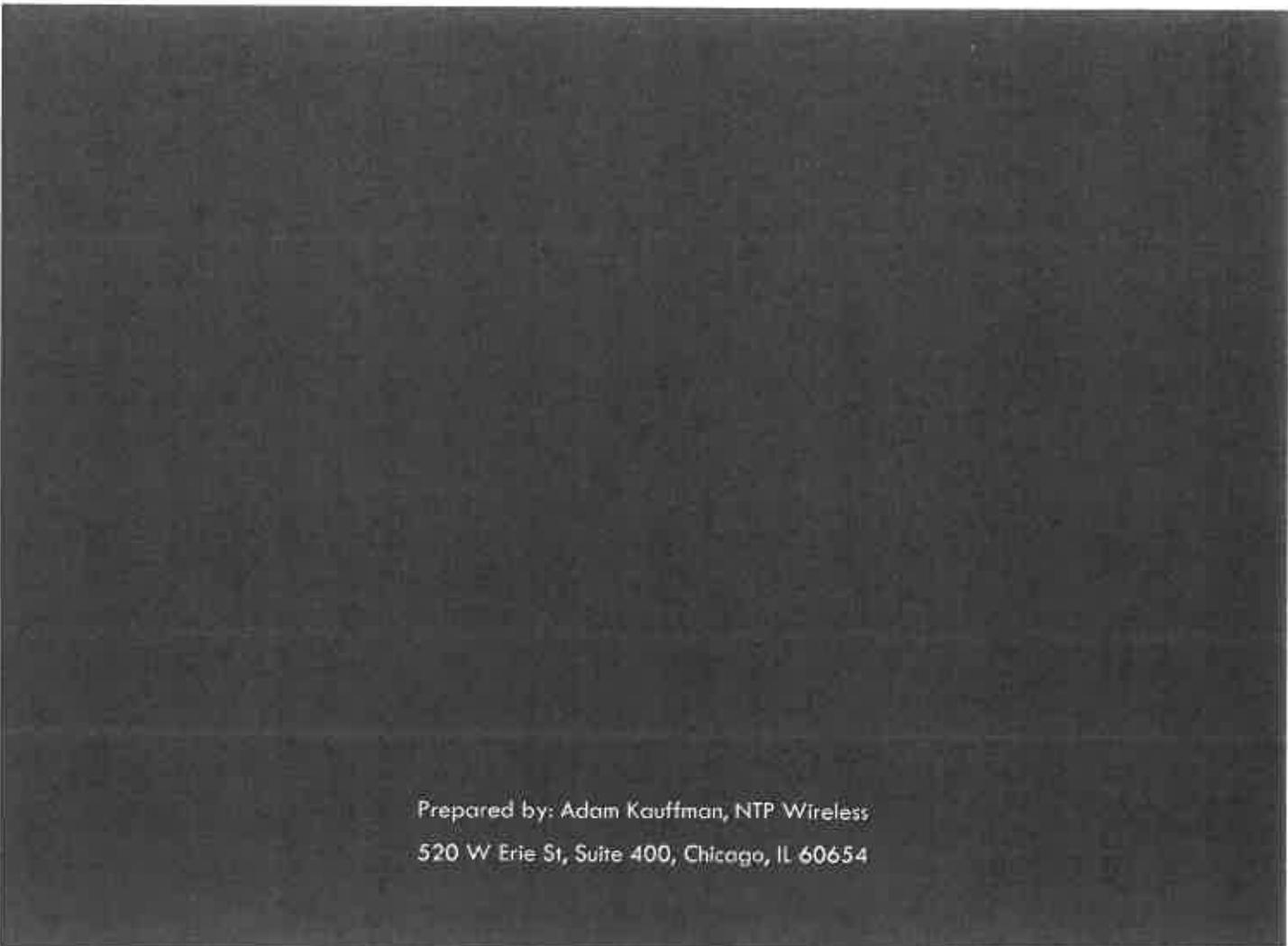
REIMBURSEMENT OF FEES REQUIRED DEPOSIT AMOUNT

A deposit in the amount of \$1,000.00, payable to the Village of La Grange Park, must accompany this Application and the executed Reimbursement of Fees Agreement.

Revised July 2013



**SPECIAL USE APPLICATION AND VARIANCE APPLICATION
FOR T-MOBILE CENTRAL LLC (“T-MOBILE”) FOR A 125’
COMMUNICATIONS TOWER LOCATED AT 1515 W OGDEN,
LA GRANGE PARK, IL 60526**



Prepared by: Adam Kauffman, NTP Wireless
520 W Erie St, Suite 400, Chicago, IL 60654

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Exhibit F: EME/RF Study	
Exhibit G: Description of applicant's interest in the property	
Exhibit H: The identity and address of all owners and other persons with a real property recorded interest in the communications tower	
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SUMMARY OF PROPOSED SPECIAL USE & VARIANCE FOR A 125' COMMUNICATIONS TOWER

T-Mobile Central LLC ("T-Mobile") seeks to construct a wireless communications tower on the property located at 1515 W Ogden in La Grange Park, IL with a property tax ID number of 15-32-400-013. The property is located in the Village of La Grange Park in Proviso Township and the underlying zoning district for the property is Institutional (I). The property is owned by the Sisters of St. Joseph. The subject parcel is used as a parking lot. The larger property owned by the Sisters of St. Joseph is used as a school (St. Nazareth), a mission, and administrative offices.

T-Mobile proposes to construct a 120 foot monopole tower (total height of 125 feet with 5-foot lightning rod) with T-Mobile equipment mounted at 120', AT&T equipment mounted at 110', and the Village of La Grange Park public safety equipment mounted at 90'. The tower will be capable of holding an additional co-locator at 100'. The tower will be built within a 35' x 40' fenced compound. Within this compound, AT&T will install an 11'-5" by 20-foot shelter, T-Mobile will install its ground equipment within a 10'x20' lease area, and the Village of La Grange Park will add equipment in a 5'x5' lease area. The fence surrounding the compound will be a 7-foot high security fence. As Exhibit C demonstrates, T-Mobile and AT&T have a demonstrated need to mount their equipment at 120' and 110' respectively in order to meet the service gap that will be created if the existing building is redeveloped from a 6-story to a 2-story building.

The compound and tower are designed to accommodate collocation by AT&T, T-Mobile, and the Village of La Grange Park, as well as one other telecommunication carrier. The site is an unmanned facility; therefore, no water or sewage service is necessary. The tower and compound will be accessed from Ogden Avenue (see Exhibit A).

The reason for the Special Use Permit and Variance application is to replace the existing telecommunications equipment currently co-located on the rooftop of the building located at 1515 W Ogden Avenue. The Sisters of St. Joseph have submitted a PUD to redevelop the property. The existing 6-story building will be torn down and replaced with a new 2-story structure, if the PUD is approved. Due to this planned re-development, T-Mobile, AT&T, and the Village of La Grange Park will need to locate equipment on a new tower structure. T-Mobile and AT&T will need to replace the existing coverage the current site provides in the area south of 31st Street, West of Route 12, along East Ogden Avenue, and just West of Wolf Road in La Grange Park, Western Springs, and La Grange. The Village will be continuing their public safety service.

The current Zoning Ordinance for the Village of La Grange Park ("Zoning Ordinance") states in §11.R. that a Special Use Permit is required for all communication towers in all districts with a maximum height allowed of 100'. Due to the proposed height of the Communications Tower, per §11.R.4., T-Mobile must submit a Variance Application of 25' for the height variation. The enclosed information demonstrates T-Mobile's compliance with §11.R of the Zoning Ordinance and justification for the relief from the Variance standards in §11.R.4.

If the Village of La Grange Park approves the SUP and Variance for T-Mobile to construct this tower, the enhancement of the Village of LaGrange Park's public safety system and the improved E-911 services from T-Mobile and AT&T will improve public safety in LaGrange Park.

APPROVAL STANDARDS FOR A SPECIAL USE PERMIT

- a. *Per the requirements of §11.R.2.a.i-iv, enclosed in this application package is a site plan showing:*
 - The location, size, screening and design of all buildings and structures, including fences.
 - The location and size of all outdoor equipment.
 - A landscape plan showing all screening.
 - The fall zone is shown as a shaded circle on the plans.
- b. *In compliance with §11.R.b, the applicant will provide a maintenance plan, and any applicable maintenance agreement, designed to ensure long-term, continuous maintenance to a reasonably prudent standard, including maintenance of landscaping, keeping the area free from debris and litter and immediate removal of any graffiti. (Exhibit B).*
- c. *In compliance with §11.R.c, the applicant has disclosed what is proposed (See Summary of Proposed Use on Page 3) and demonstrated the need for the wireless telecommunications antennas and towers (see Exhibit D-Radio Frequency Justification).*
- d. *In compliance with §11.R.d&e, Applicant has provided the reason for the placement and construction of the wireless telecommunications antennas and tower and demonstrated the service area of the proposed wireless telecommunications antennas and tower (See Summary of Proposed Use on Page 3, Exhibit D, Exhibit E, and Exhibit I).*
- e. *Per the requirements of §11.R.f, an EME/RF Study (Exhibit F) has been provided which documents both the individual carrier's contribution of radiofrequencies (RF) to the environment, and the cumulative effects of all RF sources at the site. The study documents where the "maximum permissible exposure" (MPE) is exceeded.*
- f. *As per the requirements of §11.R.g, the applicant is disclosing that it is leasing space on the property from the property owner (Exhibit G).*
- g. *As per the requirements of §11.R.h, the applicant has provided the identity and address of all owners and other persons with a real property recorded interests in the property, building, or structure upon which the antenna tower is proposed (Exhibit H).*
- h. *As per the requirements of §11.R.i., as the proposal is for a new telecommunications tower, a map is attached showing colocation opportunities within the Village and within areas surrounding the borders of the Village and justification for why colocation is not feasible, demonstrating the need for a new tower (Exhibit I).*
- i. *As per the requirements of §11.R.j, the applicant has provided a certification by a State of Illinois licensed and registered professional engineer regarding the manner in which the proposed structure will fail (Exhibit J).*
- j. *As per the requirements of §11.R.k., a visual simulation of the proposed support structure that illustrates the relationship between the height and the visual appearance of the structure is included in this application (Exhibit K).*
- k. *Per the Village of La Grange Park's code, a Fall Zone Setback of 125% of the height of the tower is required. The tower is proposed at 120' with a 5' lightning rod. The required Fall Zone Setback distance is 150' from the tower. Exhibit A details the fall zone setback in relation to the property lines.*
- l. *§11.R.3.a-c requires a fall zone setback equal to 125% of the height of the tower. Applicant is seeking a relief from the fall zone setback requirements. Exhibit L details the justification for this relief request.*

- m. §11.R.4 sets a maximum height of one-hundred (100) feet (including all attachments) for all wireless telecommunications towers. The proposed tower is 120' with a 5' lightning rod. The Village can find an exception, if the maximum height must be exceeded for collocation purposes. As T-Mobile must mount its equipment at a minimum height of 120', AT&T must mount its equipment at a minimum height of 110', an additional height of 100' must be left open for a future telecommunication provider collocation (as per §11.R.9.b.), and the Village of La Grange Park's Public Safety equipment will be mounted at 90'. The Applicant is seeking relief from the Village of La Grange Park's code on the maximum height restriction. Additional justification has been included in the variance application and provided on Exhibits D & E to support the request for a tower exceeding the maximum height allowed.**
- n. In accordance with §11.R.5., the tower will not be lit or marked, unless required by the Federal Communications Commission (FCC) or the Federal Aviation Administration (FAA). Based on current studies, there is no requirement from the FAA or FCC to light or mark the tower at this location.**
- o. As shown on Exhibit A, Site Plans, a landscaping plan is included that complies with §11.R.6.**
- p. Per §11.R.7.c., the antennas will be a similar color of the supporting structure to make the antenna less visually unobtrusive.**
- q. Per §11.R.8.b, all of the building, cabinets, and shelters on site will house only equipment and supplies for the operation of the wireless telecommunication tower. All equipment not used in direct support of the operation of the wireless telecommunication tower or operation of the equipment will not be stored on the site. The facility shall be un-staffed and does not include telecom hotels.**
- r. Per §11.R.8.c., signs for the wireless telecommunications facility shall be limited to ownership and contact information, FCC antenna registration number (if required), and any other information required by government regulation. There will be no commercial advertising as a part of the wireless telecommunications tower or installations.**
- s. Per §11.R.9.b & c., the area surrounding the tower and the tower itself is designed to accommodate three (3) telecommunications providers.**
- t. Per §11.R.9.d., the tower will have a galvanized silver or gray finish.**
- u. Per §11.R.11, if the tower is not operated for a period of one hundred eighty (180) consecutive days shall be considered abandoned and the owner of the tower will remove the tower within one hundred eighty (180) days of its abandonment.**
- v. In response to item #4 from the Village of La Grange Park Review Letter dated 5/17/16, the 12' access easement and 8' utility easement will be memorialized in a separate plat of survey for review after the SUP and Variance are approved. The easements will be recorded with Cook County.**
- w. In response to item #5 from the Village of La Grange Park review letter dated 5/17/16, the easements are being granted to T-Mobile and AT&T to bring power and telephone service to the compound and for access. The easement provisions will be included in the separate plat of survey that will be provided after the SUP and Variance are approved. The easements will be recorded with Cook County.**
- x. In response to item #6 from the Village of La Grange Park review letter dated 5/17/16, the access easement has been revised to reflect the east and west side of the private drive, to allow ingress and egress to the property and wireless communications tower compound. Exhibit A reflects this change.**

Answers to Special Use Permit Requirement Statements:

The establishment, maintenance, and operation of the special use in the specific location proposed will not endanger the public health, safety or general welfare of any portion of the community.

The proposed 125' (120' tower with a 5' lightning rod) Wireless Telecommunications Tower with T-Mobile, AT&T, and the Village of La Grange Park will not endanger the public health, safety, or general welfare of the community. T-Mobile and AT&T are both in compliance with the Federal Communication Commission ("FCC") standards for the operation of their equipment. The FCC, in consultation with numerous other agencies including the Environmental Protection Agency, the Food and Drug Administration, and the Occupational Safety and Health Administration, has developed safety standards designed to protect against adverse health effects. The FCC explains its standards "incorporate prudent margins of safety." T-Mobile and AT&T include a EME/RF Health & Safety Compliance Report demonstrating their compliance with the FCC standards (Exhibit F).

T-Mobile and AT&T, when their communication equipment is installed and operating on the new 125' Communications Tower, will enhance the public health, safety, and general welfare of the community. All of the equipment installed at site will enhance coverage in the community. The benefit to the public health and safety of the community is the increasing accuracy of the Enhanced 911 ("E-911") service. The E-911 service allows public safety answering points (PSAPs) to specifically locate users of wireless devices who dial 9-1-1, even if those users cannot communicate. As 76% of 9-1-1 calls originate from a cell phone (National Highway Traffic Administration, February, 2016), it is critical to the public safety that wireless devices have in-building coverage sufficient to make these calls. The Village of La Grange Park's public safety equipment mounted to this tower will enhance the safety of the community, as the system installed on the tower replaces the existing equipment installed on the existing 6-story building on the property.

In addition, AT&T, the Village of La Grange Park, and T-Mobile installing equipment on this proposed 125' Communications Tower will benefit the general welfare of the community, as robust wireless services are an economic benefit to the community. Wireless services are integral to the general welfare of the community, as evidenced by the following data:

- More than 75% of prospective home buyers prefer strong cellular connections when buying a home (Rootmetrics, June 2015).
- 35% of Americans reach for their smartphone first in the morning (CTIA, July 2015), underscoring the importance of in-building coverage.
- In the United States, mobile data traffic will grow 7-fold from 2014 to 2019, a compound annual growth rate of 47%. (Cisco VNI Mobile Forecast Highlights, 2014-2019, October 2015)
- In the US, there are 355 Million wireless devices for 319 million residents. (CTIA, "Facts and Infographics, June 2015).
- Robust public safety services enhance the general welfare of the community by reducing emergency responder's response times to life/safety emergencies.

The proposed special use is compatible with adjacent properties and/or other properties within the immediate vicinity of the special use.

The proposed special use is compatible with the adjacent properties. The specific location for the tower was chosen because the immediate parcels to the Northwest and North of the subject property are forest preserve property, so the tower will not be visible to any residents to the Northwest and North. The tower location was chosen because it is the farthest possible location from Ogden Avenue, so it will not be immediately visible upon entering or leaving La Grange or La Grange Park. The current location for the site (on top of the building slated for re-development) is highly visible from Ogden Avenue. The proposed redevelopment project (submitted separately as a PUD) will result in a more visually appealing, lower building with substantially lower density on Ogden Avenue. The parcel to the East of the proposed communications tower is currently used by St. Nazareth Academy for its sporting events. That parcel has two 80' light poles and two 70' light poles. The proposed communications tower's special use is compatible with all surrounding parcels current use.

The special use in the specific location proposed is consistent with the spirit and intent of the Zoning Code and Comprehensive Plan.

Per §R.1.A-E, "Wireless Telecommunications Antenna, Facility, and Tower" of the Zoning Code, the following standards are established for wireless telecommunications antennas, facilities, and towers:

- ***Ensure public health, safety, convenience, comfort, and general welfare.*** As stated as an answer to Approval Standards for a Special User Permit above, the construction of the communications tower will result in enhancements to the community's public health, safety, convenience, comfort, and general welfare.
- ***Ensure access to reliable wireless telecommunications services throughout the Village.*** If the PUD is approved, but the SUP & Variance Application for the Communications Tower is not approved, the Village will lose reliable access to wireless telecommunications services from AT&T and T-Mobile and public safety communications throughout the Village.
- ***Encourage the use of existing towers and other structures for the colocation of wireless telecommunications antenna.*** There are no existing structures suitable for the colocation of T-Mobile, AT&T, or the Village of La Grange Park's communications equipment if the existing 6-story building at 1515 W Ogden Avenue is redeveloped as a 2-story structure, as proposed in the PUD (Exhibit I).
- ***Encourage the location of towers, to the extent possible, in areas where the adverse impact on the Village will be minimal and preferably in non-residential, as opposed to residential, districts.*** The proposed communications tower will be located on an "Institutional" (non-residential) district at the location farthest from the public right-of-way, Ogden Avenue. The only other structure within 1 mile of the proposed tower that is over 60' tall is the chimney located at Park Jr. High School (325 N. Park Road, La Grange Park, IL 60526). Verizon's equipment will be placed at 70' on this structure, leaving 60' for AT&T and 50'

for T-Mobile. The chimney does not have sufficient verticality to meet the minimum coverage needs for either carrier. In addition, this location would then leave the Village of La Grange Park's public safety equipment at 40', which is 36' lower than its current elevation on the roof of the building at 1515 W Ogden Ave. None of these proposed elevations meet the minimum requirements for T-Mobile, the Village of La Grange Park, or AT&T's coverage needs.

- ***Minimize the potential adverse effects associated with the construction of wireless telecommunications towers through the implementation of reasonable design, landscaping, and construction practices.*** The proposed communications tower will be located on the parcel that is farthest from the public right-of-way, Ogden Avenue, in a location on the parcel that is adjacent to the Forest Preserve. The tower location was chosen because it is specifically as far as possible from the Ogden avenue public right-of-way and the residences to the East of the larger property owned by the Sisters of St. Joseph. The applicant has included a detailed landscape plan in the site plans (Exhibit A) enclosed with this application that meets the Village's Landscaping requirements, as per §11.R.6.a&b.

APPROVAL STANDARDS FOR A VARIATION

a. *The strict application of the terms of the Zoning Code will result in undue hardship unless the specific relief requested is granted.*

If the standards of the Zoning Code are applied strictly to this proposed 25' Height Variance, the undue hardships that will affect the owner, applicant, and co-location tenants on this tower are as follows:

- If the 25' height variance is not granted, T-Mobile's equipment would be mounted at 100'. At this elevation, 25% of the coverage area will not have sufficient in-building coverage. Residents of the Village of La Grange Park will experience hardship, as they will have degraded access to critical public safety and wireless services.
- If the 25' height variance is not granted, AT&T would need to mount its equipment at an elevation of 90'. At this elevation, AT&T's site would not provide the minimum level of coverage required. As a result, AT&T would need the Village of La Grange Park to grant a second Special Use Permit to AT&T for its own 100' tower on this parcel or a separate parcel in the same vicinity.
- If the 25' height variance is not granted, the Village of La Grange Park's public safety equipment will need to be mounted at 70', as T-Mobile will be at 100', AT&T will be at 90', and a future third co-locator will have space reserved at 80'. The Public Safety service in the vicinity will be degraded, which will be a hardship for residents of the community.
- Per §11.R.4, as part of the special use approval, a tower may exceed the maximum height if the Village finds that the exception is necessary for collocation purposes. The tower must exceed the maximum height of 100' to meet the minimum coverage requirements for T-Mobile, AT&T, and a future co-locator at 100'. As a result, the applicant is seeking relief from the height restriction of 100'.

b. *The plight of the owner is due to unique circumstances inherent to the Subject Property and not from the personal situation of the owner.*

The proposed PUD to redevelop the building where the communications equipment is currently co-located is a unique circumstance inherent to the Subject Property. The advancing age of the sisterhood and the needs of the community currently using the facility is driving the need to redevelop the property. The owner cannot control the fact that the needs of its community and members are changed, which is the reason for the renovation proposed. The building re-development requested by the owner is not a circumstance within the control of the owner, but rather a specific plight of the owner due to the unique circumstances inherent to the Subject Property's current use.

c. *The variation, if granted, will not alter the essential character of the locality.*

The request for a 25' height variance will not alter the essential character of the locality. The difference between a 100' tower and a 125' tower when there are two 80' and two 70' structures on the adjacent parcel is not aesthetically different for almost all residents and travelers through the Village of La Grange Park. As the location was specifically chosen to be as far as

possible from the public right-of-way, and as the Photo-Simulations (Exhibit K) visually demonstrate, the 125' tower would not alter the essential character of the locality. In addition, the property has had communications equipment on the rooftop of the building for over 10 years, and it has not altered the essential character of the locality.

Exhibit A-Construction Drawings

See site plans attached

T-Mobile® stick together®

SITE NUMBER: CH92341A

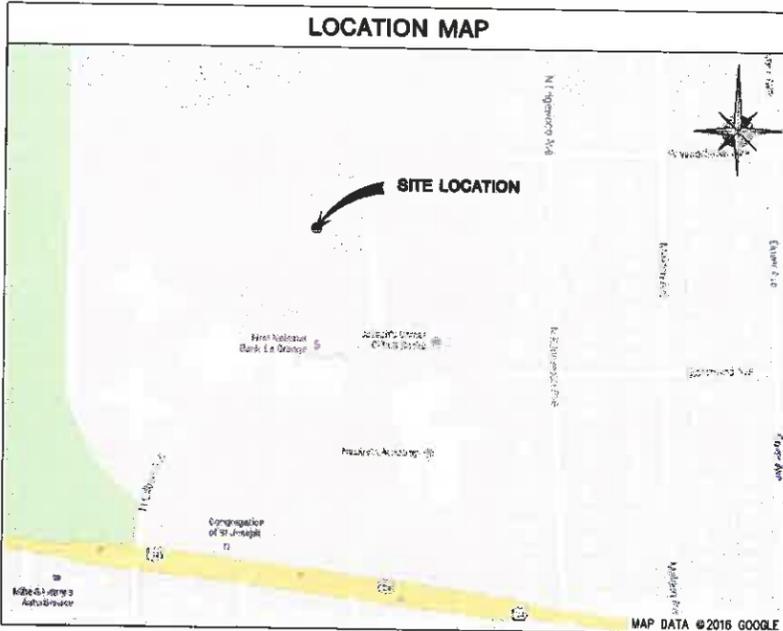
JURISDICTION: VILLAGE OF LA GRANGE PARK

SITE NAME: SISTERS OF ST. JOSEPH

CITY: LA GRANGE PARK

SITE TYPE: MONOPOLE

COUNTY: COOK COUNTY



PROJECT DESCRIPTION
 INSTALL T-MOBILE EQUIPMENT CABINET ON NEW PLATFORM AT GRADE. NO NEW WATER OR SEWER IS REQUIRED AS FACILITY IS UNMANNED.
INITIAL BUILD OUT:
 2 NEW ANTENNAS, 1 HCS, 4 COVPS, 2 CABINET, 10 RRU MODULES, 4 SYSTEM MODULES AT&T EQUIPMENT & PUBLIC SAFETY EQUIPMENT

PROJECT LOCATION
COORDINATES (NAD83):
 LAT: 41° 49' 21.47" 41.822631"
 LONG: -87° 53' 14.92" -87.887478"
 AMSL: 637.00'
 DATA OBTAINED FROM 1A DATED 07/01/16
SITE ADDRESS:
 1515 OGDEN AVENUE
 LA GRANGE PARK, IL 60526

PROPERTY SUMMARY
ASSESSOR'S PARCEL NUMBER (APN): 15 32 400 013 0000
ZONING: VILLAGE OF LA GRANGE PARK

DRIVING DIRECTIONS
 DIRECTIONS FROM O'HARE INTERNATIONAL AIRPORT:
 TAKE RAMP (RIGHT) ONTO I-190. TAKE EXIT 10 TOWARD I-294 S/INDIANA/S TOLLWAY. MERGE ONTO I-294 S. EXIT ONTO US-34 E/OGDEN AVE. MERGE ONTO US-34 E/OGDEN AVE. DESTINATION WILL BE ON THE LEFT. ARRIVE AT CH92341A - 1515 OGDEN AVENUE, LA GRANGE PARK, IL 60526.

PROJECT TEAM
A&E
 W-T COMMUNICATION DESIGN GROUP, LLC.
 2675 PRATUM AVENUE
 HOFFMAN ESTATES, IL 60192
 TEL: (224) 293-6333
 FAX: (224) 293-6444
 CONTACT: RYAN MADSEN
SITE ACQUISITION
 NTP WIRELESS
 320 WEST ERIE, SUITE 400
 CHICAGO, IL 60654
CIVIL ENGINEERING
 W-T CIVIL ENGINEERING, LLC.
 2675 PRATUM AVENUE
 HOFFMAN ESTATES, IL 60192
 TEL: (224) 293-6333
 FAX: (224) 293-6444
STRUCTURAL ENGINEER
 T.B.O.

CONTACTS
APPLICANT
 T-MOBILE USA
 8550 BRYN MAWR AVE., SUITE 100
 CHICAGO, ILLINOIS 60631
 TEL: (773) 444-5400
 CONTACT: TBD
PROPERTY OWNER CONTACT:
 SISTERS OF SAINT JOSEPH
 1515 W OGDEN AVE.
 LA GRANGE PARK, IL 60526

UTILITIES
ELECTRIC:
 COMED
 TEL: TBD
 CONTACT: N/A
TELEPHONE:
 AT&T
 TEL: TBD
 CONTACT: N/A

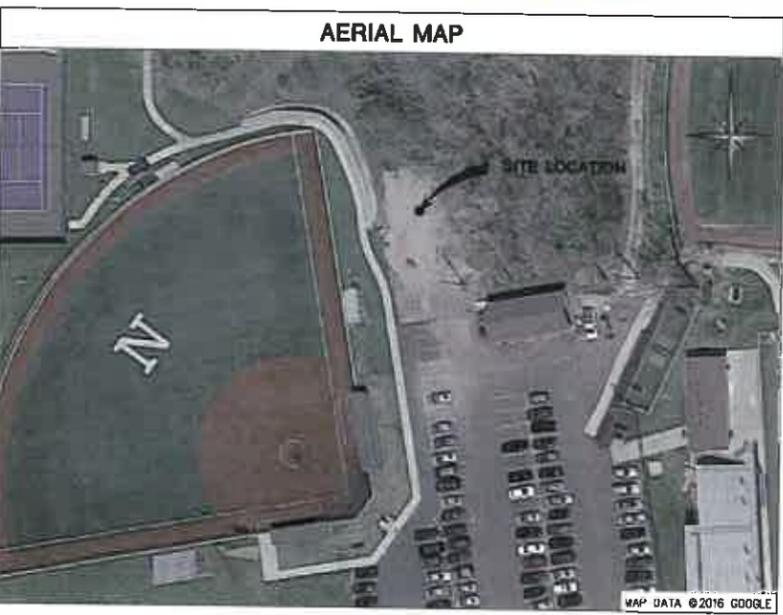
APPLICABLE CODES
 BUILDING CODE: 1996 BOCA BASIC NATIONAL BUILDING CODE
 ELECTRICAL CODE: 1996 NATIONAL ELECTRICAL CODE

APPROVALS
 PENDING APPROVAL OF THE JURISDICTION, THE FOLLOWING PARTIES HAVE REVIEWED THE DESIGN WITHIN THEIR FUNCTIONAL RESPONSIBILITIES AND HAVE APPROVED THIS PROJECT FOR CONSTRUCTION. CONTRACTORS MAY NOT START CONSTRUCTION WITHOUT A NOTICE TO PROCEED (NTP) FROM T-MOBILE.

	PRINT NAME	SIGNATURE	DATE
LANDLORD			
PRECON. MGR			
DEVELOP. MGR			
CONST. INSP.			
A&E MGR			
RF ENGINEER			
OPERATIONS			
ZONING REP			
UTILITIES			

SHEET INDEX

SHEET NUMBER:	DESCRIPTION:
T-1	TITLE SHEET
T-2	GENERAL NOTES & SPECIFICATIONS
T-3	GENERAL NOTES & SPECIFICATIONS
LS-1 THRU LS-3	LAND SURVEY
C-1	OVERALL SITE PLAN
C-2	ENLARGED SITE PLAN
C-3	EQUIPMENT ELEVATIONS
C-4	ICE BRIDGE, GPS & SITE DETAILS
C-5	FENCE DETAIL
L-1	LANDSCAPE PLAN
L-2	LANDSCAPE DETAILS
A-1	ELEVATION
A-2	ANTENNA PLAN
A-3	EQUIPMENT SPECIFICATIONS
A-3.1	EQUIPMENT SPECIFICATIONS
A-4	RF DATA SHEET
A-5	RISER DIAGRAM
A-6	ANTENNA CONFIGURATION SHEET
E-1	UTILITY PLANS
E-2	H-FRAME & UTILITY DETAILS
E-3	UTILITY RISER DIAGRAM & PANEL SCHEDULE
GR-1	GROUNDING PLAN
GR-2	GROUNDING PLANS
GR-3	GROUNDING DETAILS
GR-4	GROUNDING DETAILS
SG-1	OSHA SIGNAGE
PSE-1 THRU PSE-3	PLATFORM SHEETS (PROTOTYPICAL)
C-1.0	SITE DEMOLITION PLAN
C-2.0	SITE DEVELOPMENT PLAN
C-3.0	SITE GRADING PLAN
C-4.0	STORMWATER POLLUTION PREVENTION PLAN
C-5.0	CONSTRUCTION DETAILS
C-6.0	PROJECT SPECIFICATIONS
C-6.1	PROJECT SPECIFICATIONS



T-Mobile® stick together®
 8550 BRYN MAWR AVENUE, SUITE 100
 CHICAGO, ILLINOIS 60631

PLANS PREPARED BY:
W-T
W-T COMMUNICATION DESIGN GROUP, LLC.
 WIRELESS INFRASTRUCTURE
 2675 Pratum Avenue
 Hoffman Estates, Illinois 60192
 PH: (224) 293-6333 FAX: (224) 293-6444
 www.wtengr.com
 IL License No.: 154.006042 Exp: 04/30/17
 COPYRIGHT © 2016 W-T COMMUNICATION DESIGN GROUP, LLC.

SEAL:

 JEFFERY GUTOWSKY
 PROFESSIONAL ENGINEER
 STATE OF ILLINOIS
 LICENSE # 062-047235
 EXPIRES: 11/30/2017 SIGNED: 08/01/16

DATE DESCRIPTION BY REV:

DATE	DESCRIPTION	BY	REV.
08/05/15	LEASE EXHIBIT	JTB	A
08/10/15	PER CLIENTS COMMENTS	DAY	B
08/27/15	REVISION	JS	C
09/02/15	REVISION	JS	D
12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	O

SITE INFORMATION:
CH92341A
SISTERS OF ST. JOSEPH
 1515 OGDEN AVENUE
 LA GRANGE PARK, IL 60526
 W-T JOB NUMBER: T1505246

SHEET TITLE:
TITLE SHEET
SHEET NUMBER:
T-1

PLOT SCALE: 1:1 @ 11"x17"

GENERAL REQUIREMENTS:

- 1.1 INTENT**
THESE SPECIFICATIONS AND CONSTRUCTION DRAWINGS ACCOMPANYING THEM DESCRIBE THE WORK TO BE DONE AND THE MATERIALS TO BE FURNISHED FOR CONSTRUCTION.
2. THE DRAWINGS AND SPECIFICATIONS ARE INTENDED TO BE FULLY EXPLANATORY AND SUPPLEMENTARY. HOWEVER, SHOULD ANYTHING BE SHOWN, INDICATED OR SPECIFIED ON ONE AND NOT THE OTHER, IT SHALL BE DONE THE SAME AS IF SHOWN, INDICATED OR SPECIFIED IN BOTH.
3. THE INTENTION OF THE DOCUMENTS IS TO INCLUDE ALL LABOR AND MATERIALS REASONABLY NECESSARY FOR THE PROPER EXECUTION AND COMPLETION OF THE WORK AS STIPULATED IN THE CONTRACT.
4. THE PURPOSE OF THE SPECIFICATIONS IS TO INTERPRET THE INTENT OF THE DRAWINGS AND TO DESIGNATE THE METHOD OF THE PROCEDURE, TYPE AND QUALITY OF MATERIALS REQUIRED TO COMPLETE THE WORK.
5. MINOR DEVIATIONS FROM THE DESIGN LAYOUT ARE ANTICIPATED AND SHALL BE CONSIDERED AS PART OF THE WORK. NO CHANGES THAT ALTER THE CHARACTER OF THE WORK WILL BE MADE OR PERMITTED BY THE OWNER WITHOUT ISSUING A CHANGE ORDER.
- 1.2 CONFLICTS**
1. THE CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFICATION OF ALL MEASUREMENTS AT THE SITE BEFORE ORDERING ANY MATERIALS OR DOING ANY WORK. NO EXTRA CHARGE OR COMPENSATION SHALL BE ALLOWED DUE TO DIFFERENCE BETWEEN ACTUAL DIMENSIONS AND DIMENSIONS INDICATED ON THE CONSTRUCTION DRAWINGS. ANY SUCH DISCREPANCY IN DIMENSION WHICH MAY BE FOUND SHALL BE SUBMITTED TO THE OWNER FOR CONSIDERATION BEFORE THE CONTRACTOR PROCEEDS WITH THE WORK IN THE AFFECTED AREAS.
2. THE BIDDER, IF AWARDED THE CONTRACT, WILL NOT BE ALLOWED ANY EXTRA COMPENSATION BY REASON OF ANY MATTER OR THING CONCERNING WHICH SUCH BIDDER MIGHT HAVE FULLY INFORMED THEMSELVES PRIOR TO THE BIDDING.
3. NO FLEA OF ENCOURAGEMENT OF CONDITIONS THAT EXIST, OR OF DIFFICULTIES OR CONDITIONS THAT MAY BE ENCOUNTERED OR OF ANY OTHER RELEVANT MATTER CONCERNING THE WORK TO BE PERFORMED IN THE EXECUTION OF THE WORK WILL BE ACCEPTED AS AN EXCUSE FOR ANY FAILURE OR OMISSION ON THE PART OF THE CONTRACTOR TO FULFILL EVERY DETAIL OF ALL THE REQUIREMENTS OF THE CONTRACT DOCUMENTS GOVERNING THE WORK.
- 1.3 CONTRACTS AND WARRANTIES**
1. CONTRACTOR IS RESPONSIBLE FOR APPLICATION AND PAYMENT OF CONTRACTOR LICENSES AND BONDS.
- 1.4 STORAGE**
1. ALL MATERIALS MUST BE STORED IN A LEVEL AND DRY FASHION AND IN A MANNER THAT DOES NOT NECESSARILY OBSTRUCT THE FLOW OF OTHER WORK. ANY STORAGE METHOD MUST MEET ALL RECOMMENDATIONS OF THE ASSOCIATED MANUFACTURER.
2. THE BTS MUST BE STORED INSIDE UNTIL THERE IS POWER ON SITE.
- 1.5 CLEAN UP**
1. THE CONTRACTORS SHALL AT ALL TIMES KEEP THE SITE FREE FROM ACCUMULATION OF WASTE MATERIALS OR RUBBISH CAUSED BY THEIR EMPLOYEES AT WORK AND AT THE COMPLETION OF THE WORK, THEY SHALL REMOVE ALL RUBBISH FROM AND ABOUT THE BUILDING AREA, INCLUDING ALL THEIR TOOLS, SCAFFOLDING AND SURPLUS MATERIALS AND SHALL LEAVE THEIR WORK CLEAN AND READY FOR USE.
2. EXTERIOR: VISUALLY INSPECT EXTERIOR SURFACES AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER.
- A. REMOVE ALL TRACES OF SPLASHED MATERIALS FROM ADJACENT SURFACES.
- B. IF NECESSARY TO ACHIEVE A UNIFORM DEGREE OF CLEANLINESS, HOSE DOWN THE EXTERIOR OF THE STRUCTURE.
3. INTERIOR: VISUALLY INSPECT INTERIOR SURFACE AND REMOVE ALL TRACES OF SOIL, WASTE MATERIALS, SMUDGES AND OTHER FOREIGN MATTER FROM WALLS/FLOOR/CEILING.
- A. REMOVE ALL TRACES OF SPLASHED MATERIAL FROM ADJACENT SURFACES.
- B. REMOVE PAINT DROPPINGS, SPOTS, STAINS AND DIRT FROM FINISHED SURFACES.
- 1.6 CHANGE ORDER PROCEDURE**
1. CHANGE ORDERS MAY BE INITIATED BY THE OWNER AND/OR THE CONTRACTOR INVOLVED. THE CONTRACTOR, UPON VERBAL REQUEST FROM THE OWNER SHALL PREPARE A WRITTEN PROPOSAL DESCRIBING THE CHANGE IN WORK OR MATERIALS AND ANY CHANGES IN THE CONTRACT AMOUNT AND PRESENT TO THE OWNER WITHIN 72 HRS FOR APPROVAL. SUBMIT REQUESTS FOR SUBSTITUTIONS IN THE FORM AND IN ACCORDANCE WITH PROCEDURES REQUIRED FOR CHANGE ORDER PROPOSALS. ANY CHANGES IN SCOPE OF WORK OR MATERIALS WHICH ARE PERFORMED BY THE CONTRACTOR WITHOUT A WRITTEN CHANGE ORDER AS DESCRIBED AND APPROVED BY THE OWNER SHALL PLACE FULL RESPONSIBILITY OF THESE ACTIONS ON THE CONTRACTOR.
- 1.7 RELATED DOCUMENTS AND COORDINATION**
1. GENERAL CARPENTRY, ELECTRICAL AND ANTENNA DRAWINGS ARE INTERRELATED. IN PERFORMANCE OF THE WORK, THE CONTRACTOR MUST REFER TO ALL DRAWINGS. ALL COORDINATION TO BE THE RESPONSIBILITY OF THE CONTRACTOR.
- 1.8 SHOP DRAWINGS**
1. CONTRACTOR SHALL SUBMIT SHOP DRAWINGS AS REQUIRED AND LISTED IN THESE SPECIFICATIONS TO THE OWNER FOR APPROVAL.
2. ALL SHOP DRAWINGS SHALL BE REVIEWED, CHECKED AND CORRECTED BY CONTRACTOR PRIOR TO SUBMITTAL TO THE OWNER.
- 1.9 PRODUCTS AND SUBSTITUTIONS**
1. SUBMIT 3 COPIES OF EACH REQUEST FOR SUBSTITUTION. IN EACH REQUEST IDENTIFY THE PRODUCT OR FABRICATION OR INSTALLATION METHOD TO BE REPLACED BY THE SUBSTITUTION. INCLUDE RELATED SPECIFICATION SECTION AND DRAWING NUMBERS AND COMPLETE DOCUMENTATION SHOWING COMPLIANCE WITH THE REQUIREMENTS FOR SUBSTITUTIONS.
2. SUBMIT ALL NECESSARY PRODUCT DATA AND CUT SHEETS WHICH PROPERLY INDICATE AND DESCRIBE THE ITEMS, PRODUCTS AND MATERIALS BEING INSTALLED. THE CONTRACTOR SHALL, IF DEEMED NECESSARY BY THE OWNER SUBMIT ACTUAL SAMPLES TO THE OWNER FOR APPROVAL IN LIEU OF CUT SHEETS.
- 1.10 QUALITY ASSURANCE**
1. ALL WORK SHALL BE IN ACCORDANCE WITH APPLICABLE LOCAL, STATE AND FEDERAL REGULATIONS. THESE SHALL INCLUDE BUT NOT BE LIMITED TO THE LATEST VERSION OF THE COOK COUNTY BUILDING CODE.

1.11 ADMINISTRATION

1. BEFORE THE COMMENCEMENT OF ANY WORK, THE CONTRACTOR WILL ASSIGN A PROJECT MANAGER WHO WILL ACT AS A SINGLE POINT OF CONTACT FOR ALL PERSONNEL INVOLVED IN THIS PROJECT. THIS PROJECT MANAGER WILL DEVELOP A MASTER SCHEDULE FOR THE PROJECT WHICH WILL BE SUBMITTED TO THE OWNER PRIOR TO THE COMMENCEMENT OF ANY WORK.
2. SUBMIT A BAR TYPE PROGRESS CHART NOT MORE THAN 3 DAYS AFTER THE DATE ESTABLISHED FOR COMMENCEMENT OF THE WORK ON THE SCHEDULE, INDICATING A TIME BAR FOR EACH MAJOR CATEGORY OR UNIT OF WORK TO BE PERFORMED AT SITE, PROPERLY SEQUENCED AND COORDINATED WITH OTHER ELEMENTS OF WORK AND SHOWING COMPLETION OF THE WORK SUFFICIENTLY IN ADVANCE OF THE DATE ESTABLISHED FOR SUBSTANTIAL COMPLETION OF THE WORK.
3. PRIOR TO COMMENCING CONSTRUCTION, THE OWNER SHALL SCHEDULE AN ON-SITE MEETING WITH ALL MAJOR PARTIES. THIS WOULD INCLUDE (THOUGH NOT LIMITED TO) THE OWNER, PROJECT MANAGER, CONTRACTOR, LAND OWNER REPRESENTATIVE, LOCAL TELEPHONE COMPANY, TOWER ERECTION FOREMAN (IF SUBCONTRACTED).
4. CONTRACTOR SHALL BE EQUIPPED WITH SOME MEANS OF CONSTANT COMMUNICATIONS, SUCH AS A MOBILE PHONE OR A BEEPER. THIS EQUIPMENT WILL NOT BE SUPPLIED BY THE OWNER, NOR WILL WIRELESS SERVICE BE ARRANGED.
5. DURING CONSTRUCTION, CONTRACTOR MUST ENSURE THAT EMPLOYEES AND SUBCONTRACTORS WEAR HARD HATS AT ALL TIMES. CONTRACTOR WILL COMPLY WITH ALL SAFETY REQUIREMENTS IN THEIR AGREEMENT.
6. PROVIDE WRITTEN DAILY UPDATES ON SITE PROGRESS TO THE OWNER.
7. COMPLETE INVENTORY OF CONSTRUCTION MATERIALS AND EQUIPMENT IS REQUIRED PRIOR TO START OF CONSTRUCTION.
8. NOTIFY THE OWNER / PROJECT MANAGER IN WRITING NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, TOWER ERECTIONS, AND EQUIPMENT CABINET PLACEMENTS.
- 1.12 INSURANCE AND BONDS**
1. CONTRACTOR SHALL AT THEIR OWN EXPENSE CARRY AND MAINTAIN FOR THE DURATION OF THE PROJECT ALL INSURANCE AS REQUIRED AND LISTED AND SHALL NOT COMMENCE WITH THEIR WORK UNTIL THEY HAVE PRESENTED AN ORIGINAL CERTIFICATE OF INSURANCE STATING ALL COVERAGES TO THE OWNER. REFER TO THE MASTER AGREEMENT FOR INSURANCE LIMITS.
2. THE OWNER SHALL BE NAMED AS AN ADDITIONAL INSURED ON ALL POLICIES.
3. CONTRACTOR MUST PROVIDE PROOF OF INSURANCE.

TOWER & ANTENNA INSTALLATION:

1.1 WORK INCLUDED

1. IF REQUIRED, ERECT FURNISHED TOWER.
2. GROUND TOWER TEMPORARILY DURING ERECTION. GROUNDING SHALL INCLUDE BASE(S) AND ANCHORS.
3. IF REQUIRED, INSTALL THREE (3) SIDE ARMS, CONSISTING OF THREE (3) 6"-Ø AS INDICATED ON DRAWINGS - CONFIRM WITH OWNER REPRESENTATIVE.
4. INSTALL ANTENNAS AS INDICATED ON DRAWINGS AND OWNER SPECIFICATIONS.
5. INSTALL GALVANIZED STEEL ANTENNA MOUNTS AS INDICATED ON DRAWINGS.
6. INSTALL FURNISHED GALVANIZED STEEL WAVEGUIDE LADDER.
7. INSTALL WAVEGUIDE BRIDGE AS INDICATED ON DRAWING.
8. SUPPLY AND INSTALL ONE INSULATED GROUND BAR AT EQUIPMENT CABINET.
9. SUPPLY AND INSTALL GROUNDING STRAP KITS WITH LONG BARREL COMPRESSION LUGS (SM. TO ANDREW-2337007B0 OR APPROVED EQUAL) ATOP TOWER BASE BEFORE ENTERING THE EQUIPMENT. GROUNDING STRAPS TO BE CONNECTED TO INSULATED GROUND BAR.
10. ASSIST OWNER TECHNICIANS IN PERFORMING SWEEP TEST OF INSTALLED COAX.
11. CONCRETE PIERS FOR FOUNDATIONS SHALL BE DRILLED AND POURED ON THE SAME DAY.

1.2 REQUIREMENTS OF REGULATOR AGENCIES

1. FURNISH U.L. LISTED EQUIPMENT WHERE SUCH LABEL IS AVAILABLE, INSTALL IN CONFORMANCE WITH U.L. STANDARDS WHERE APPLICABLE.
2. INSTALL ANTENNA, ANTENNA CABLES, GROUNDING SYSTEM IN ACCORDANCE WITH DRAWINGS AND SPECIFICATION IN EFFECT AT PROJECT LOCATION AND RECOMMENDATIONS OF STATE AND LOCAL BUILDING CODES, SPECIAL CODES HAVING JURISDICTION OVER SPECIFIC PORTIONS OF WORK. THIS INCLUDES BUT IS NOT LIMITED TO THE FOLLOWING:
- A. TIA - TELECOMMUNICATIONS INDUSTRY ASSOCIATION TIA-222-G. STRUCTURAL STANDARDS FOR STEEL ANTENNA TOWERS AND ANTENNA SUPPORTING STRUCTURES.
- B. FAA - FEDERAL AVIATION ADMINISTRATION ADVISORY CIRCULAR AC 70/7460-III, OBSTRUCTION MARKING AND LIGHTING.
- C. FCC - FEDERAL COMMUNICATIONS COMMISSION RULES AND REGULATIONS FORM 715, OBSTRUCTION MARKING AND LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES AND FORM 715A, HIGH INTENSITY OBSTRUCTION LIGHTING SPECIFICATIONS FOR ANTENNA STRUCTURES.
- D. AISC - AMERICAN INSTITUTE OF STEEL CONSTRUCTION SPECIFICATION FOR STRUCTURAL JOINTS USING ASTM A325 OR A490 BOLTS.
- E. NEC - NATIONAL ELECTRICAL CODE - ON TOWER LIGHTING KITS.
- F. UL - UNDERWRITER'S LABORATORIES APPROVED ELECTRICAL PRODUCTS.
- G. IN ALL CASES, PART 77 OR THE FAA RULES AND PARTS 17 AND 22 OF THE FCC RULES ARE APPLICABLE AND IN THE EVENT OF CONFLICT, SUPERSEDE ANY OTHER STANDARDS OR SPECIFICATIONS.
- H. 2012 LIFE SAFETY CODE NFPA - 101.

GENERAL ELECTRIC PROVISION:

1. SUBMITTAL OF BID INDICATES CONTRACTOR IS COGNIZANT OF ALL JOB SITE CONDITIONS AND WORK TO BE PERFORMED UNDER THIS CONTRACT.
2. CONTRACTOR SHALL PERFORM ALL VERIFICATION OBSERVATIONS TEST, AND EXAMINATION WORK PRIOR TO THE ORDERING OF THE ELECTRICAL EQUIPMENT AND THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ARCHITECT LISTING ALL MALFUNCTIONS, FAULTY EQUIPMENT AND DISCREPANCIES.
3. HEIGHTS SHALL BE VERIFIED WITH OWNER PRIOR TO INSTALLATION.
4. THESE PLANS ARE DIAGRAMMATIC ONLY, FOLLOW AS CLOSELY AS POSSIBLE.
5. ELECTRICAL SERVICE 120 / 208 VAC 3-PHASE 4-WIRE 100 AMP SERVICE 120 / 240 VAC SINGLE PHASE 3-WIRE 200 AMP SERVICE
6. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANEL BOARD, PULL BOX, J-BOX, SWITCH BOX, ETC., IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ACT (O.S.H.A.).
7. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, INSURANCE, EQUIPMENT, INSTALLATION, CONSTRUCTION TOOLS, TRANSPORTATION, ETC., FOR A COMPLETE AND PROPERLY OPERATIVE SYSTEM ENERGIZED THROUGHOUT AND AS INDICATED ON DRAWINGS, AS SPECIFIED HEREIN AND/OR AS OTHERWISE REQUIRED.
8. 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. MATERIALS SHALL BE LISTED "A" WHERE SUBJECT TO SUCH APPROVAL. MATERIALS SHALL MEET WITH APPROVAL OF THE DIVISION OF INDUSTRIAL SAFETY AND ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA AND NBFU.
9. ALL CONDUIT INSTALLED SHALL BE SURFACE MOUNTED OR DIRECT BURIAL UNLESS OTHERWISE NOTED.
10. CONTRACTOR SHALL CARRY OUT THEIR WORK IN ACCORDANCE WITH ALL GOVERNING STATE, COUNTY AND LOCAL CODES AND O.S.H.A.
11. CONTRACTOR TO OBTAIN ALL PERMITS, PAY PERMIT FEES, AND BE RESPONSIBLE FOR SCHEDULING INSPECTIONS.
12. COMPLETE JOB SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR AFTER THE DATE OF JOB ACCEPTANCE BY OWNER. ANY WORK, MATERIAL OR EQUIPMENT FOUND TO BE FAULTY DURING THAT PERIOD SHALL BE CORRECTED AT ONCE, UPON WRITTEN NOTIFICATION, AT THE EXPENSE OF THE CONTRACTOR.
13. ALL CONDUIT SHALL HAVE A PULL WIRE OR ROPE.
14. PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS AND CIRCUITS.
15. ALL BROCHURES, OPERATING MANUALS, CATALOGS, SHOP DRAWINGS, ETC., SHALL BE TURNED OVER TO THE OWNER AT JOB COMPLETION.
16. USE T-TAP CONNECTIONS ON ALL MULTI-CIRCUITS WITH COMMON NEUTRAL CONDUCTOR FOR LIGHTING FIXTURES.
17. ALL CONDUCTORS SHALL BE COPPER.
18. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C.
19. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDING AS REQUIRED BY ALL APPLICABLE CODES.
20. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.
21. PENETRATIONS IN FIRE RATED WALLS SHALL BE FIRE STOPPED IN ACCORDANCE WITH APPLICABLE LOCAL BUILDING CODES.
22. WIRE AND CABLE CONDUCTORS SHALL BE COPPER #12 AWG MINIMUM UNLESS SPECIFICALLY NOTED OTHERWISE ON DRAWINGS.
23. GROUNDING CONDUCTORS SHALL BE SOLID TINNED COPPER UNLESS OTHERWISE NOTED.
24. METER SOCKET AMPRES, VOLTAGE, NUMBER OF PHASES SHALL BE AS NOTED ON THE DRAWINGS, MANUFACTURED BY "SQUARE D COMPANY", OR APPROVED EQUAL.
25. ALL MATERIALS SHALL BE U.L. LISTED.
26. 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, FITTING SHALL BE GLAND RING COMPRESSION TYPE. ENT SHALL BE USED ONLY FOR INTERIOR RUNS.
- C. FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE, SEAL TIGHT FLEXIBLE CONDUIT. ALL CONDUIT SHALL HAVE FULL SIZE EQUIPMENT GROUND WIRE.
- D. CONDUIT RUNS SHALL BE SURFACE MOUNTED IN CEILINGS OR WALLS UNLESS INDICATED OTHERWISE. CONDUIT INDICATED SHALL RUN PARALLEL OR AT RIGHT ANGLES TO CEILING, FLOOR OR BEAMS. VERIFY EXACT ROUTING OF ALL EXPOSED CONDUIT WITH THE OWNER PRIOR TO INSTALLING. NO HORIZONTAL CONDUITS SHALL BE BELOW 7'-6" A.F.F. NO BX OR ROMEX CABLE IS PERMITTED.
- E. PARALLEL UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 (UNLESS NOTED OTHERWISE) AT A MINIMUM DEPTH OF 30" BELOW GRADE - STACKED UNDERGROUND CONDUIT SHALL BE PVC SCHEDULE 40 (UNLESS NOTED OTHERWISE) AT A MINIMUM DEPTH OF 24" BELOW GRADE.
- F. ABOVE GROUND CONDUIT SHALL BE P.V.C. SCHEDULE 80 (UNLESS NOTED OTHERWISE).
27. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS.
28. CONTRACTOR TO PROVIDE DAILY UPDATES TO PM UNTIL FINAL ELECTRICAL SERVICE IS EFFECTED.
29. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL OF POTENTIAL GROUND TESTS FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. CLEAN PREMISES OF ALL DEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.
30. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERMANENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS TO BE PAID BY CONTRACTOR.

GROUNDING STANDARDS:

1.0 DEFINITIONS

- AGB: ANTENNA GROUND BAR
- AWG: AMERICAN WIRE GAUGE
- CADWELDING: AN EXOTHERMIC WELDING PROCESS WHICH CREATES POSITIVE CONTACT OF POSITIVE CONTACT OF GROUNDING CONDUCTORS
- ENT: ELECTRICAL METAL TUBING (LIGHT GAUGE METALLIC CONDUIT)
- MGB: MASTER GROUND BAR
- PVC: POLYVINYL CHLORIDE CONDUIT
- RFI: RADIO FREQUENCY INTERFERENCE
- TGB: TOWER GROUND BAR
- THWN: LETTER TYPE DESIGNATION FOR CONDUCTOR INSULATION THAT IS A MOISTURE AND HEAT RESISTANT THERMOPLASTIC WITH A MAXIMUM OPERATING TEMPERATURE OF 75 DEGREES CELSIUS OR 167 DEGREES FAHRENHEIT
- T/I: TENANT IMPROVEMENT

2.0 BACKGROUND

2.1 AREAS OF CONCERN: WHEN DESIGNING A GROUNDING SYSTEM FOR A MOBILE RADIO FACILITY THERE ARE FOUR INTERRELATED AREAS OF CONCERN. THE BASIC OBJECTIVE FOR EACH IS:

1. LIGHTNING PROTECTION - TO MAINTAIN ALL EQUIPMENT AT THE SAME POTENTIAL DURING A LIGHTNING IMPULSE.
 2. RFI FOR NOISE INDUCTION CONTROL - TO ESTABLISH THE LOWEST POSSIBLE IMPEDANCE AMONG ALL EQUIPMENT.
 3. ELECTROSTATIC CONTROL - TO REDUCE ELECTROSTATIC DISCHARGE PROBLEMS.
 4. PERSONNEL SAFETY - TO MAINTAIN A MINIMUM VOLTAGE DIFFERENCE BETWEEN ANY TWO METALLIC OBJECTS WHICH PERSONNEL MIGHT CONTACT SIMULTANEOUSLY.
- 2.2 A/C GROUNDING: IN THIS GROUNDING SYSTEM THE A/C SERVICE GROUND SHALL BE KEPT ISOLATED FROM THE EQUIPMENT FRAME WORK AND LIGHTNING PROTECTION GROUND SYSTEMS EXCEPT FOR ONE SPECIFIC POINT. THIS POINT IS THE MAIN GROUNDING POINT OF THE SYSTEM. THIS WOULD TYPICALLY BE CONNECTING THE A/C SERVICE GROUND AT THE COMMERCIAL POWER RISER POLE DISCONNECT/METER BASE TO THE EXTERNAL GROUND RING. ALL GROUNDING CONNECTIONS INSIDE OF CABINETS SHALL BE SCRAPED TO BARE METAL AND COATED WITH NOALOX.

2.3 LIGHTNING CONSIDERATIONS: LIGHTNING DAMAGE OCCURS FROM EITHER INDUCTION OR FROM AN ACTUAL DIRECT STRIKE TO THE BUILDING, USUALLY TAKEN THROUGH THE TOWER AND/OR ANTENNAS. STRIKES TO OTHER NEARBY OBJECTS INDUCE HIGH ENERGY INTO POWER OR TELEPHONE CABLES ENTERING THE BUILDING. THIS TYPE OF EFFECT HISTORICALLY CAUSES MOST OF THE DAMAGE TO THE BUILDING AND ITS CONTENTS.

3.0 STATION GROUNDING SYSTEM

3.1 MATERIALS:

1. #2 AWG, BARE SOLID TINNED COPPER WIRE, FOR ALL EXTERIOR CONDUCTORS AND TOWER GROUND BAR CONDUCTORS OR AS OTHERWISE SPECIFIED. GROUNDING TO THE LNAS SHALL BE NO. 6 STANDARD GREEN INSULATED JUMPERS. THE GROUND WIRE TO THE MGB SHALL BE GREEN JACKETED STRANDED #2 TINNED WIRE BURNDY CONNECTED TO THE BUSS BAR AND CONNECTED TO THE GROUND RING ON A GROUND ROD.
2. #2 AWG, INSULATED STRANDED COPPER CABLE IS ACCEPTABLE FOR INTERIOR GROUND BAR CONDUCTORS ON TENANT IMPROVEMENT SITES.
3. 5/8" X 10" GROUND RODS OF SOLID COPPER, STAINLESS STEEL OR COPPER CLAD HIGH STRENGTH STEEL.
4. ABOVE GRADE CONNECTIONS SHALL BE BURNDY HYDROGEN COMPRESSION. BELOW GRADE CONNECTIONS SHALL BE EXOTHERMIC WELD OR OTHER APPROVED EXOTHERMIC WELDING SYSTEM FOR BONDING AS SPECIFIED.
5. XT OR ADVANCED GROUNDING ELECTRODE (AGE), ALL CHEMICAL GROUND RODS SHALL BE UL APPROVED.
6. SOLID COPPER PLATES OF MINIMUM 3'X3'X1/4" SIZE AS SPECIFIED.
7. NOALOX OR APPROVED EQUAL CONDUCTIVE MEDIUM MATERIAL SHALL BE USED IN ALL MECHANICAL CONNECTIONS.
8. #2 AWG STRANDED INSULATED (GREEN) FOR ALL INTERNAL EQUIPMENT GROUNDING.
9. MECHANICAL FASTENERS (I.E., DOUBLE LUGS, SPLIT BOLTS PARALLEL CONNECTORS) SHALL BE BRONZE, BRASS, COPPER OR STAINLESS STEEL AND HAVE NOALOX BETWEEN CONDUCTOR AND CONNECTION.
10. BOLTS, NUTS AND SCREWS USED TO FASTEN MECHANICAL CONNECTORS SHALL BE STAINLESS STEEL WITH STAR TYPE STAINLESS STEEL LOCK WASHERS.
11. ALL LUG TUBE FASTENERS SHALL PROVIDE TWO HOLES TO ALLOW A DOUBLE BOLT CONNECTION.

3.2 MASTER GROUND BAR (MGB): THE PURPOSE OF THE MASTER GROUND BAR IS TO GROUND THE BTS AND ANY OTHER METALLIC OBJECTS AROUND THE BTS. IF A MGB IS NOT PROVIDED WITH THE BTS, THE MGB SHALL BE AS FOLLOWS: THE MGB IS A COPPER BAR MEASURING 4"W X 24"L X 1/4" LOCATED AS CLOSE TO THE BTS AS POSSIBLE. THE MGB SHALL HAVE A MINIMUM NUMBER OF (28) 3/8" HOLES. GROUND BAR SHALL BE SUPPORTED BY MOUNTING BRACKETS WITH INSULATOR STANDOFFS. (2) #2 TINNED SHALL BE MECHANICALLY ATTACHED (2-HOLE COMPRESSION LUG 3/8" HOLES, 1" CENTER TO CENTER SPACING) TO THE MGB AND DOWN LEADS THEN TAKEN THROUGH CONDUIT TO THE GROUND RING. THIS CONDUCTOR SHALL BE KEPT SEPARATE AND ISOLATED UNTIL TERMINATING AT THE MAIN GROUNDING POINT, (I.E. EXTERIOR GROUND RING OR BUILDING STEEL).

3.3 ANTENNA GROUND BAR (AGB): THE PURPOSE OF THE ANTENNA GROUND BAR IS PRIMARILY FOR LIGHTNING PROTECTION. COAXIAL CABLE IS USUALLY THE ONLY ITEM GROUND TO THIS BAR. HOWEVER IT IS ACCEPTABLE TO BOND EXTERIOR, CABLE TRAY, WAVE GUIDE PORTS AND CANTILEVERED WAVE GUIDE BRIDGES TO THE AGB. THE AGB IS A COPPER BAR MEASURING 4"W X 24"L X 1/4". THERE SHALL BE TWO AGBS: ONE LOCATED AT THE TOP OF THE TOWER AT THE START OF THE VERTICAL RUN OF COAX, THE OTHER AT THE BOTTOM OF THE VERTICAL RUN OF COAX BEFORE IT MAKES ITS BEND. (IF THE TOWER IS OVER 200' THERE SHALL BE A THIRD AGB LOCATED AT THE MIDDLE OF THE TOWER) THE AGB SHALL HAVE A MINIMUM OF (28) 3/8" HOLES. GROUND BARS SHALL BE SUPPORTED BY MOUNTING BRACKETS WITH INSULATOR STANDOFFS. USE #2 AWG SOLID TINNED WIRE W/ 2-HOLE SHORT BARREL COMPRESSION LUGS 3/8" HOLES, 1" CENTER TO CENTER SPACING. THIS CONDUCTOR SHALL BE KEPT SEPARATE AND ISOLATED UNTIL TERMINATING AT THE MAIN GROUNDING POINT (I.E. EXTERIOR GROUND RING, OR BUILDING STEEL).

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CHICAGO, ILLINOIS 60631

PLANS PREPARED BY:

W-T

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WIRELESS INFRASTRUCTURE

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SEAL:



JEFFREY GUTWORSKY
PROFESSIONAL ENGINEER
STATE OF ILLINOIS
LICENSE # 082-047235
EXPIRES: 11/30/2017 SIGNED: 08/01/16

DATE: DESCRIPTION: BY: REV:

08/05/15 LEASE EXHIBIT JTB A

08/10/15 PER CLIENTS COMMENTS DAY B

08/27/15 REVISION JS C

09/02/15 REVISION JS D

12/09/15 REVISION RSM E

03/15/16 REVISION SC F

04/07/16 REVISION NN G

06/13/16 REVISION KLS H

06/17/16 REVISION RSM I

08/01/16 FINALS RSM D

SITE INFORMATION:

**CH92341A
SISTERS OF
ST. JOSEPH**

1515 OGDEN AVENUE
LA GRANGE PARK, IL 60528
W-T JOB NUMBER: T1505246

SHEET TITLE:

**GENERAL
NOTES &
SPECIFICATIONS**

SHEET NUMBER:

T-2

PLOT SCALE: 1:1 @ 11"x17"

PLANS PREPARED BY:



W-T LAND SURVEYING, INC.
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SEAL:

DATE: DESCRIPTION: REL: BY:

DATE	STATUS	REL	BY
7/29/15	ADDED EASEMENT PROVISIONS PER CLIENT REQUEST	MO	MO
6/15/16	REVISED LEASE AREA CALL OUT ON SHEET LS-2	MO	MO
6/13/16	REVISED LEASE AREA & EASEMENTS	MO	MC

SITE INFORMATION:

CH92341A

SISTERS OF ST. JOSEPH

1616 OGDEN AVENUE
LaGRANGE, IL 60526

W-T JOB NUMBER: S15417

SHEET TITLE:

LAND SURVEY

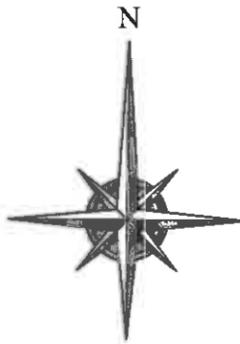
SHEET NUMBER:

LS-2

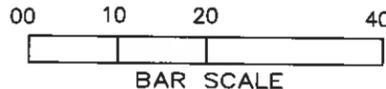
OF 3 SHEETS

PLOT SCALE: 1" = 11.17'

LINE TABLE		
LINE	BEARING	DISTANCE
L1	S 15°03'08" E	40.00'
L2	S 74°56'52" W	35.00'
L3	N 15°03'08" W	40.00'
L4	N 74°56'52" E	35.00'
L5	S 74°56'52" W	1.00'
L6	S 15°03'08" E	1.00'
L7	S 15°03'08" E	20.00'
L8	S 74°56'52" W	10.00'
L9	N 15°03'08" W	20.00'
L10	N 74°56'52" E	10.00'
L11	S 15°03'08" E	15.47'
L12	S 74°56'52" W	8.00'
L13	N 15°03'08" W	15.47'



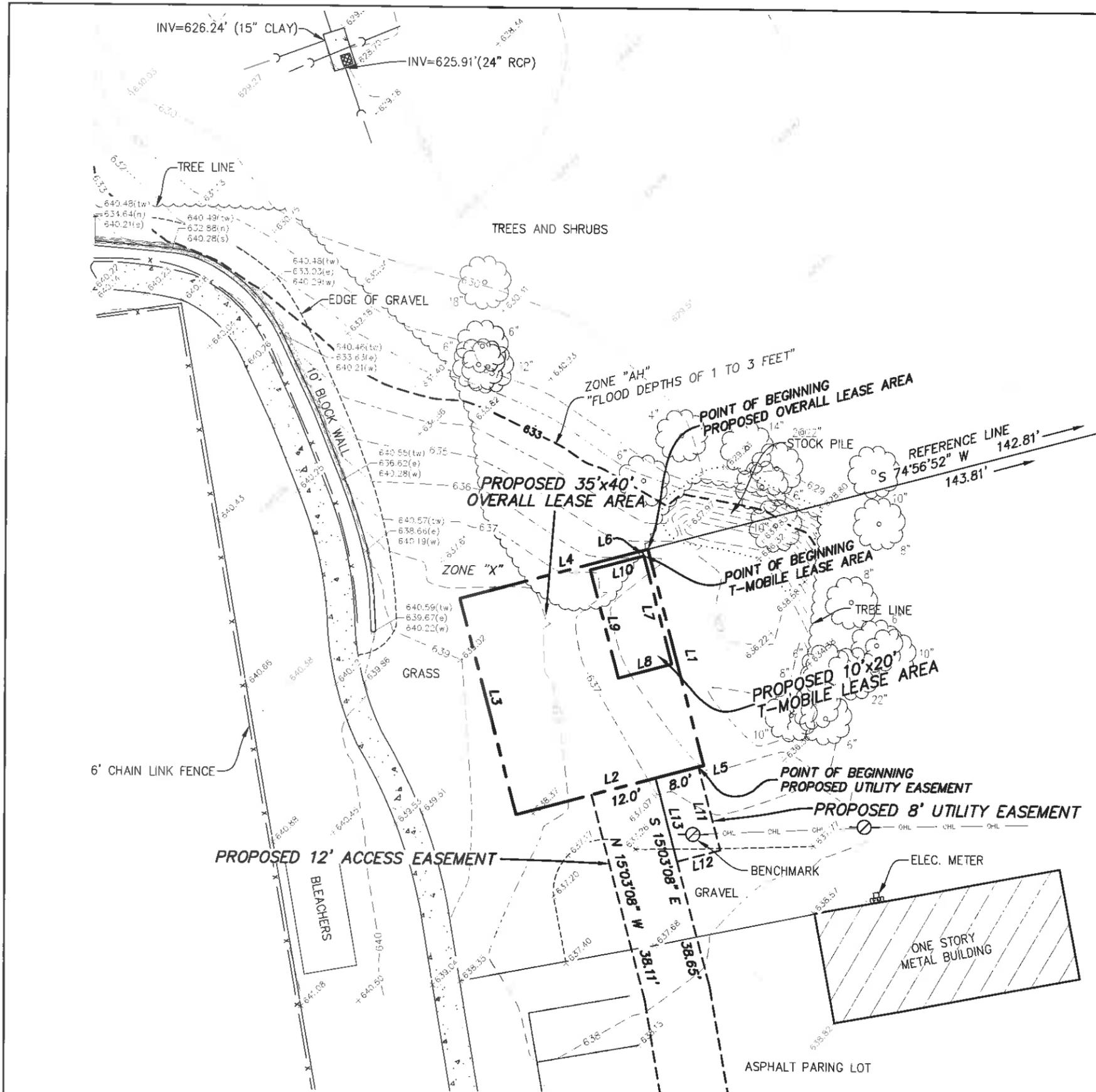
SCALE: 1" = 20'



SEE SHEET LS-3 FOR LEGAL DESCRIPTIONS

LEGEND

	PROPERTY LINE		FIRE HYDRANT
	PRO LEASE LINE		B-BOX / SERVICE VALVE
	PRO EASEMENT LINE		POST LIGHT/GROUND LIGHT
	CONCRETE		FENCE LINE
	MANHOLE		TYPICAL TREE
	GAS VALVE		BRUSH PILE
	MANHOLE		GAS METER
			ELECTRIC METER





- IMPORTANT SITE NOTES:**
1. GENERAL CONTRACTOR WILL NOT START CONSTRUCTION UNTIL AFTER THEY HAVE RECEIVED THE PRE-CON PACKAGE AND HAVE A PRE-CON WALK WITH THE PROJECT MANAGER.
 2. GENERAL CONTRACTOR TO HIRE PUBLIC (811) AND PRIVATE LOCATING SERVICE IN ORDER TO LOCATE AND PROTECT ALL SURFACE UTILITIES. DO NOT SCALE OFF THESE PLANS FOR ANY BELOW GRADE UTILITIES
 3. CONTRACTOR SHALL VERIFY ALL EXISTING BURIED AND OVERHEAD UTILITIES PRIOR TO EXCAVATION. CONTRACTOR SHALL REPAIR ALL DAMAGED UTILITIES AT HIS OWN COST AND COORDINATE ANY REPAIRS WITH RESPECTIVE UTILITY COMPANY.
 4. CONTRACTOR TO VERIFY ALL HEIGHTS AND AZIMUTHS IN FIELD PRIOR TO CONSTRUCTION. CONTRACTOR SHALL NOTIFY T-MOBILE AND ENGINEERING FIRM OF ANY DISCREPANCIES BEFORE PROCEEDING.
 5. CONTRACTOR SHALL RESTORE AND REPAIR ANY DAMAGED AREAS CAUSED BY CONSTRUCTION

PROPERTY LINE	TOWER SETBACKS
ROW: SOUTH	1103'-10"
SIDE: EAST	150'-6"
REAR: NORTH	215'-7"

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8550 BRYN MAWR AVENUE, SUITE 100
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SEAL:

JEFFERY GUTOWSKY
PROFESSIONAL ENGINEER
STATE OF ILLINOIS
LICENSE # 062-047235
EXPIRES: 11/30/2017 SIGNED: 08/01/16

DATE	DESCRIPTION	BY	REV
08/05/15	LEASE EXHIBIT	JTB	A
08/10/15	PER CLIENTS COMMENTS	DAY	B
08/27/15	REVISION	JS	C
09/02/15	REVISION	JS	D
12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	D

SITE INFORMATION:
CH92341A
SISTERS OF ST. JOSEPH
1615 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

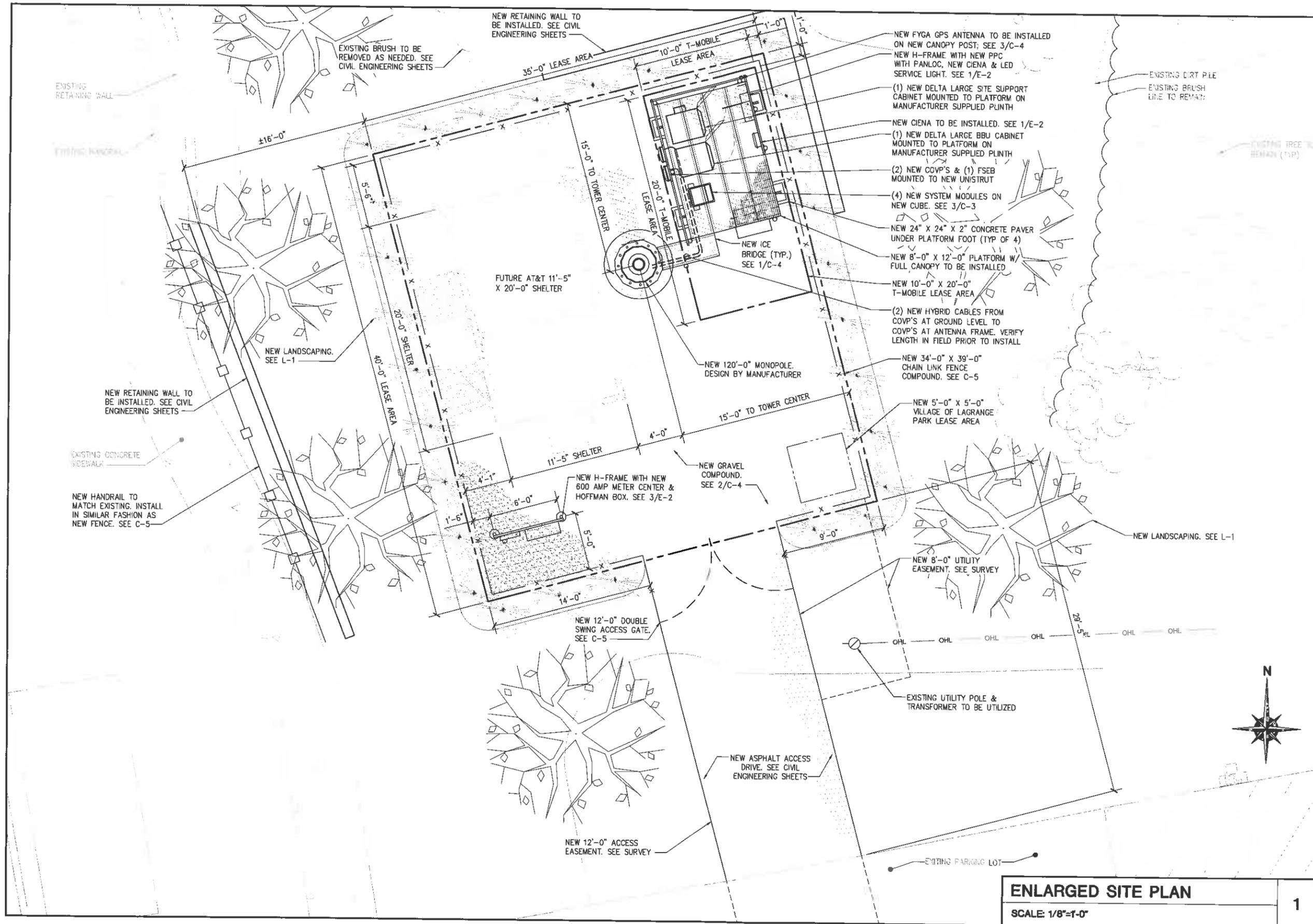
SHEET TITLE:
OVERALL SITE PLAN

SHEET NUMBER:
C-1

PLOT SCALE: 1:1 @ 11"x17"

OVERALL SITE PLAN
SCALE: T=160'-0"
1





ENLARGED SITE PLAN

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

1

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06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	O

SITE INFORMATION:

CH92341A
**SISTERS OF
ST. JOSEPH**

1515 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

SHEET TITLE:

**ENLARGED
SITE PLAN**

SHEET NUMBER:

C-2

PLOT SCALE: 1:1 @ 11"x17"

SEAL:

JEFFERY GUTOWSKY
PROFESSIONAL ENGINEER
STATE OF ILLINOIS
LICENSE # 062-047235
EXPIRES: 11/30/2017 SIGNED: 08/01/16

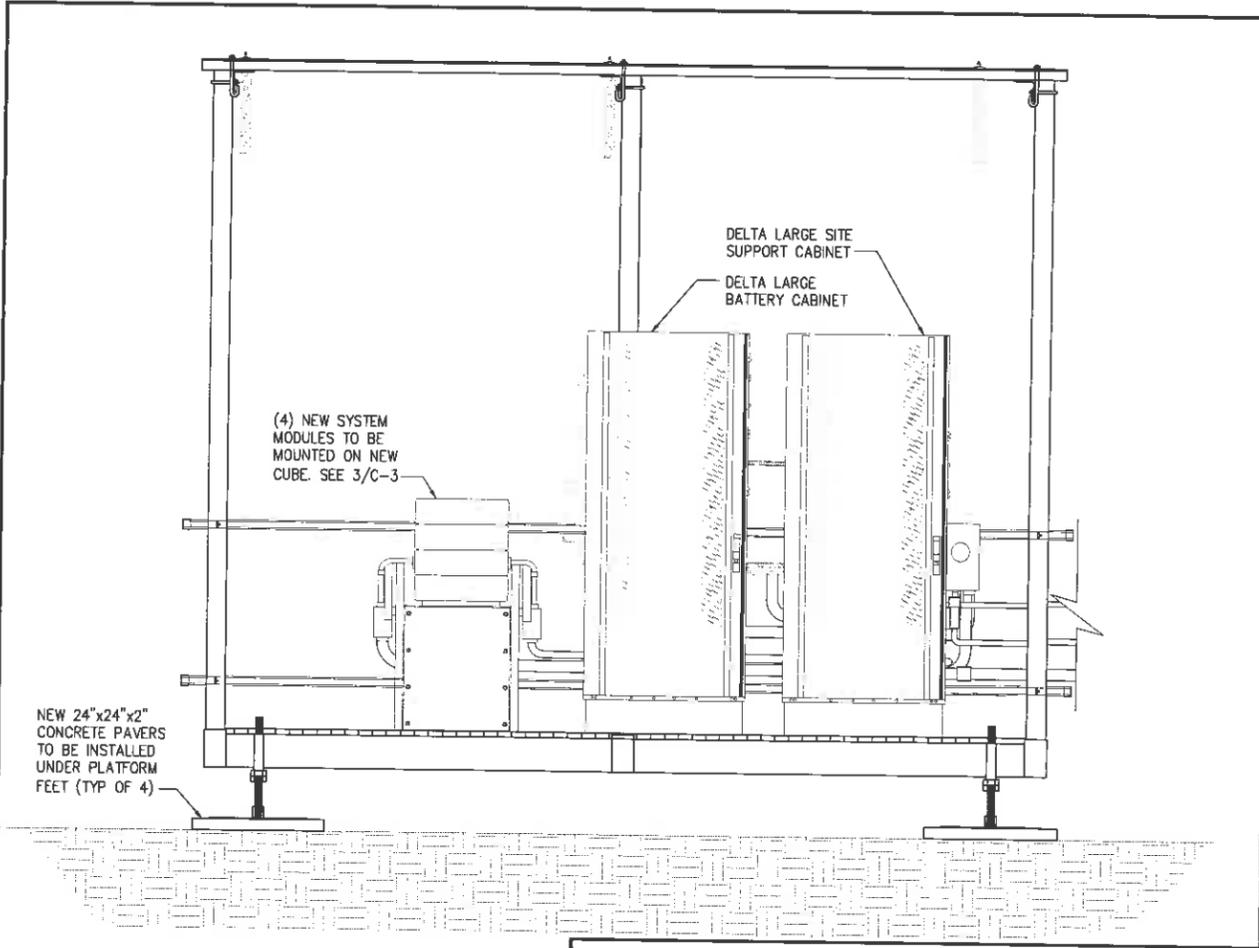
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06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	O

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CH92341A
SISTERS OF
ST. JOSEPH
1515 OGDEN AVENUE
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W-T JOB NUMBER: T1505246

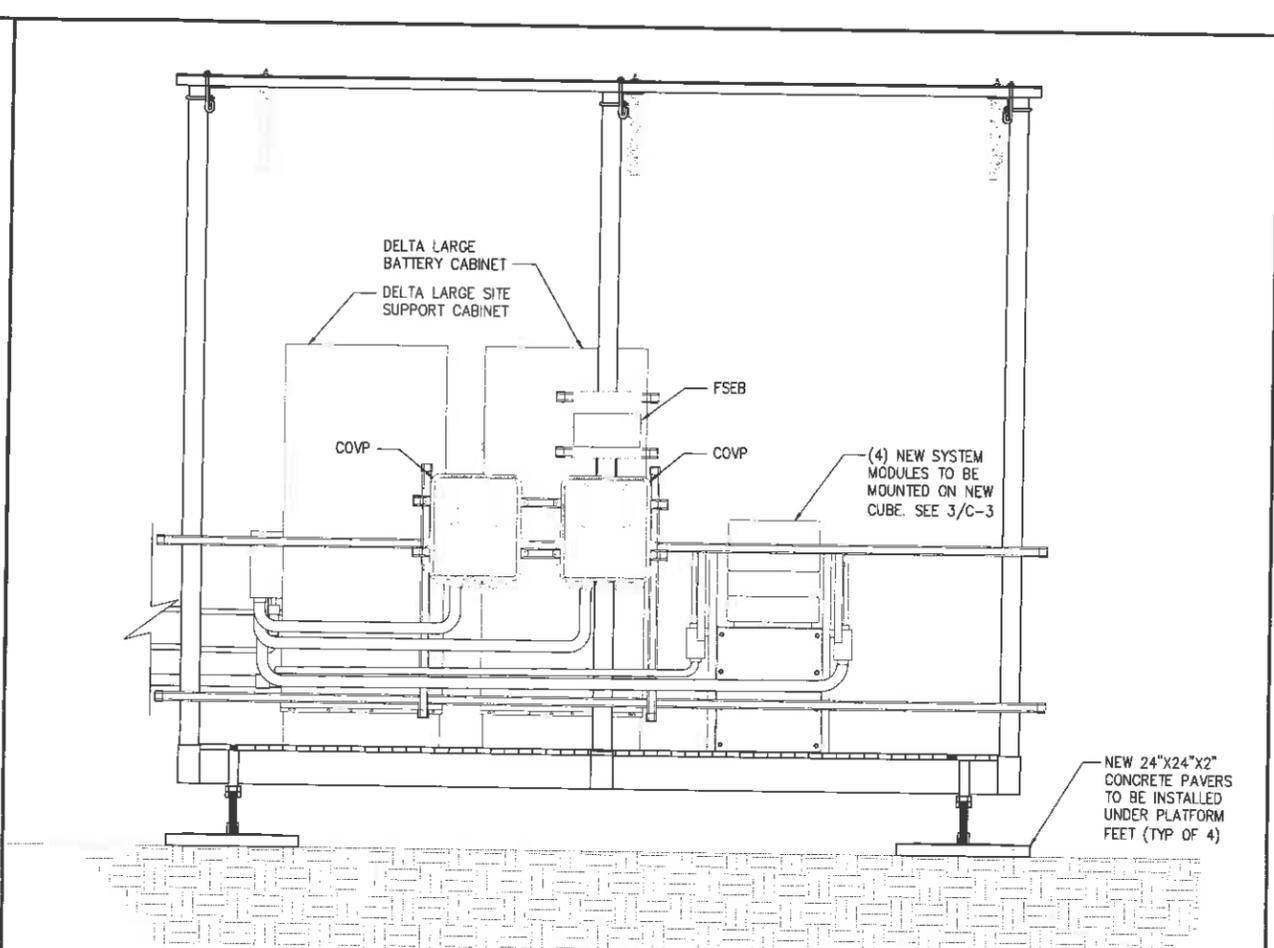
SHEET TITLE:
EQUIPMENT
ELEVATIONS

SHEET NUMBER:
C-3

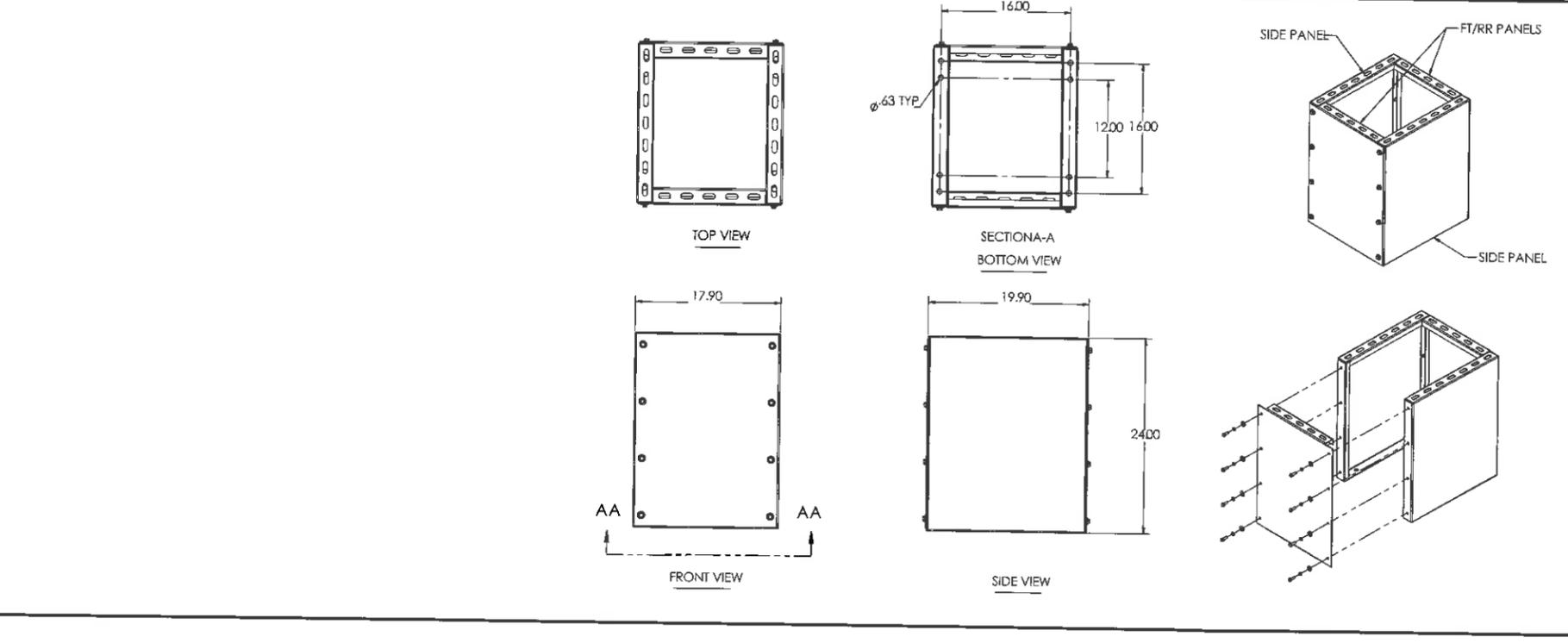
PLOT SCALE: 1:1 @ 11"x17"



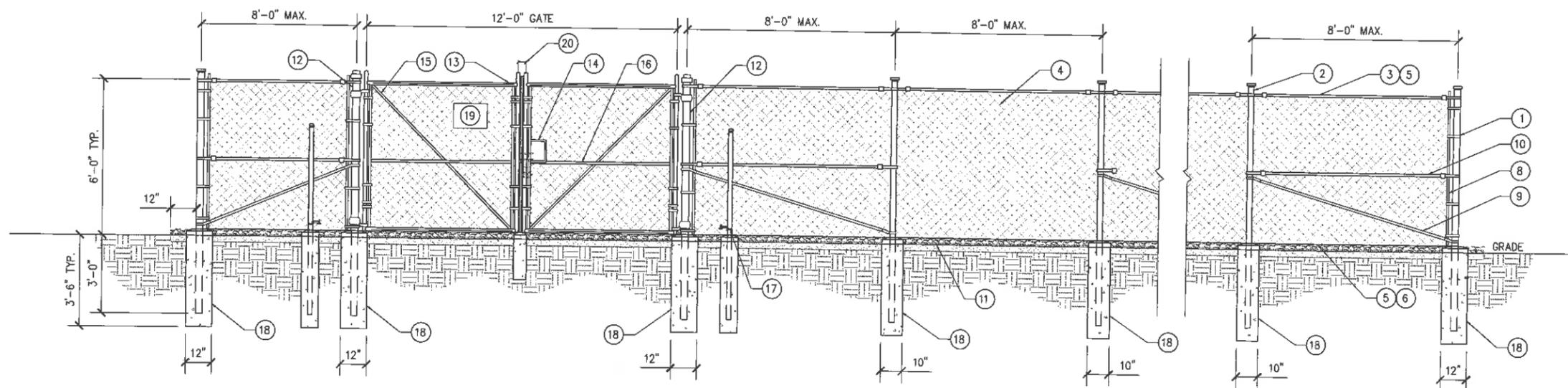
FRONT EQUIPMENT ELEVATION
SCALE: 3/8"=1'-0"
1



REAR EQUIPMENT ELEVATION
SCALE: 3/8"=1'-0"
2



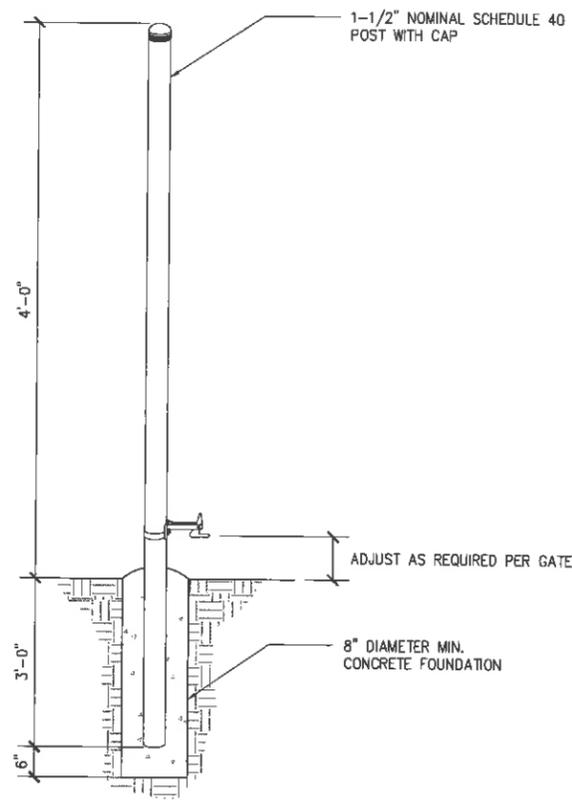
CUBE DETAIL
SCALE: NONE
3



FENCE ELEVATION

SCALE: NONE

1



DUCKBILL GATE STOP

SCALE: NONE

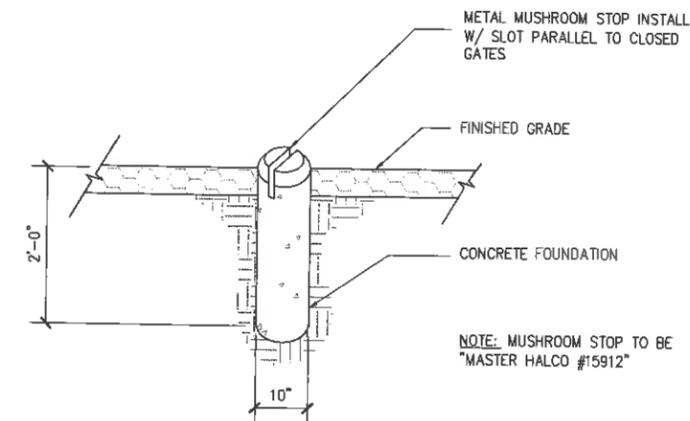
2

REFERENCE NOTES:

1. CORNER, END OR PULL POST: 3" NOMINAL SCHEDULE 40 PIPE.
2. LINE POST: 2-1/2" NOMINAL SCHEDULE 40 PIPE, PER ASTM F1083. LINE POSTS SHALL BE EQUALLY SPACED AT MAXIMUM 8'-0" O.C. (2-7/8" O.D.)
3. TOP RAIL & BRACE RAIL: 1-1/2" NOMINAL PIPE, PER ASTM F1083.
4. FABRIC: 9 GAUGE CORE WIRE SIZE 2" MESH, CONFORMING TO ASTM A392. GROUND CLEARANCE TO BE 2" MAX.
5. TIE WIRE: MINIMUM 11 GAUGE GALVANIZED STEEL. A SINGLE WRAP OF FABRIC TIE AT POSTS AND RAILS. BY HOG RINGS SPACED MAXIMUM 24" INTERVALS AT TENSION WIRE.
6. TENSION WIRE: 9 GAUGE GALVANIZED STEEL.
7. NOT USED.
8. STRETCHER BAR: 3/16" X 3/4" X HEIGHT OF FENCE.
9. 3/8" DIAGONAL ROD WITH GALVANIZED STEEL TURNBUCKLE OR DIAGONAL THREADED ROD.
10. CORNER POST BRACE: 1-1/4" NOMINAL PIPE EACH CORNER EACH WAY.
11. FINISH GRADE SHALL BE UNIFORM, LEVEL AND EXTEND 12" BEYOND FENCE BOUNDARY.
12. GATE POST: 3-1/2" NOMINAL SCHEDULE 40 PIPE, FOR GATE WIDTHS UP THRU 10 FEET OR 20 FEET FOR DOUBLE SWING GATE, PER ASTM F1083.
13. GATE FRAME: 1-1/2" NOMINAL PIPE, PER ASTM F1083.
14. 4" X 6" HANDHOLE WITH 3/4" CHAIN AND LOCKS. WELD CHAIN TO THE GATE LEAF WITHOUT THE HANDHOLE.
15. GATE DIAGONAL: GALVANIZED STEEL 1-1/2" NOMINAL PIPE.
16. GATE FRAME BRACE: 1-5/8" NOMINAL PIPE.
17. DUCK BILL OPEN GATE HOLDER. VERIFY LOCATION IN FIELD PRIOR TO INSTALLATION.
18. POST CONCRETE FOUNDATION (2000 PSI).
19. SIGNAGE PROVIDED BY OWNER.
20. GAP BETWEEN GATES: 1" MIN. / 3" MAX.

GENERAL NOTES:

1. INSTALL FENCING PER ASTM F567.
2. INSTALL SWING GATES PER ASTM F900.
3. COMPLY WITH LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT, IF REQUIRED.
4. POST & GATE PIPE SIZES ARE INDUSTRY STANDARDS. ALL PIPE TO BE 1-1/4" NOMINAL SCHEDULE 40 GALVANIZED MINIMUM (HOT DIP, ASTM F1083 GRADE "A" STEEL). ALL GATE FRAMES SHALL BE WELDED. ALL WELDING SHALL BE COATED WITH (3) COATS OF COLD GALVANIZING (OR EQUAL).
5. ALL OPEN POSTS SHALL HAVE END-CAPS.
6. USE GALVANIZED HOG-RING WIRE TO MOUNT ALL SIGNS.
7. ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE FABRIC.



MUSHROOM GATE STOP

SCALE: NONE

3

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SEAL:



JEFFREY GUTOWSKY
PROFESSIONAL ENGINEER
STATE OF ILLINOIS
LICENSE # 062-047235
EXPIRES: 11/30/2017 SIGNED: 08/01/16

DATE:	DESCRIPTION:	BY:	REV:
08/05/15	LEASE EXHIBIT	JTB	A
08/10/15	PER CLIENTS COMMENTS	DAY	B
08/27/15	REVISION	JS	C
09/02/15	REVISION	JS	D
12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	D

SITE INFORMATION:

CH92341A

**SISTERS OF
ST. JOSEPH**

1515 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

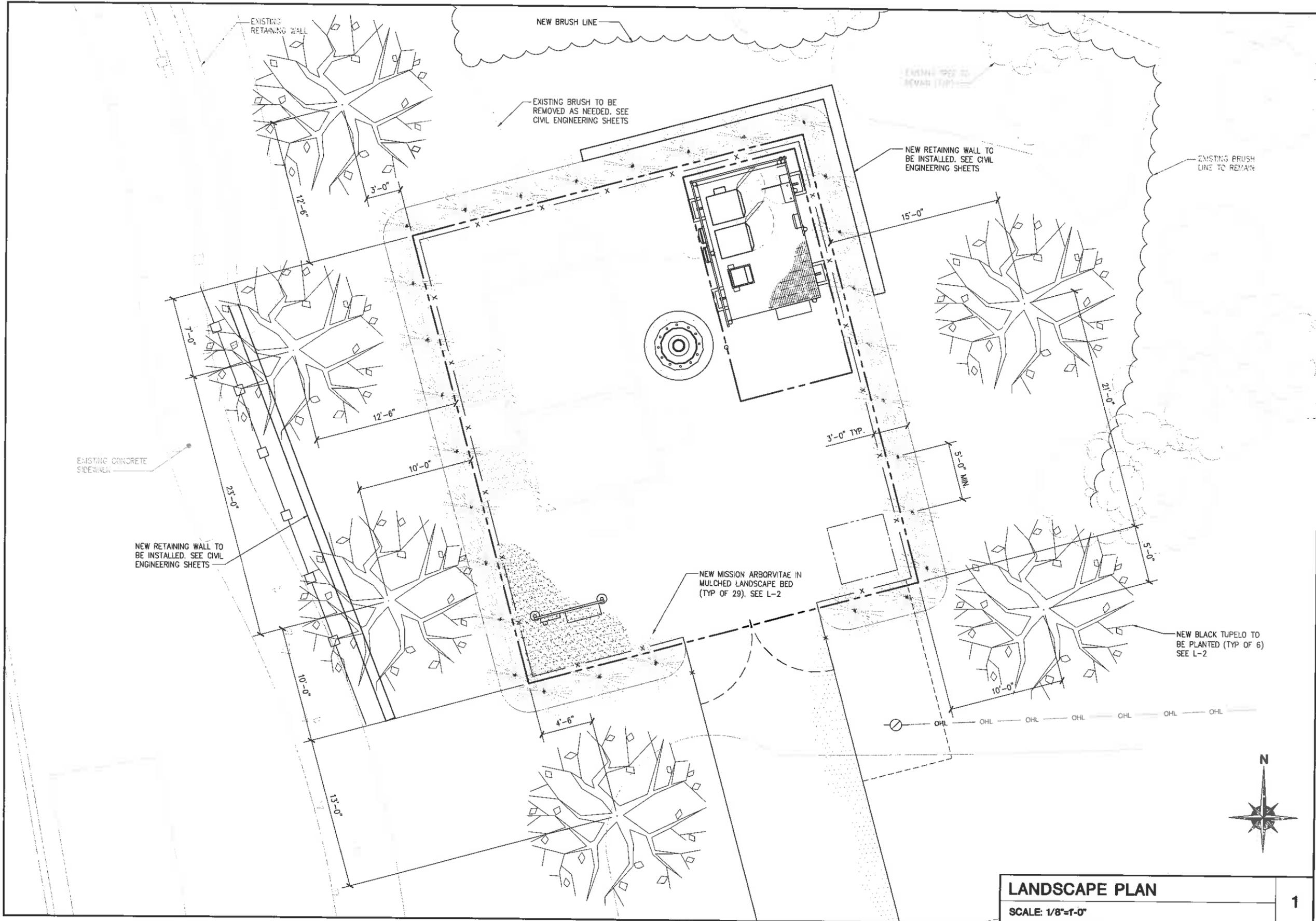
SHEET TITLE:

FENCE DETAILS

SHEET NUMBER:

C-5

PLOT SCALE: 1:1 @ 11"x17"



LANDSCAPE PLAN

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

1

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SEAL:
062-047235
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS
JEFFERY C. DUTOWSKY
PROFESSIONAL ENGINEER
STATE OF ILLINOIS
LICENSE # 062-047235
EXPIRES: 11/30/2017 SIGNED: 08/01/16

DATE	DESCRIPTION	BY	REV.
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08/10/15	PER CLIENTS COMMENTS	DAY	B
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09/02/15	REVISION	JS	D
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03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	XLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	D

SITE INFORMATION:
CH92341A
SISTERS OF ST. JOSEPH
1515 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

SHEET TITLE:
LANDSCAPE PLAN

SHEET NUMBER:
L-1

PLOT SCALE: 1:1 @ 11"x17"

LANDSCAPE GENERAL NOTES:

ALL PLACEMENT OF LANDSCAPING SHALL MEET THE FOLLOWING CONDITIONS:

1. ALL PLANT MATERIAL SHALL BE PLANTED IN A MANNER WHICH IS NOT TO INTERFERE WITH OVERHEAD WIRES OR BE INTRUSIVE TO UTILITIES OR PAVEMENT.
2. NO TREES OR OTHER LANDSCAPING SHALL BE LOCATED CLOSER THAN 10 FEET TO A FIRE HYDRANT OR OTHER ABOVE GROUND UTILITIES.
3. NO LANDSCAPING SHALL INTERFERE WITH SITE REQUIREMENTS FOR SAFE INGRESS AND EGRESS.

INSTALLATION STANDARDS:

1. PLANT MATERIAL SHALL CONFORM WITH THE CURRENT AMERICAN STANDARDS FOR NURSERY STOCK, PUBLISHED BY THE AMERICAN ASSOCIATION OF NURSERYMEN FOR THAT TYPE OF TREE OR SHRUB AT THE TIME OF INSTALLATION.
2. ALL TREES SHALL BE GROWN IN A NURSERY LOCATED IN THE STATE OF ILLINOIS.
3. ALL PLANT MATERIAL SHALL BE INSTALLED FREE OF DISEASE AND IN A MANNER THAT ENSURES THE AVAILABILITY OF SUFFICIENT SOIL AND WATER TO SUSTAIN HEALTHY GROWTH.
4. ALL TAGS, WIRES, PLASTIC TIES AND ROPE SHALL BE CUT FROM EACH TREE TO PREVENT GIRDLING OF THE TREE. THE BURLAP SHALL BE PULLED BACK FROM THE UPPER THIRD OF THE ROOTBALL. IF A PLASTIC 'BURLAP' IS USED, IT SHALL BE REMOVED IN ITS ENTIRETY FROM THE ROOTBALL.
5. ALL PLANT MATERIAL SHALL BE PLANTED WITH A MINIMUM OF DEPTH OF THREE (3) INCHES OF MULCHED MATERIAL AND A DIAMETER OF THREE (3) FEET AROUND THE BASE OF THE TREE.
6. TREES SHALL BE STAKED WITH POSTS AND NOT STAKES IN AREAS OF HIGH WIND FOR ONE TO THREE YEARS TO ALLOW THE GROWTH OF PROPOSED ROOTS TO STABILIZE. ALL ROPES SHALL BE COVERED TO PREVENT CUTTING INTO THE BARK.
7. ANY EXCESS SOIL, CLAY, OR CONSTRUCTION DEBRIS SHALL BE REMOVED FROM THE PLANTING SITE, PRIOR TO PLANTING OF INDIVIDUAL TREES AT FINAL GRADE.
8. THE JURISDICTION, AT ITS DISCRETION, HAS THE RIGHT TO RETAIN A PROFESSIONAL LANDSCAPE ARCHITECT OR ARBORIST TO REVIEW SUBMITTED LANDSCAPE PLAN AND THE PROFESSIONAL LANDSCAPE ARCHITECT OR ARBORIST WILL SUBMIT A WRITTEN REPORT TO THE PLANNING AND ZONING COMMISSION. ALL EXPENSES INCURRED BY THE JURISDICTION FOR THE USE OF THE LANDSCAPE ARCHITECT OR ARBORIST SHALL BE REIMBURSED BY THE DEVELOPER.

PLANTING SEASONS:

1. PLANTS MUST BE PLANTED DURING THE FOLLOWING DATES: APRIL 1ST TO MAY 15TH AND SEPTEMBER 1ST TO OCTOBER 1ST.
2. THE PLANTING PERIODS INDICATED MAY BE EXTENDED DUE TO WEATHER CONDITIONS OR OTHER FACTORS, WHICH MUST BE APPROVED BY THE LANDSCAPE ARCHITECT/ENGINEER.
3. THE CONTRACTOR WILL BE RELIEVED FOR HIS GUARANTEE RESPONSIBILITY SHOULD THE OWNER REQUIRE PLANT MATERIAL INSTALLATIONS TO BE COMPLETED DURING OTHER TIMES THAN THE PLANTING PERIODS INDICATED.

PLANTING:

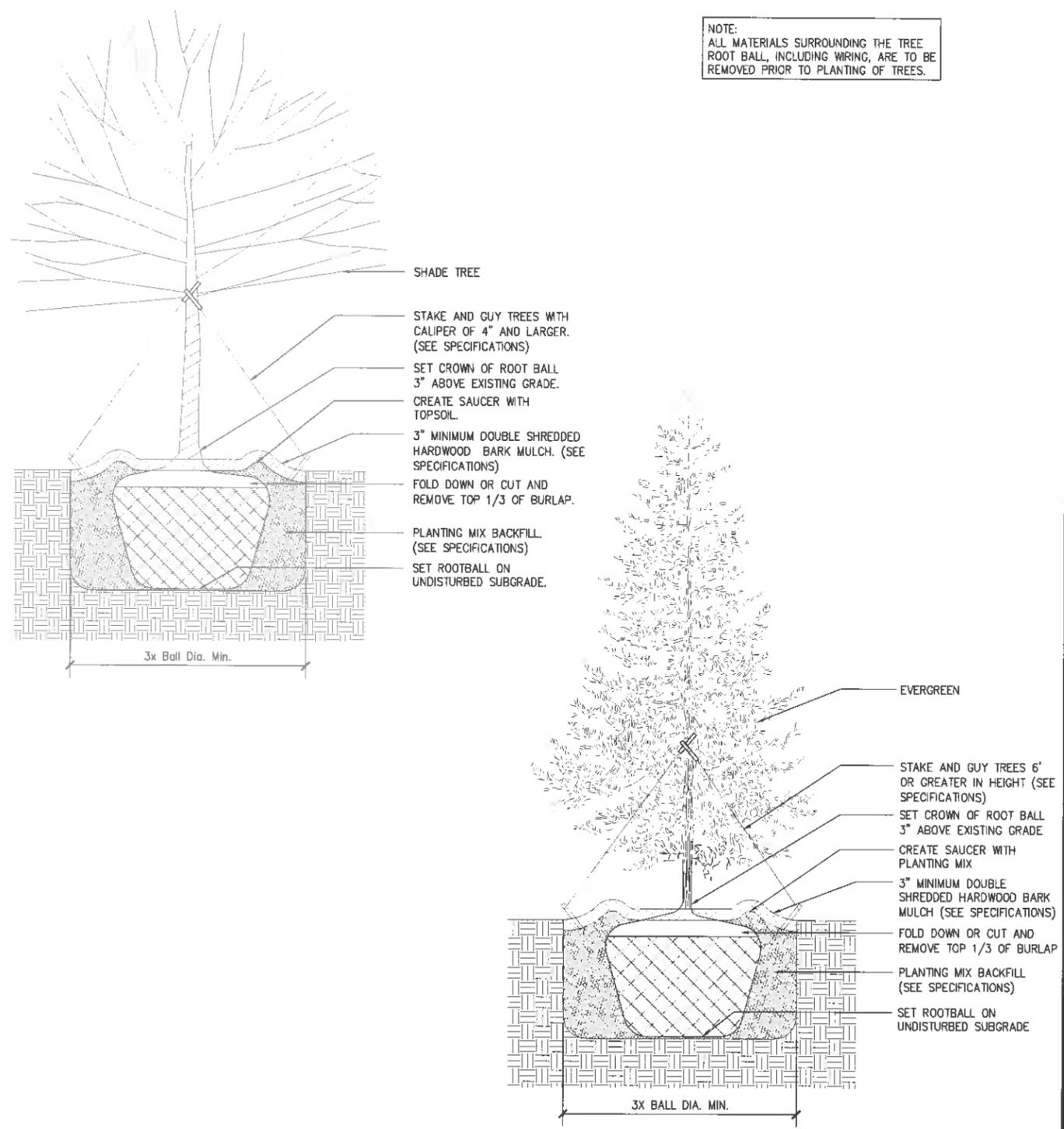
1. ALL SHADE TREES, ORNAMENTAL TREES, EVERGREEN TREES AND SHRUBS SHALL BE PLANTED IN HOLES EXCAVATED AT LEAST 3x THE WIDTH OF THE DIAMETER OF THE BALL OR CONTAINER AND DEEP ENOUGH SO THAT THE TOP OF THE BALL OR SOIL IN THE CONTAINER IS AT OR JUST ABOVE EXISTING GRADE.
2. ALL TWINE OR ROPE MUST BE CUT AND REMOVED AND THE BURLAP FOLDED AWAY FROM THE TOP OF THE BALL. THE EXCAVATION MUST BE BACKFILLED WITH THE PLANTING MIXTURE AND WATERED. ANY SETTLEMENT WILL BE FILLED WITH PLANTING MIXTURE.
3. A 4" DEEP SAUCER, SIMILAR TO THE DIAMETER OF THE PLANTING HOLE SHALL BE CREATED USING PLANTING MIX.
4. PLANTING MIX TO CONSIST OF 1/3 TOP SOIL, 1/3 SOIL FROM EXCAVATION, AND 1/3 MUSHROOM COMPOST (OR 1/3 PEAT MOSS).

CLEAN UP:

1. ALL DEBRIS GENERATED DURING THE INSTALLATION OF PLANT MATERIALS MUST BE REMOVED FROM THE SITE.
2. ALL PAVEMENTS AND WALKS MUST BE SWEEPED AFTER EACH DAYS WORK. UPON COMPLETION OF THE WORK, ALL PAVEMENTS MUST BE WASHED TO REMOVE ALL MUD OR DIRT.

LANDSCAPE CHART						
QTY.	COMMON NAME	SCIENTIFIC NAME	HT. AT INSTALL	SPACING	ROOT BALL	OVERALL PROJECTED HEIGHT
29	MISSION ARBORVITAE	thuja occidentalis 'mission'	6'-0"	5'-0" MIN. O.C.	B/B	10'-0"
6	BLACK TUPELO	nyssa syvatico	15'-0"	N/A	B/B	30'-0" TO 50'-0"

NOTE:
ALL MATERIALS SURROUNDING THE TREE ROOT BALL, INCLUDING WIRING, ARE TO BE REMOVED PRIOR TO PLANTING OF TREES.



TREE DETAILS
SCALE: NONE



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STATE OF ILLINOIS
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EXPIRES: 11/30/2017 SIGNED: 08/01/16

DATE	DESCRIPTION	BY	REV
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12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
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08/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	O

SITE INFORMATION:
CH92341A
SISTERS OF ST. JOSEPH
1615 OGDEN AVENUE
LA GRANGE PARK, IL 60528
W-T JOB NUMBER: T1505246

SHEET TITLE:
LANDSCAPE DETAILS

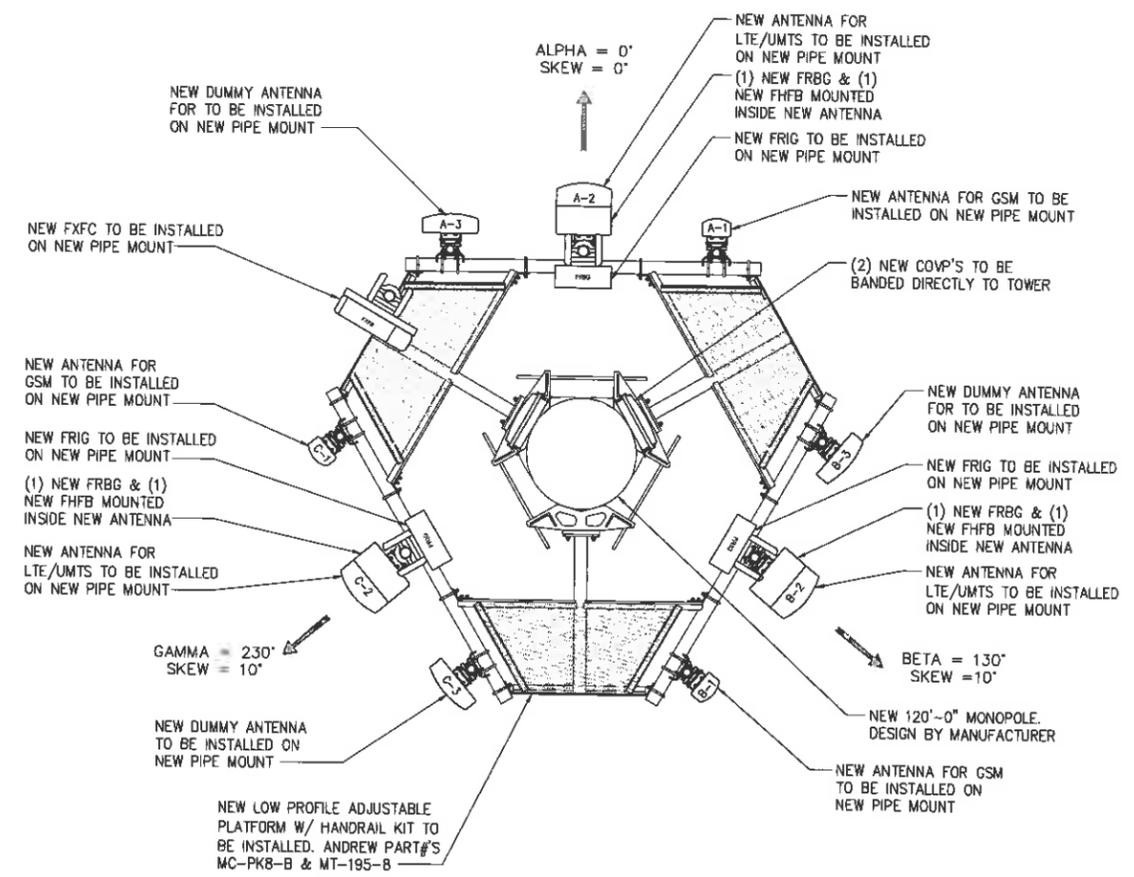
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L-2

PLOT SCALE: 1:1 @ 11"x17"

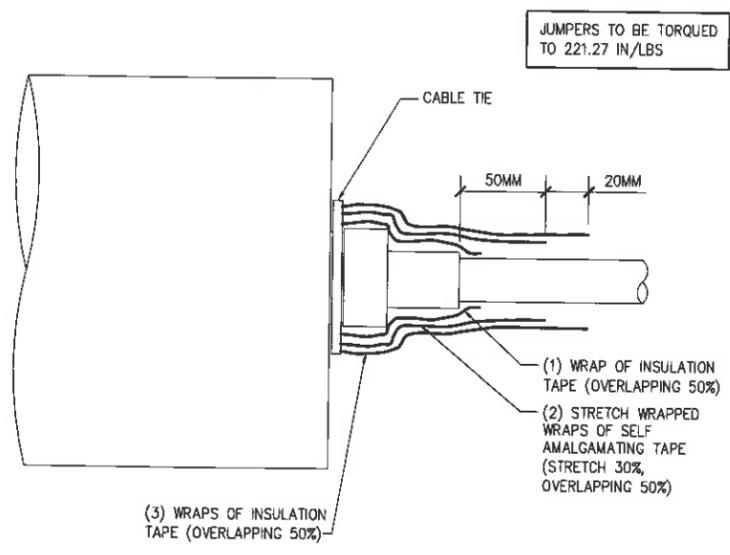
ANTENNA & CABLE SCHEDULE														
SECTOR	ALPHA				BETA				GAMMA					
LOCATION	A-3	A-2	A-1	B-3	B-2	B-1	C-3	C-2	C-1					
TECHNOLOGY	0°				130°				230°					
RAD CENTER	120'-0"				120'-0"				120'-0"					
COLOR CODING	RED (3-12)				GREEN (3-12)				BLUE (3-12)					
MODEL #	CMA-BDHH/6521/0-6/RMU/TB05				NOKIA FASB (PENTA)				CMA-B/6521/EO-6/RMU/TB05					
ACTIVE TECHNOLOGY	DUMMY	L700	L1900	L1900	L2100	L2100	G1900	DUMMY	L700	L1900	L1900	L2100	L2100	G1900
MECHANICAL DOWNTILT	0				0				0					
ELECTRICAL DOWNTILT	2				2				2					
RRU TYPE	(1) FRIG (1) FRBG (INTERNAL) (1) FHFB (INTERNAL)				(1) FRIG (1) FRBG (INTERNAL) (1) FHFB (INTERNAL)				SHARED FXFB					
FIBER JUMPER LENGTH	15'-0"				15'-0"				15'-0"					
RF JUMPER LENGTH	6'-0"				6'-0"				6'-0"					
HCS DIA. & TYPE	(2) 1.584" HIGH CAPACITY				-				-					
HCS ACTUAL LENGTH	±135'-0"				-				-					
HCS FACTORY LENGTH	150'-0"				-				-					

NOTE:
W-T'S SCOPE OF WORK DOES NOT INCLUDE A STRUCTURAL EVALUATION OF THIS TOWER OR STRUCTURE. NEW ANTENNAS AND EQUIPMENT SHOWN ON THIS PLAN HAVE NOT BEEN EVALUATED TO VERIFY THE TOWER OR STRUCTURE HAS THE CAPACITY TO ADEQUATELY SUPPORT THESE ANTENNAS. PRIOR TO ANY ANTENNA OR EQUIPMENT INSTALLATION, A STRUCTURAL EVALUATION OF THE TOWER OR STRUCTURE, INCLUDING ALL ANTENNA MOUNTING SYSTEMS & HARDWARE SHALL BE PERFORMED.

NOTE:
ANTENNA INFORMATION OBTAINED FROM T-MOBILE RF DATA CONFIGURATION SHEET DATED 07/20/16.



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



RF JUMPER CONNECTION DETAIL
SCALE: NONE 2

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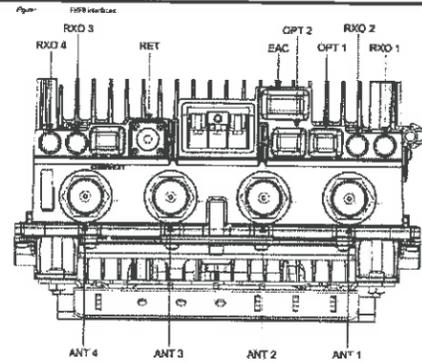
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06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	O

SITE INFORMATION:
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1615 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

SHEET TITLE:
ANTENNA PLAN

SHEET NUMBER:
A-2

PLOT SCALE: 1:1 @ 11"x17"



Height	With lower bracket: 672 mm (26.5 in.) Without lower bracket: 637 mm (25.1 in.) Without brackets: 585 mm (23.0 in.)
Depth	200 mm (7.9 in.)
Width	Without solar shield: 320 mm (12.6 in.)
Weight	With lower bracket: 23 kg (51.0 lbs) Without solar shield and mounting shroud: 22 kg (48.5 lbs)

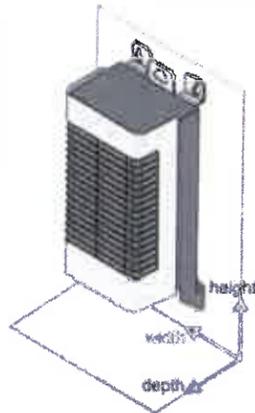
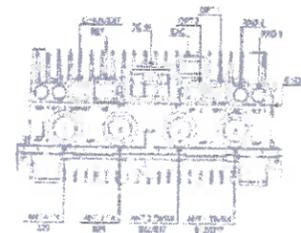


TABLE 1: FHFB interfaces

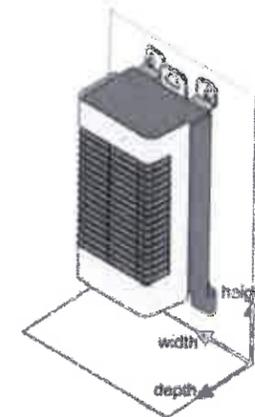
Interface	Label on the HW	Number of interfaces	Connector type	Additional info
Power connector	DC IN	1	3-pole screw terminal	
Antenna connector	ANT	4	7/16	
RF external connector	Rx EXT	4	QMA	
Remote Electrical TR	RET	1	8-pin circular	
External Alarm Connection	EAC	1	D-sub MDR14	
Optical interface	OPT	3	SFP	
Local Management Port	LMP	1	2x15 pin header	

Antenna Line Devices (ALDs) support

FHFB	1
SCALE: NONE	

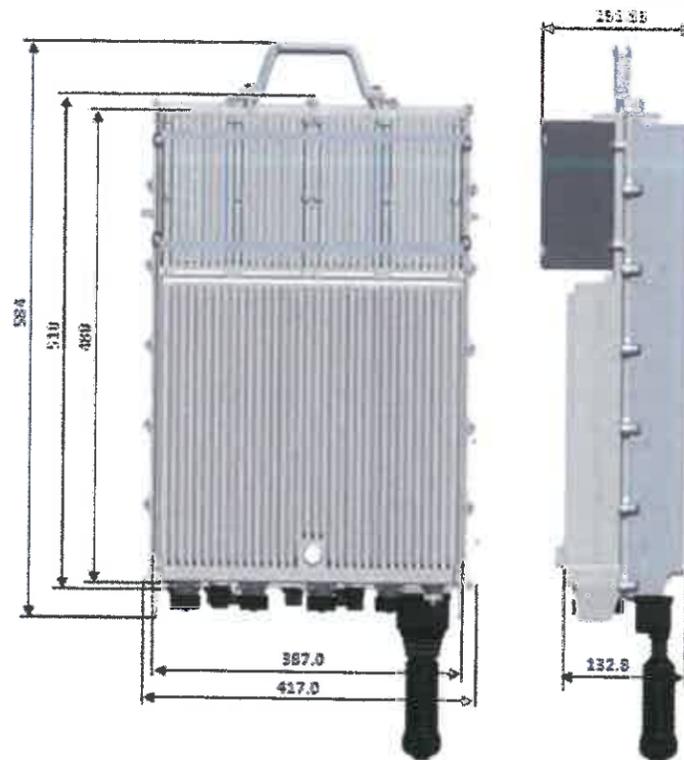


Height	Core RRH: 583 mm (23.0 in.) With upper and lower mounting brackets: 608 mm (23.9 in.)
Depth	Core RRH: 168 mm (6.6 in.) With plastic cover and mounting brackets: 200 mm (7.9 in.)
Width	Core RRH: 320 mm (12.6 in.) With plastic cover and mounting brackets: 331 mm (13.0 in.)
Weight	Core RRH: 34 kg (75.0 lbs) With plastic cover and mounting brackets: 36 kg (79.3 lbs)
Volume	With cover: 33 l Without cover: 27 l

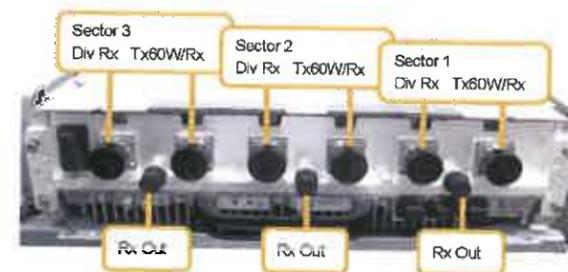
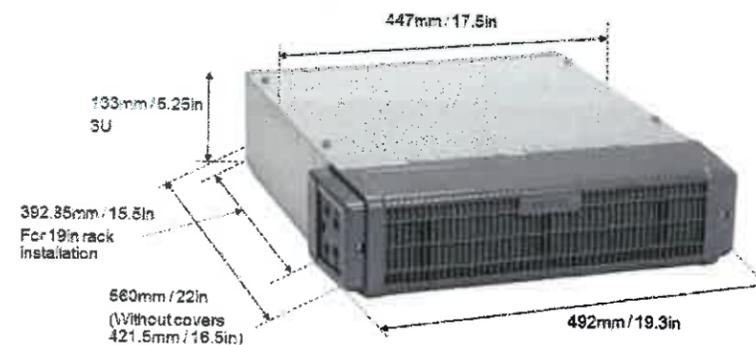


Interface	Label on the HW	Number of interfaces	Connector type	Additional info
Power connector	DC IN	1	3-pole screw terminal	
Antenna connector	ANT	4	7/16	
RF external connector	Rx EXT	2	QMA	
Remote Electrical TR	RET	1	8-pin circular	
External Alarm Connection	EAC	1	D-sub MDR14	
Optical interface	OPT1, OPT2, OPT3, OPT4	4	SFP	6 Gbps, QSFP
Grounding	Ground	1	CR-01 dual 60 screws	GRD

FRBG	2
SCALE: NONE	



FRIG	3
SCALE: NONE	



FXFB	4
SCALE: NONE	

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SEAL:
JEFFERY S. GUTOWSKY
062-047238
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
[Signature]
JEFFERY GUTOWSKY
PROFESSIONAL ENGINEER
STATE OF ILLINOIS
LICENSE # 062-047235
EXPIRES: 11/30/2017 SIGNED: 08/01/16

DATE	DESCRIPTION	BY	REV
08/05/15	LEASE EXHIBIT	JTB	A
08/10/15	PER CLIENTS COMMENTS	DAY	B
08/27/15	REVISION	JS	C
09/02/15	REVISION	JS	D
12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	D

SITE INFORMATION:
CH92341A
SISTERS OF ST. JOSEPH
1515 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

SHEET TITLE:
EQUIPMENT SPECIFICATIONS

SHEET NUMBER:
A-3.1

PLOT SCALE: 1:1 @ 11"x17"

RAN Template: 731A, RAN, GSM TTRRU | All Template: Custom | CH92341A_0.1_Capacity-L1900

Section 1 - Site Information

Site ID: CH92341A
 Name: Final
 Revision: 0.1
 Project Type: Capacity L1900
 Approved By: GSM1000346481
 Approved Date: 7/26/2016 1:02:21 PM
 Last Modified By: GSM1000346481
 Site Name: Sisters of St. Joseph
 Address: 1515 W. Grange Ave.
 City: Chicago, IL
 State: IL
 Zip: 60626
 Lat: 41.8263100
 Lon: -87.6324790
 Site Type: Structure Non-Building
 Substation Type: Macro
 Plan View: CHICAGO
 Vendor: Nokia
 Linc Desc: Sisters of St. Joseph of LeGrange

RAN Template: 731A, RAN, GSM TTRRU | All Template: Custom

Number of Sites: 3 | Number of Cells: 15 | Core Linc Count: 0 | TRF Count: 0 | PRU Count: 4

RAN Template: 731A, RAN, GSM TTRRU | All Template: Custom | CH92341A_0.1_Capacity-L1900

Section 5 - RAN Equipment

Existing RAN Equipment
 This section is intentionally blank.

Proposed RAN Equipment

Template: 731A, RAN, GSM TTRRU

Equipment	1	2	3	4	5
Equipment Type	Auxiliary Equipment	Outdoor Cabinet	RAN	Tower Top Mount	On-site Site Support Cabinet
Manufacturer		FSAN FSAN FSAN LS1001 LS1001 LS1001 L1700 ESANB G1900			
Manufacturer Submodel		FBDC FBDC FBDC L1100 L1700 L1900 FRBA L1900			
Hybrid Cabinet	NBN High Cap HCS 1000 (A)				
Accessories	Large COVP (air)				
Power Subsystem	Large COVP (air)				
Notes	(Battery "Select site") (Breakers "Select site") (DIN Prod "Select site") (Rectifier Shelf "Select site")				

RAN Template: 731A, RAN, GSM TTRRU | All Template: Custom

7/26/2016 updated by GSM1000346481

RAN Template: 731A, RAN, GSM TTRRU | All Template: Custom | CH92341A_0.1_Capacity-L1900

Section 6 - A&L Equipment

Existing Template: Custom
 Proposed Template: Custom

Section 1 (Proposed) view from front (Note: the images show view from behind)

Coverage Type: A - Outdoor Macro

Antenna	1	2
Antenna Model	OMA-E1621E0-6RMLU1B05 (Dual)	Nokia FASB RAS (Penta)
Antenna	130	130
St. Ht	0	0
Height	120	120
Ports	P1	P2 P3 P4 P5 P6
Active Tech.	G1000	L700 U1900 U1900 L2100 L2100
Bank Tech.		
Neighborhood Tech.		
Deployment Tech.		
E. TB	2	2 2 2 2 2
Cells		
Notes		
Deployment / Conductors		
Radio		
Sector		
Equipment		
Scope of Work		

Section 2 (Proposed) view from front (Note: the images show view from behind)

Coverage Type: A - Outdoor Macro

Antenna	1	2
Antenna Model	OMA-E1621E0-6RMLU1B05 (Dual)	Nokia FASB RAS (Penta)
Antenna	130	130
St. Ht	0	0
Height	120	120
Ports	P1	P2 P3 P4 P5 P6
Active Tech.	G1000	L700 U1900 U1900 L2100 L2100
Bank Tech.		
Neighborhood Tech.		
Deployment Tech.		
E. TB	2	2 2 2 2 2
Cells		
Notes		
Deployment / Conductors		
Radio		
Sector		
Equipment		
Scope of Work		

Section 3 (Proposed) view from front (Note: the images show view from behind)

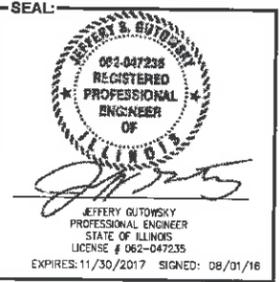
Coverage Type: A - Outdoor Macro

Antenna	1	2
Antenna Model	OMA-E1621E0-6RMLU1B05 (Dual)	Nokia FASB RAS (Penta)
Antenna	230	230
St. Ht	0	0
Height	220	220
Ports	P1	P2 P3 P4 P5 P6
Active Tech.	G1000	L700 U1900 U1900 L2100 L2100
Bank Tech.		
Neighborhood Tech.		
Deployment Tech.		
E. TB	2	2 2 2 2 2
Cells		
Notes		
Deployment / Conductors		
Radio		
Sector		
Equipment		
Scope of Work		

PROPOSED ANTENNA CONFIGURATION SHEET
 SCALE: NONE



PLANS PREPARED BY:
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 Hoffman Estates, Illinois 60182
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DATE	DESCRIPTION	BY	REV.
08/05/15	LEASE EXHIBIT	JTB	A
08/10/15	PER CLIENTS COMMENTS	DAY	B
08/27/15	REVISION	JS	C
09/02/15	REVISION	JS	D
12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	O

SITE INFORMATION:
CH92341A
SISTERS OF ST. JOSEPH
 1515 OGDEN AVENUE
 LA GRANGE PARK, IL 60526
 W-T JOB NUMBER: T1505246

SHEET TITLE:
RF DATA SHEET

SHEET NUMBER:
A-4

PLOT SCALE: 1:1 @ 11"x17"

NOTE:
ALL UNISTRUT, FASTENERS, HARDWARE, ETC. ARE TO BE EITHER HOT-DIPPED GALVANIZED OR STAINLESS STEEL. GENERAL CONTRACTOR IS NOT TO USE ZINC-PLATED OR PRE-GALVANIZED.

NEW 1" RIGID CONDUIT FOR DC POWER TO RUN FROM NEW CIENA TO NEW SITE SUPPORT CABINET ELECTRIC JUNCTION BOX

NEW 1" RIGID CONDUIT FOR FIBER FROM NEW CIENA TO NEW LARGE SITE SUPPORT CABINET

NEW FYGA LTE GPS ANTENNA TO BE INSTALLED. RUN NEW FTSE CABLE TO NEW FSMF

LEGEND

F — FIBER LINE
E — ELECTRIC LINE

VOLTAGE DROP FROM METER CENTER TO PPC

LENGTH OF RUN	WIRE SIZE	VOLTAGE DROP (VOLTS)	PERCENTAGE OF VOLTAGE
±90'-0"	(3) 3/0	3.07V	1.28%

VOLTAGE DROP FROM UTILITY POLE TO METER CENTER

LENGTH OF RUN	WIRE SIZE	VOLTAGE DROP (VOLTS)	PERCENTAGE OF VOLTAGE
±95'-0"	(2) RUNS OF (3) 300 MCM	2.78V	1.16%

NOTE:
ALL UNISTRUT, FASTENERS, HARDWARE, ETC. ARE TO BE EITHER HOT-DIPPED GALVANIZED OR STAINLESS STEEL. GENERAL CONTRACTOR IS NOT TO USE ZINC-PLATED OR PRE-GALVANIZED.

(1) NEW 2" RIGID CONDUIT WITH (3) 3/0 AWG WIRES FOR POWER & (1) #8 GROUND WIRE TO RUN FROM NEW SITE SUPPORT CABINET TO NEW PPC. CONDUIT TO BE INSTALLED WITH PULL STRING. FINAL ROUTE AND CONNECTION TO BE VERIFIED IN FIELD PRIOR TO ANY CONSTRUCTION

NEW H-FRAME WITH NEW PPC WITH PANLOC, NEW CIENA & LED SERVICE LIGHT. SEE 1/E-2

NEW 2" RIGID CONDUIT TO RUN UNDERGROUND FROM NEW CIENA TO NEW HOFFMAN BOX ON H-FRAME. SEE 2/E-2

NEW 2" RIGID CONDUIT TO RUN UNDERGROUND FROM PPC TO NEW H-FRAME WITH NEW 600A METER CENTER. SEE 2/E-2

(1) NEW LARGE SITE SUPPORT CABINET TO BE MOUNTED TO PLATFORM ON MANUFACTURER SUPPLIED PLINTH

(2) NEW 2" CONDUITS FROM LARGE BBU CABINET TO NEW LARGE SITE SUPPORT CABINET

(1) NEW 2" FLEX CONDUIT FROM NEW SITE SUPPORT CABINET ELECTRIC JUNCTION BOX TO EACH COVP FOR DC POWER

(1) NEW LARGE BBU CABINET TO BE MOUNTED TO PLATFORM ON MANUFACTURER SUPPLIED PLINTH

(1) NEW 1" RIGID FIBER CONDUIT FROM NEW LARGE SITE SUPPORT CABINET TO NEW CUBE TELCO JUNCTION BOX

(2) NEW COVP'S & FSEB TO BE MOUNTED TO NEW UNISTRUT

(1) NEW 2" RIGID ELECTRICAL CONDUIT FROM SITE SUPPORT CABINET JUNCTION BOX TO NEW CUBE ELECTRICAL JUNCTION BOX
NEW FIBER JUMPERS FROM NEW SYSTEM MODULES TO NEW COVP'S

(4) NEW SYSTEM MODULES ON NEW CUBE. SEE 3/C-3

NEW H-FRAME WITH NEW 600A METER, NEW HOFFMAN BOX. SEE 2/E-2

NEW 2" RIGID CONDUIT TO RUN UNDERGROUND FROM NEW CIENA TO NEW HOFFMAN BOX ON H-FRAME. SEE 2/E-2

NEW 2" RIGID CONDUIT TO RUN UNDERGROUND FROM PPC TO NEW H-FRAME WITH NEW 600A METER CENTER. SEE 2/E-2

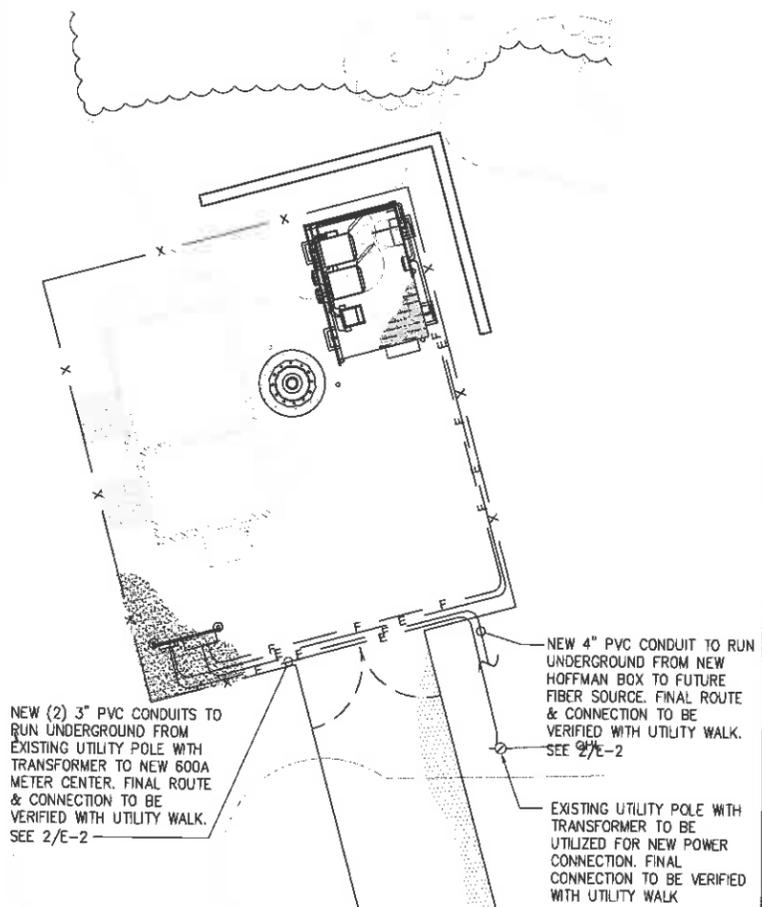
NEW 4" PVC CONDUIT TO RUN UNDERGROUND FROM NEW HOFFMAN BOX TO FUTURE FIBER SOURCE. FINAL ROUTE & CONNECTION TO BE VERIFIED WITH UTILITY WALK. SEE 2/E-2

NEW (2) 3" PVC CONDUITS TO RUN UNDERGROUND FROM EXISTING UTILITY POLE WITH TRANSFORMER TO NEW 600A METER CENTER. FINAL ROUTE & CONNECTION TO BE VERIFIED WITH UTILITY WALK. SEE 2/E-2

ENLARGED UTILITY PLAN

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

1



NEW (2) 3" PVC CONDUITS TO RUN UNDERGROUND FROM EXISTING UTILITY POLE WITH TRANSFORMER TO NEW 600A METER CENTER. FINAL ROUTE & CONNECTION TO BE VERIFIED WITH UTILITY WALK. SEE 2/E-2

NEW 4" PVC CONDUIT TO RUN UNDERGROUND FROM NEW HOFFMAN BOX TO FUTURE FIBER SOURCE. FINAL ROUTE & CONNECTION TO BE VERIFIED WITH UTILITY WALK. SEE 2/E-2

EXISTING UTILITY POLE WITH TRANSFORMER TO BE UTILIZED FOR NEW POWER CONNECTION. FINAL CONNECTION TO BE VERIFIED WITH UTILITY WALK

OVERALL UTILITY PLAN

SCALE: 1/16"=1'-0"

2

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CHICAGO, ILLINOIS 60631

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EXPIRES: 11/30/2017 SIGNED: 08/01/16

DATE	DESCRIPTION	BY	REV
08/05/15	LEASE EXHIBIT	JTB	A
08/10/15	PER CLIENTS COMMENTS	DAY	B
08/27/15	REVISION	JS	C
09/02/15	REVISION	JS	D
12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	O

SITE INFORMATION:

CH92341A
SISTERS OF ST. JOSEPH

1515 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

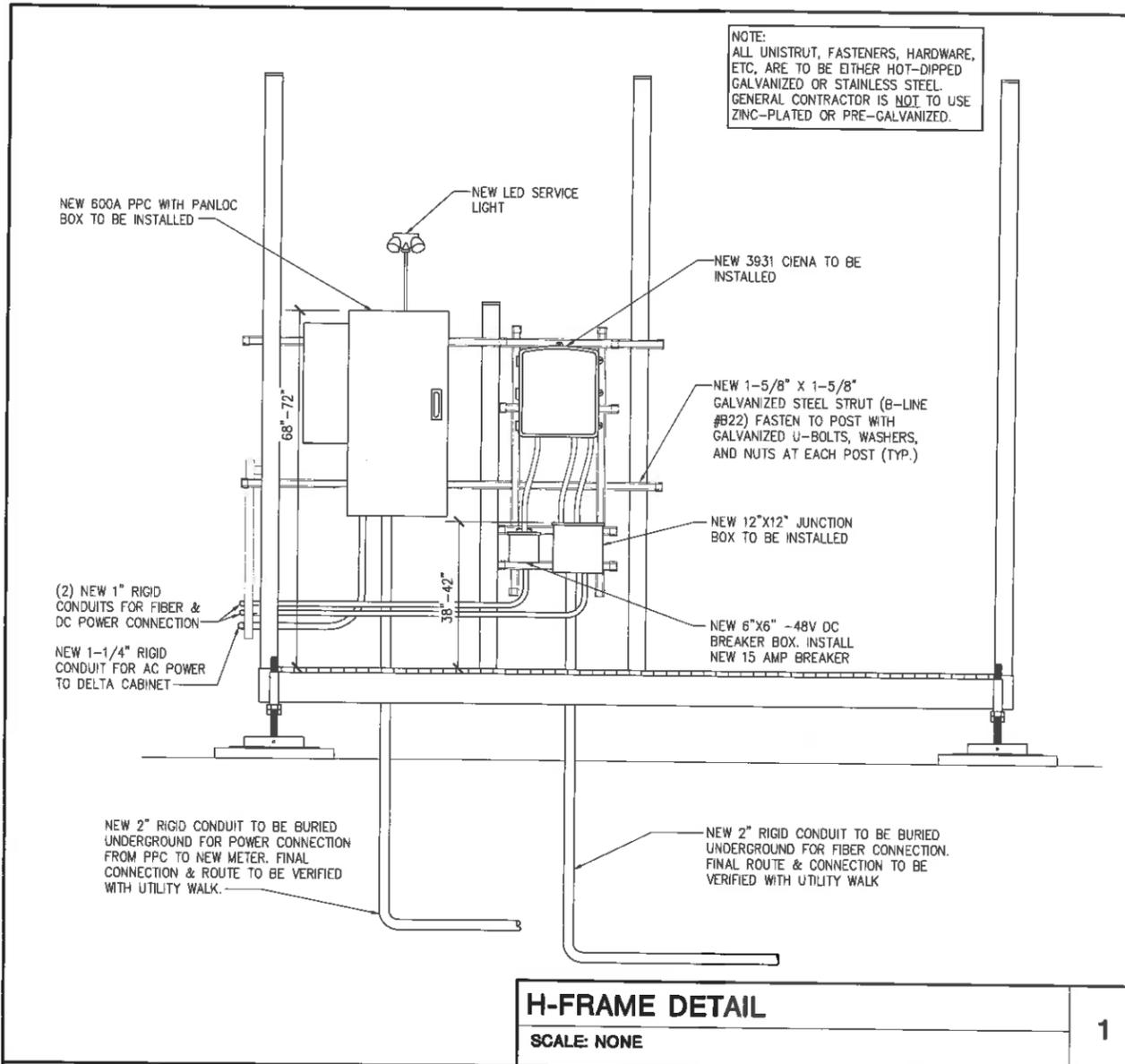
SHEET TITLE:

UTILITY PLANS

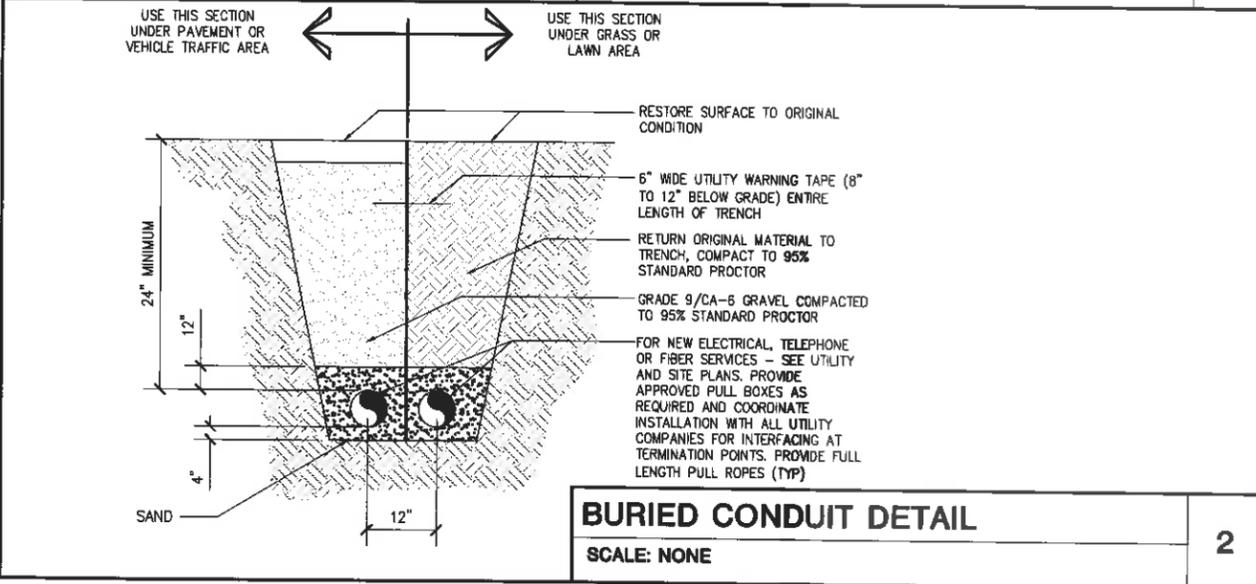
SHEET NUMBER:

E-1

PLOT SCALE: 1:1 @ 11"x17"



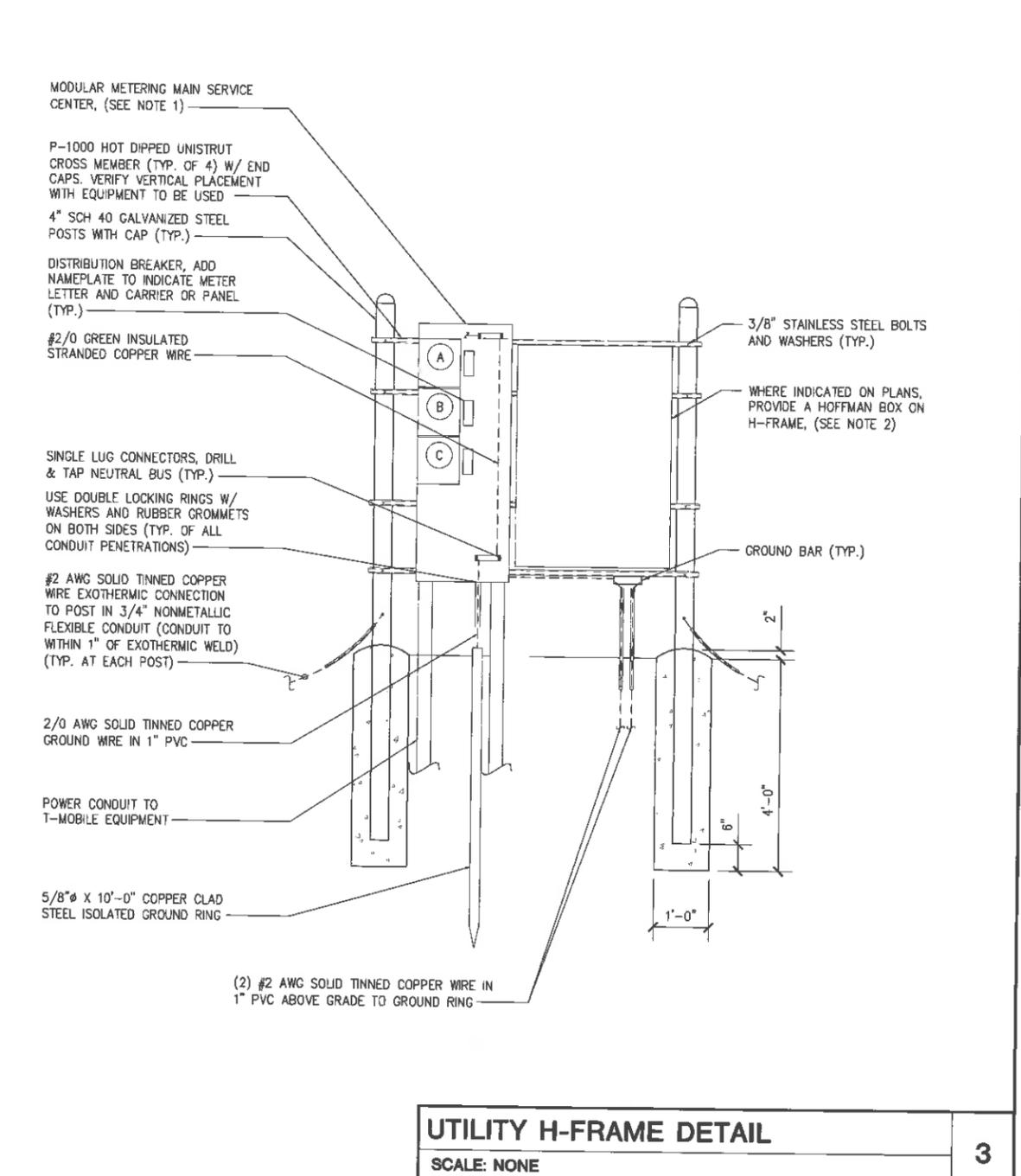
H-FRAME DETAIL
SCALE: NONE
1



BURIED CONDUIT DETAIL
SCALE: NONE
2

- NOTES:
- CONTRACTOR SHALL PROVIDE AND INSTALL MODULAR METERING MAIN SERVICE CENTER, 120/240, 1Ø, 600AMP, NEMA 3R WITH (3) METER SOCKETS (SQUARE D OR EQUAL). METER CENTER SHALL BE FURNISHED WITH (1) 200 AMP CIRCUIT BREAKER TO FEED T-MOBILE EQUIPMENT. OTHER METERS AND BREAKERS SHALL BE COVERED WITH LEXAN METER COVER. SEE SINGLE LINE DIAGRAM FOR ADDITIONAL DETAILS AND NOTES PERTAINING TO METER CENTER.
 - WHERE INDICATED ON PLANS, PROVIDE A TELCO DEMARCATION BOX TO INCLUDE 36\"/>

- NOTE:
- UTILITY METER ENCLOSURE INSTALLATION TO BE COORDINATED WITH THE LOCAL ELECTRICAL PROVIDER
- NOTE:
- ALL UNISTRUT, FASTENERS, HARDWARE, ETC. ARE TO BE EITHER HOT-DIPPED GALVANIZED OR STAINLESS STEEL. GENERAL CONTRACTOR IS NOT TO USE ZINC-PLATED OR PRE-GALVANIZED.



UTILITY H-FRAME DETAIL
SCALE: NONE
3



PLANS PREPARED BY:

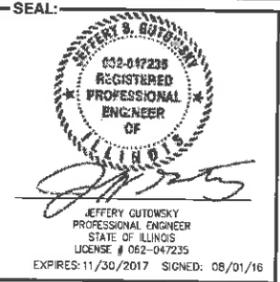
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DATE	DESCRIPTION	BY	REV
08/05/15	LEASE EXHIBIT	JTB	A
08/10/15	PER CLIENTS COMMENTS	DAY	B
08/27/15	REVISION	JS	C
09/02/15	REVISION	JS	D
12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	D

SITE INFORMATION:

CH92341A

SISTERS OF ST. JOSEPH

1515 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

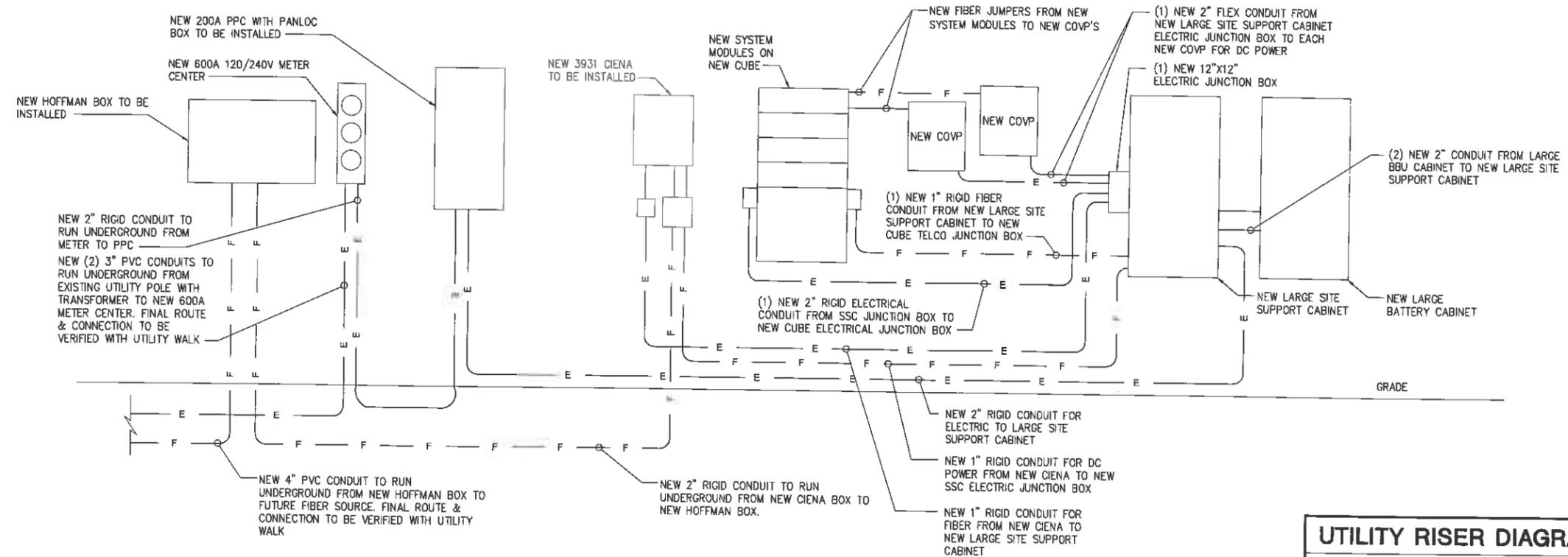
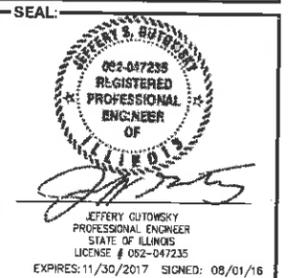
SHEET TITLE:

H-FRAME & UTILITY DETAILS

SHEET NUMBER:

E-2

PLOT SCALE: 1:1 @ 11"x17"



UTILITY RISER DIAGRAM
SCALE: NONE

DATE	DESCRIPTION	BY	REV
08/05/15	LEASE EXHIBIT	JTB	A
08/10/15	PER CLIENTS COMMENTS	DAY	B
08/27/15	REVISION	JS	C
09/02/15	REVISION	JS	D
12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	D

SITE NUMBER: T-Mobile		MODEL NUMBER:	
VOLTAGE: 240V/120		PHASE: 1	
MAIN BREAKER: 200 AMP		EUS RATING: 200 AMP S	
MOUNT: SURFACE		WIRE: 3	
ENCLOSURE TYPE: NEMA 3R		AIC: 22,000	
PANEL STATUS: NEW		GROUND BAR: YES	
		NEUTRAL BAR: YES	
		N to GROUND BOND: YES	
		INTERNAL TVSS: YES	

CKT	LOAD DESCRIPTION	BREAKER AMPS	BREAKER POLES	BREAKER STATUS	SERVICE LOAD VA	USAGE FACTOR	PHASE A VA	PHASE B VA	USAGE FACTOR	SERVICE LOAD VA	BREAKER STATUS	BREAKER POLES	BREAKER AMPS	LOAD DESCRIPTION	CKT
1	SURGE ARRESTOR	20	2	ON	0	1.00	9626		1.00	9626					2
3					0	1.00		9626	1.00	9525					4
6	SERVICE LIGHT	15	1	ON	26	1.00	9561		1.00	9525	ON	4	200	SITE SUPPORT CABINET	6
7				N/A	0	0.00		9626	1.00	9525					8
9				N/A	0	0.00	0		0.00	0	N/A				10
11				N/A	0	0.00		0	0.00	0	N/A				12
13				N/A	0	0.00		0	0.00	0	N/A				14
16				N/A	0	0.00		0	0.00	0	N/A				16
17				N/A	0	0.00		0	0.00	0	N/A				18
19				N/A	0	0.00		0	0.00	0	N/A				20
21				N/A	0	0.00		0	0.00	0	N/A				22
23				N/A	0	0.00		180	1.00	180	ON	1	20	GFI	24
											TOTAL KVA		38.31		
											AMPS		169.61		

NOTE:
CONTRACTOR TO VERIFY SITE SUPPORT CABINET SERVICE LOAD DOES NOT EXCEED 38,100 WATTS (VA) PRIOR TO CABINET INSTALLATION.

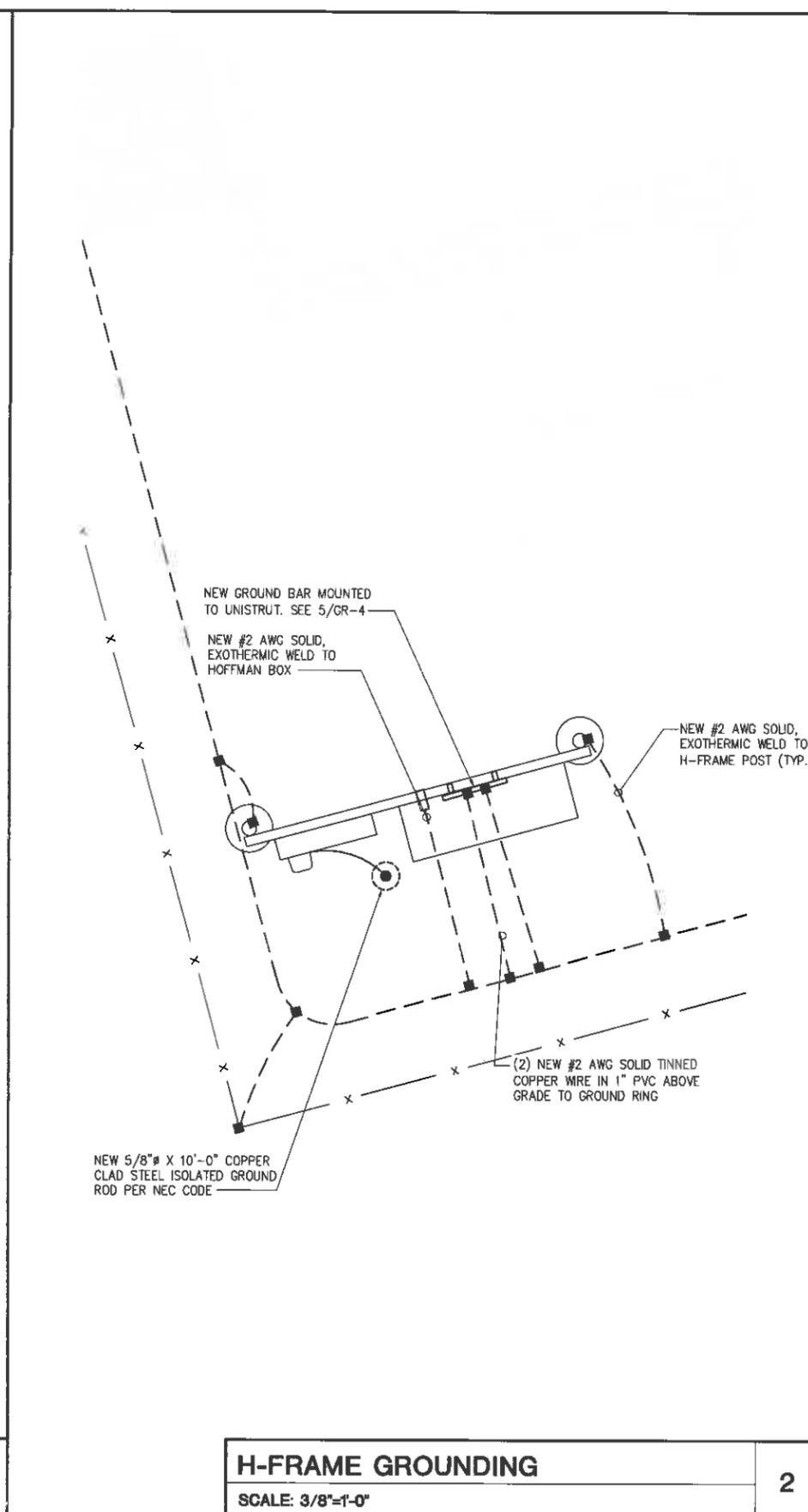
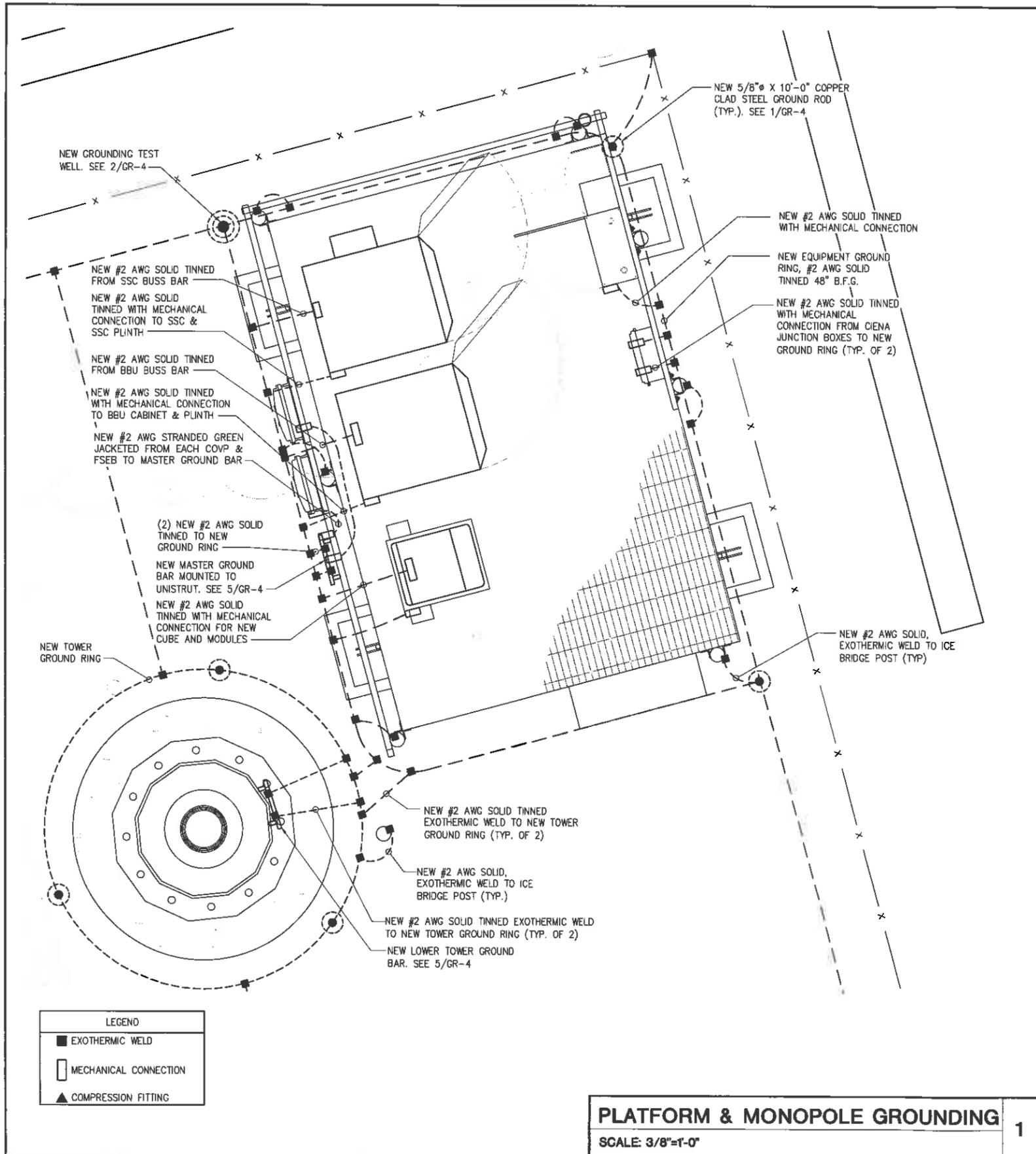
PANEL SCHEDULE
SCALE: NONE

SITE INFORMATION:
CH92341A
SISTERS OF ST. JOSEPH
1515 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

SHEET TITLE:
UTILITY RISER DIAGRAM & PANEL SCHEDULE

SHEET NUMBER:
E-3

PLOT SCALE: 1:1 @ 11"x17"



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SEAL:
JEFFERY GUTOWSKY
REGISTERED PROFESSIONAL ENGINEER
OF ILLINOIS
EXPIRES: 11/30/2017 SIGNED: 08/01/16

DATE	DESCRIPTION	BY	REV
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06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	O

SITE INFORMATION:
CH92341A
SISTERS OF ST. JOSEPH
1515 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

SHEET TITLE:
GROUNDING PLANS

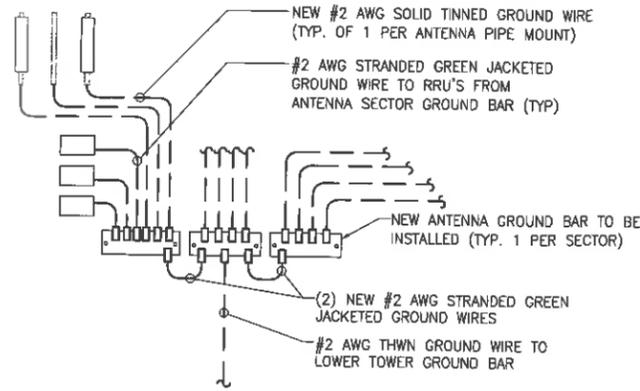
SHEET NUMBER:
GR-2

PLOT SCALE: 1:1 @ 11"x17"

NOTES:

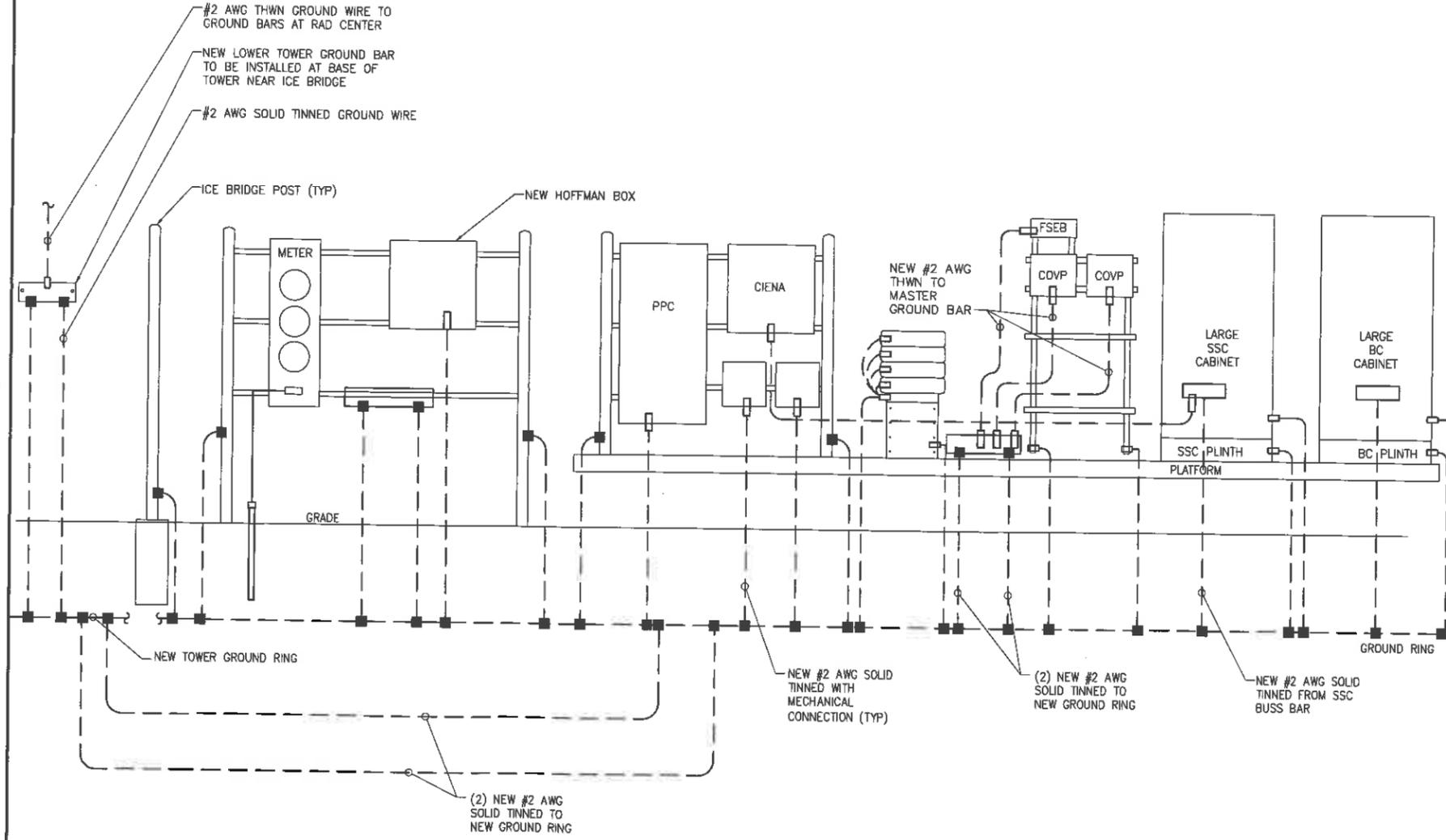
- ALL ELECTRICAL WORK SHALL CONFORM TO THE BOCA (EDITION ADOPTED BY LOCAL JURISDICTION) AND APPLICABLE LOCAL CODES.
- GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE BOCA
- ALL ELECTRICAL ITEMS SHALL BE U.L. APPROVED OR LISTED.
- WIRES AND CABLES FOR POWER AND LIGHTING SHALL BE COPPER WITH TYPE XHHW, THWN, OR THHN INSULATION. SOLID CONDUCTORS FOR #10 AWG AND SMALLER, STRANDED FOR LARGER THAN #10 AWG. MINIMUM SIZE #12 AWG.
- WIRES AND CABLES FOR POWER SHALL BE INSTALLED IN GALVANIZED RIGID STEEL CONDUIT OR FLEXIBLE LIQUID TIGHT CONDUIT AS INDICATED ON DRAWING.
- CONTRACTOR TO OBTAIN ALL PERMITS, PAY PERMIT FEES, AND BE RESPONSIBLE FOR SCHEDULING INSPECTIONS.
- COORDINATE WITH UTILITY COMPANIES SERVICE ENTRANCE REQUIREMENTS.
- PROVIDE ALL LABOR AND MATERIAL DESCRIBED ON THIS DRAWING, AND ALL ITEMS INCIDENTAL TO COMPLETING AND PRESENTING THIS PROJECT AS FULLY OPERATIONAL.
- GROUNDING CONNECTIONS SHALL BE EXOTHERMIC TYPE ("EXOTHERMIC WELD") TO ANTENNA MASTS, AND THE GROUND BARS. REMAINING GROUNDING CONNECTIONS SHALL BE COMPRESSION FITTINGS.
- GROUND COAXIAL CABLE SHIELDS AT BOTH ENDS WITH COAX CABLE GROUNDING KITS & INSTALL WEATHER PROOFING KIT AT EACH CONNECTION.
- ROUTE GROUNDING CONDUCTORS ALONG THE SHORTEST AND STRAIGHTEST PATH POSSIBLE, EXCEPT AS OTHERWISE INDICATED. GROUNDING LEADS SHOULD NEVER BE BENT AT RIGHT ANGLE, ALWAYS MAKE AT LEAST 12" RADIUS BENDS. #6 WIRE CAN BE BENT AT 6" RADIUS WHEN NECESSARY.
- CONTRACTOR TO PROVIDE GROUND RING AS SHOWN ON GROUNDING SITE PLAN AND GROUNDING RISER DIAGRAM. CONTRACTOR SHALL TEST AND VERIFY THAT THE IMPEDANCE DOES NOT EXCEED 5 OHMS TO GROUND BY MEANS OF A BIDDLE-MEGGER TESTER. GROUNDING AND OTHER OPERATIONAL TESTING SHALL BE WITNESSED BY THE OWNER'S REPRESENTATIVE.
- CONTRACTOR TO PROVIDE TELEPHONE CONDUIT AS SHOWN ON PLANS.
- CONTRACTOR TO PROVIDE ELECTRIC CONDUIT AS SHOWN ON PLANS.
- NOTIFY LOCAL UTILITY SERVICE PRIOR TO ANY INSTALLATION.
- ALL EQUIPMENT FURNISHED BY OTHERS SHALL BE PROVIDED WITH PROPER MOTOR STARTERS, DISCONNECTS, CONTROLS, ETC. BY THE ELECTRICAL CONTRACTOR UNLESS SPECIFICALLY NOTED OTHERWISE. THE ELECTRICAL CONTRACTOR SHALL INSTALL AND COMPLETELY WIRE ALL ASSOCIATED EQUIPMENT IN ACCORDANCE WITH MANUFACTURER'S WIRE DIAGRAMS AND AS REQUIRED FOR A COMPLETE OPERATING INSTALLATION. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE ELECTRICAL CHARACTERISTICS AND REQUIREMENTS OF EQUIPMENT PRIOR TO ROUGH-IN OF CONDUIT AND WIRING TO AVOID CONFLICTS WHERE APPLICABLE.
- GROUNDING CONDUCTORS SHALL BE COPPER OR SOLID TINNED COPPER. ALL CONNECTIONS MADE BELOW GRADE SHALL BE SOLID TINNED COPPER. ALL CONNECTIONS ABOVE GRADE STRANDED IS PERMITTED.
- ALL EXOTHERMIC WELDS ABOVE FINISHED GRADE SHALL BE PAINTED WITH CO-GALVANIZED ZINC ENRICHED PAINT TO MATCH COLOR OBJECT BONDED TO.
- CONNECT COAX GROUND KITS TO MASTER GROUND BAR AT BASE OF TOWER.
- CONNECT COAX GROUND KITS TO GROUND BUS AT TOP OF TOWER.
- CONNECT LNA GROUND TO GROUND BUS AT TOP OF TOWER.
- ALL GROUNDING CONNECTIONS TO BE MADE USING EXOTHERMIC WELD PROCESS UNLESS OTHERWISE APPROVED BY DESIGNER.
- ELECTRICAL CONTRACTOR TO PULL BONDING JUMPER AT PURCELL ONLY IF DISCONNECT GROUND IS TIED TO GROUND FIELD INSTEAD OF SEPARATE GROUND ROD.
- PLAN DRAWINGS SHOWN HEREIN DO NOT NECESSARILY DEPICT ELECTRICAL REQUIREMENTS OF INDIVIDUAL EQUIPMENT AND DEVICES SUCH AS THE EQUIPMENT GROUNDING REQUIREMENTS, POWER REQUIREMENTS AND TELCO RACEWAY REQUIREMENTS.
- PLAN DRAWINGS SHOWN HEREIN ARE DIAGRAMMATIC AND DO NOT NECESSARILY DEPICT THE EXACT EQUIPMENT QUANTITIES, LOCATION, LAYOUT AND CONFIGURATION. REFER TO ARCHITECTURAL PLANS FOR EXACT EQUIPMENT LOCATION, LAYOUT AND CONFIGURATION.
- REFER TO ARCHITECTURAL PLANS FOR THE LOCATION OF POWER AND TELCO POINT OF CONNECTIONS, THE DISTANCE OF THE RUN, AND THE SUGGESTED CONDUIT ROUTING. FIELD VERIFY EXISTING CONDITIONS SPECIFICALLY FOR CONDUIT ROUTING PRIOR TO BID.
- NUMBER OF ANTENNAS REPRESENTED IN THIS DETAIL ARE FOR SHOWING CLARITY OF GROUND SYSTEM REQUIREMENTS ONLY. SEE RF INFO FOR ANTENNA QUANTITY.
- CONTRACTOR TO 'NOALOX' ALL CONNECTIONS TO GROUND BARS.
- ALL GROUND WIRES ENTERING GROUND SHALL HAVE PVC SLEEVE.

TYPICAL ANTENNA SECTOR



LEGEND

- GROUNDING WIRE
- EXOTHERMIC CONNECTION (CADWELD)
- MECHANICAL CONNECTION/DOUBLE HOLE LUG TYPE CONNECTION
- ⚡ BOND TO TOWER



GROUNDING RISER

SCALE: NONE

1



PLANS PREPARED BY:

W-T

W-T COMMUNICATION DESIGN GROUP, LLC.
WIRELESS INFRASTRUCTURE

2875 Prater Avenue
Hoffman Estates, Illinois 60102
PH: (224) 233-8533 FAX: (224) 233-8444
www.wteng.com

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SEAL:

JEFFREY GUTOWSKY
PROFESSIONAL ENGINEER
STATE OF ILLINOIS
LICENSE # 062-047235
EXPIRES: 11/30/2017 SIGNED: 08/01/16

DATE:	DESCRIPTION:	BY:	REV:
08/05/15	LEASE EXHIBIT	JTB	A
08/10/15	PER CLIENTS COMMENTS	DAY	B
08/27/15	REVISION	JS	C
09/02/15	REVISION	JS	D
12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	O

SITE INFORMATION:

CH92341A

SISTERS OF ST. JOSEPH

1515 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

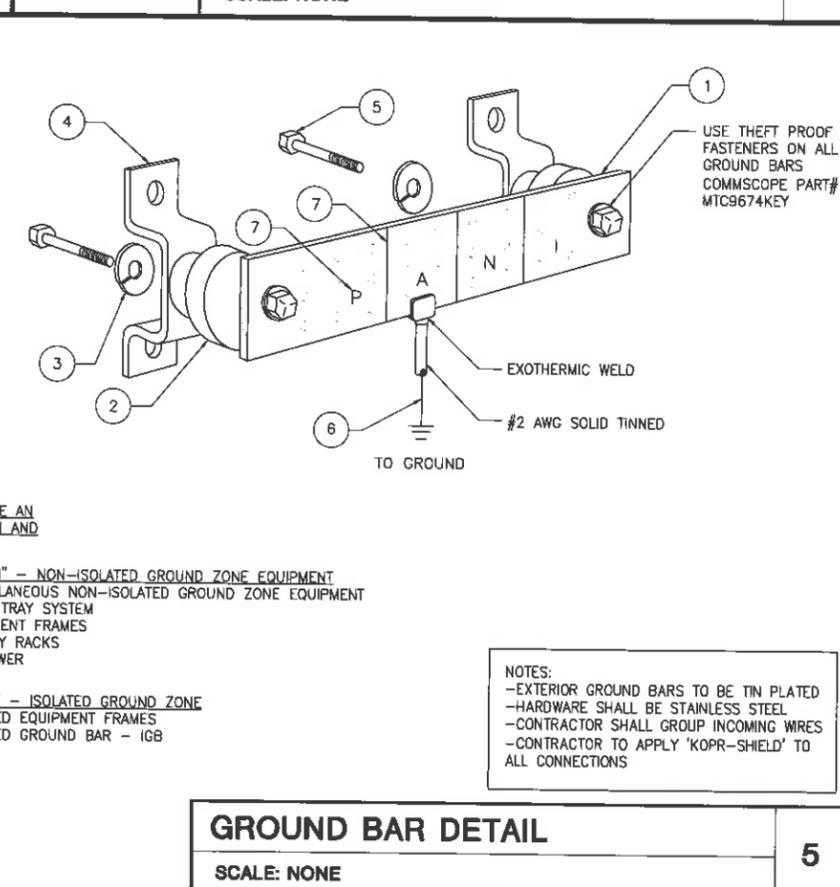
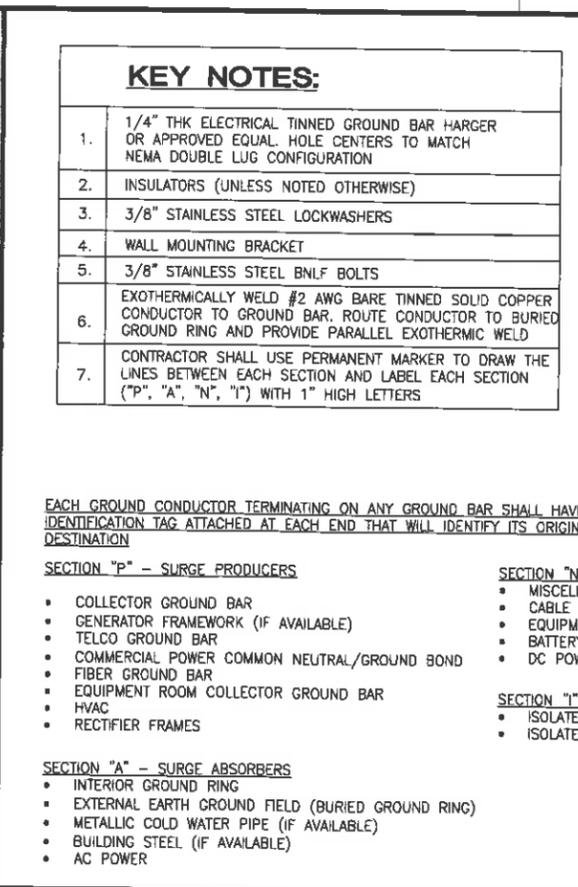
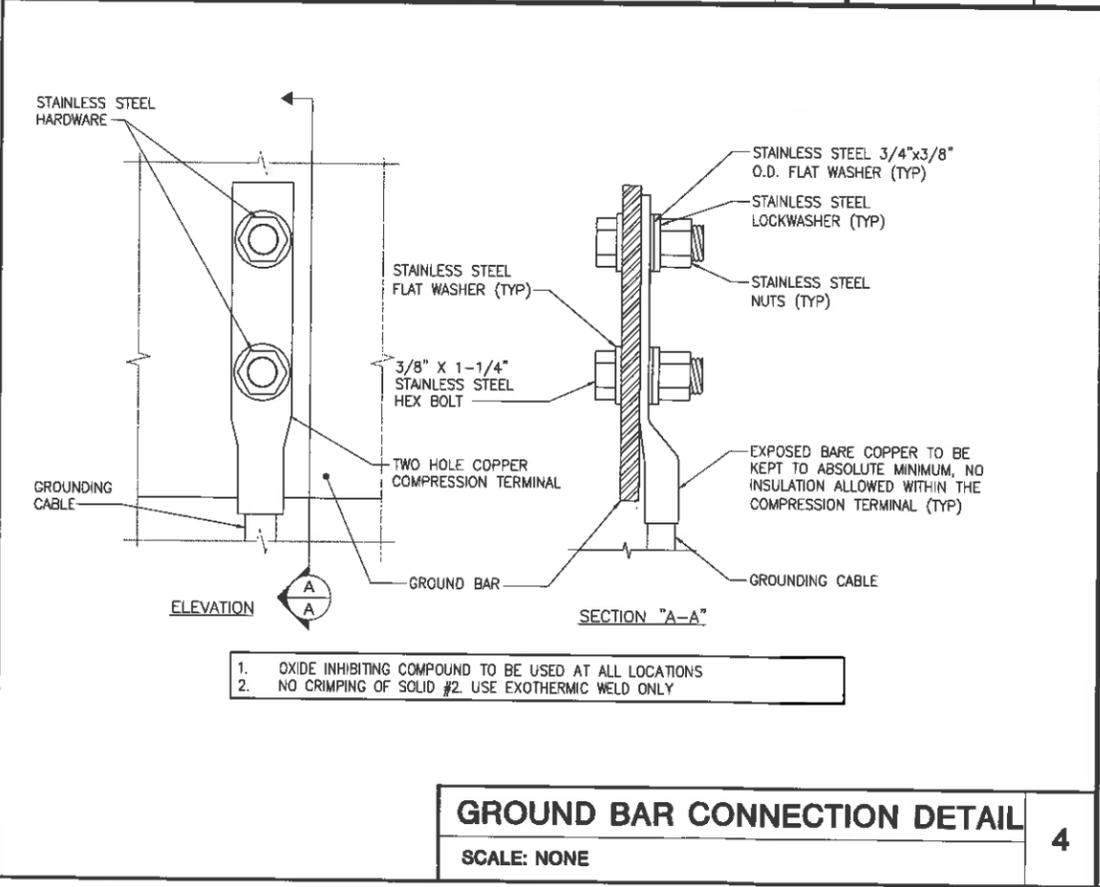
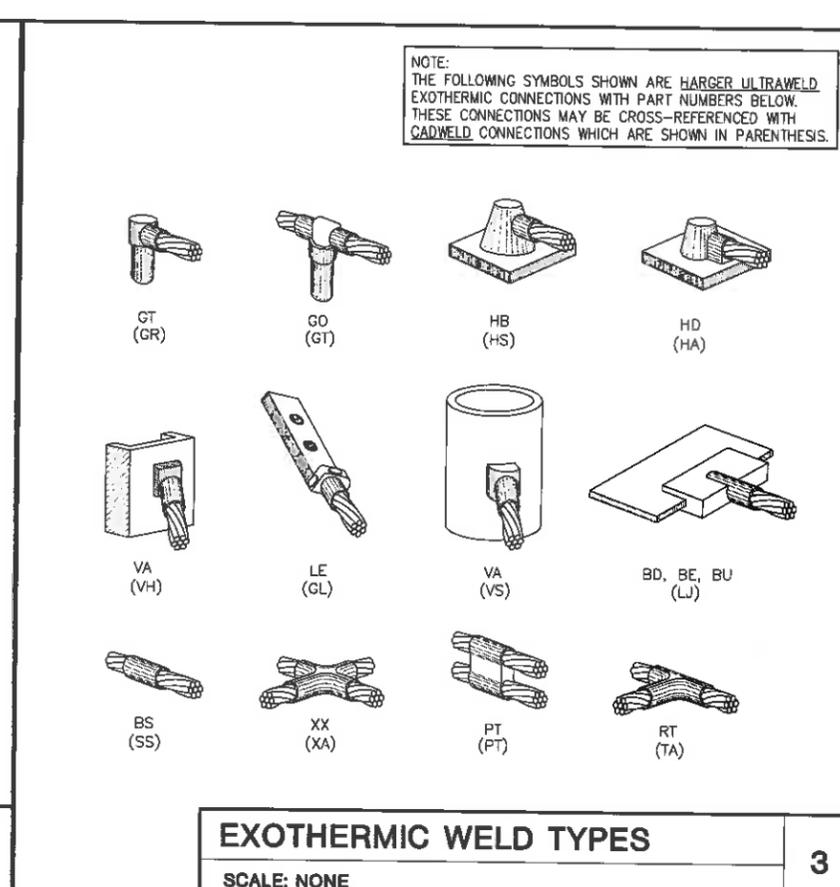
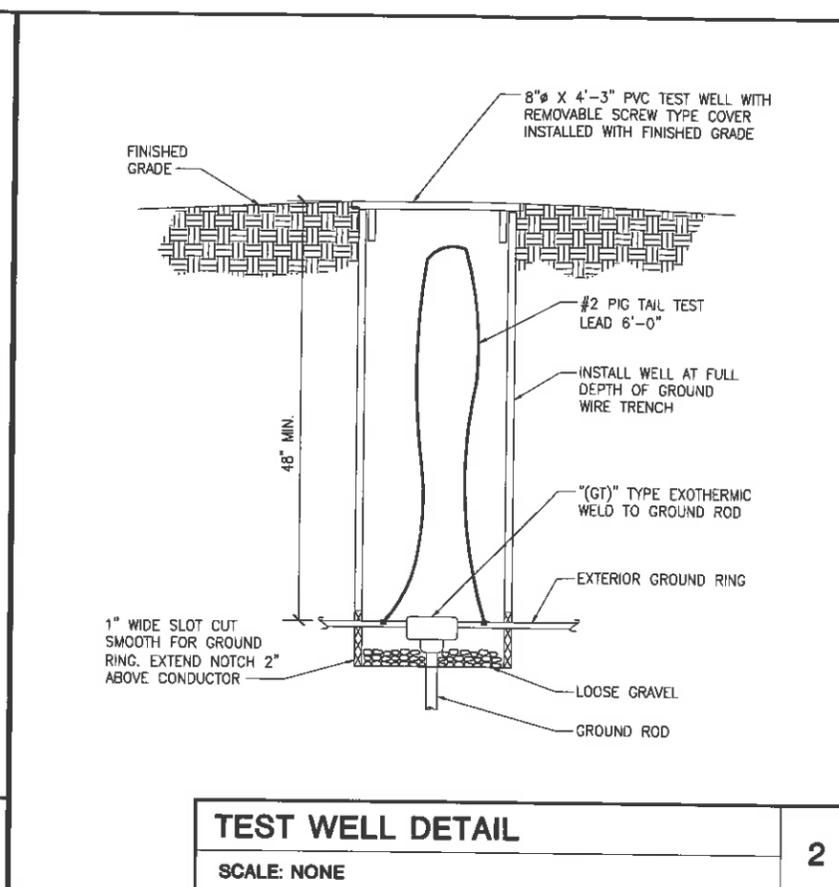
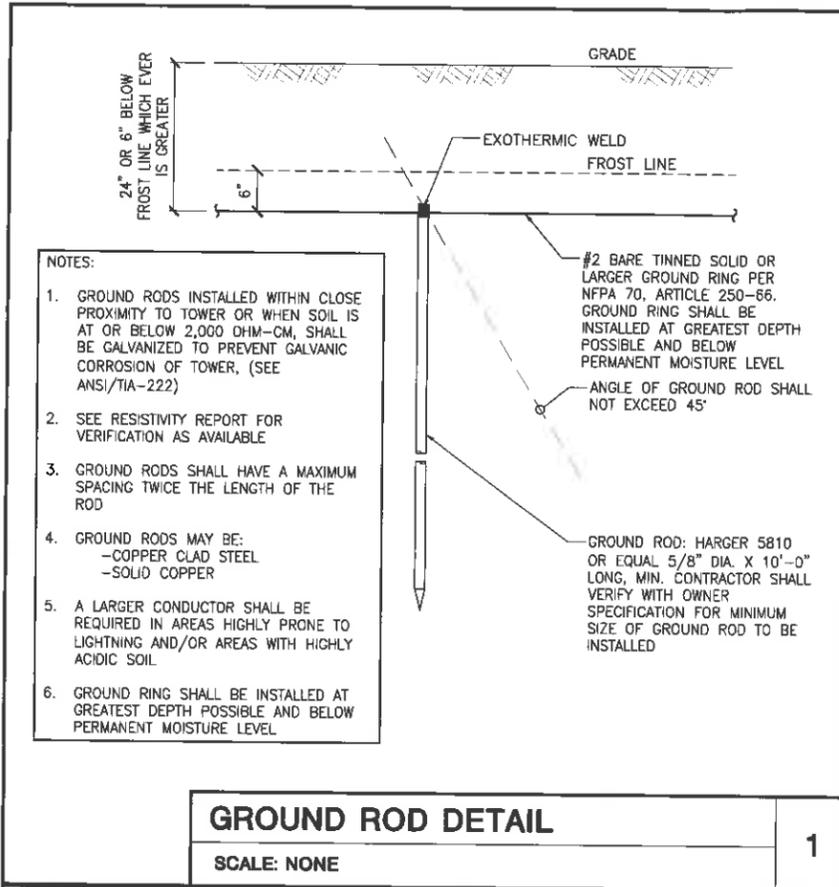
SHEET TITLE:

GROUNDING DETAILS

SHEET NUMBER:

GR-3

PLOT SCALE: 1:1 @ 11"x17"



T-Mobile
stick together[®]
8550 BRYN MAWR AVENUE, SUITE 100
CHICAGO, ILLINOIS 60631

PLANS PREPARED BY:
W-T
W-T COMMUNICATION DESIGN GROUP, LLC.
WIRELESS INFRASTRUCTURE
2875 Pratum Avenue
Hoffman Estates, Illinois 60192
PH: (224) 283-6333 FAX: (224) 283-6444
www.wtengr.com
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SEAL:
002-047235
REGISTERED
PROFESSIONAL
ENGINEER
OF
ILLINOIS
JEFFERY COUTOWSKY
PROFESSIONAL ENGINEER
STATE OF ILLINOIS
LICENSE # 062-047235
EXPIRES: 11/30/2017 SIGNED: 08/01/16

DATE	DESCRIPTION	BY	REV
08/05/15	LEASE EXHIBIT	JTB	A
08/10/15	PER CLIENTS COMMENTS	DAY	B
08/27/15	REVISION	JS	C
09/02/15	REVISION	JS	D
12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	O

SITE INFORMATION:
CH92341A
SISTERS OF ST. JOSEPH
1515 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

SHEET TITLE:
GROUNDING DETAILS

SHEET NUMBER:
GR-4

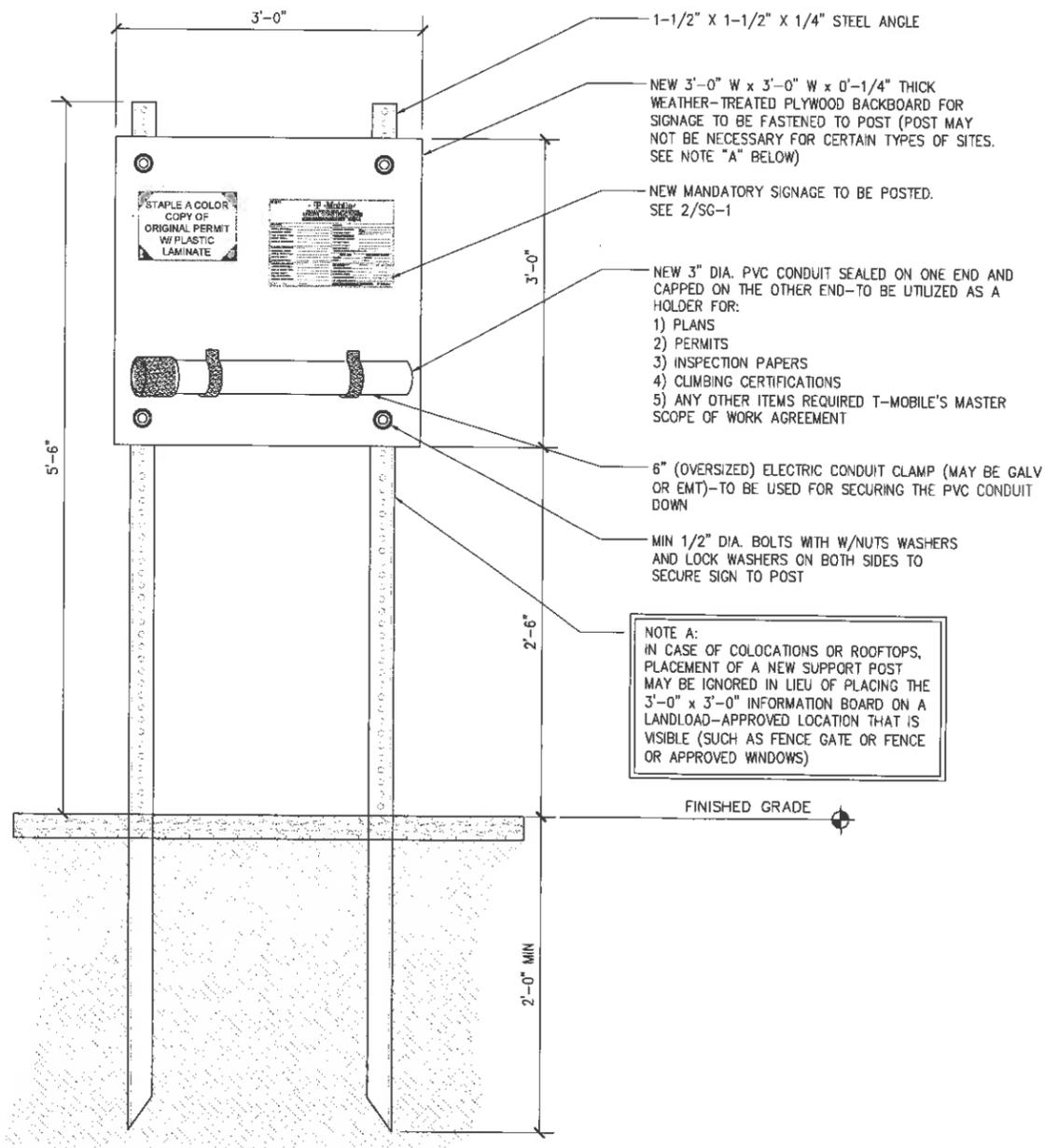
PLOT SCALE: 1:1 @ 11"x17"

ATTENTION GC
THIS IS A TEMPORARY INSTALLATION THAT MAY REQUIRE USE OF A HOLE AUGER-AT NO CIRCUMSTANCE WHATSOEVER WILL THE GC BE ALLOWED TO POUR/PLACE CONCRETE AROUND THIS POST-THIS IS A TEMPORARY INSTALLATION AND WILL REMOVED AT THE END OF THE PROJECT LIFE AT THE CONCLUSION OF THE WALK

ATTENTION GC
1) APPROVE LOCATION OF SIGN WITH T-MOBILE PROJECT MANGER AND LANDLORD REP. SIGN SHALL NOT POSE A TRIPPING HAZARD. GC SHALL BE RESPONSIBLE FOR PLACEMENT AND MAINTENANCE OF THE SIGN BOARD UNTIL THE CONCLUSION OF THE SITE WALK
2) MATERIAL SAFETY DATA SHEETS FOR ALL MATERIALS THAT ARE FURNISHED BY GC SHALL BE PLACED ON SITE

OSHA CFR 1910 SPECIFIES THAT IF YOU HAVE EMPLOYEES OR CONTRACTORS WHO CLIMB HIGHER THAN SIX FEET THEY MUST BE TRAINED AND CERTIFIED IN FALL PROTECTION. IF THEY ARE NOT CERTIFIED, THEY MUST BE UNDER DIRECT ON-SITE SUPERVISION OF A CERTIFIED INDIVIDUAL, AND CLIMB 100% ATTACHED. IT IS THE CONTRACTOR'S RESPONSIBILITY TO CONSULT WITH ALL APPLICABLE OSHA RULES AND GUIDELINES PRIOR TO CONSTRUCTION START

UTILITY NOTES:
1) CONTRACTOR TO VERIFY LOCAL UTILITY REQUIREMENTS FOR DEPTH SIZE & SEPARATION OF CONDUITS PRIOR TO INSTALLATION. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.
2) CONTRACTOR TO CALL UTILITY LOCATES 48 HRS PRIOR TO EXCAVATING FOR UNDERGROUND UTILITY LOCATIONS. LOCATION SURROUNDING EXCAVATED AREA MUST BE PRIVATELY LOCATED FOR NON-PUBLIC UTILITIES.



ELEVATION
SCALE: NONE 1

T-M-O **T-Mobile** **U.S.A.**
THIS IS A T-MOBILE USA FACILITY THAT IS CURRENTLY UNDER CONSTRUCTION!!!

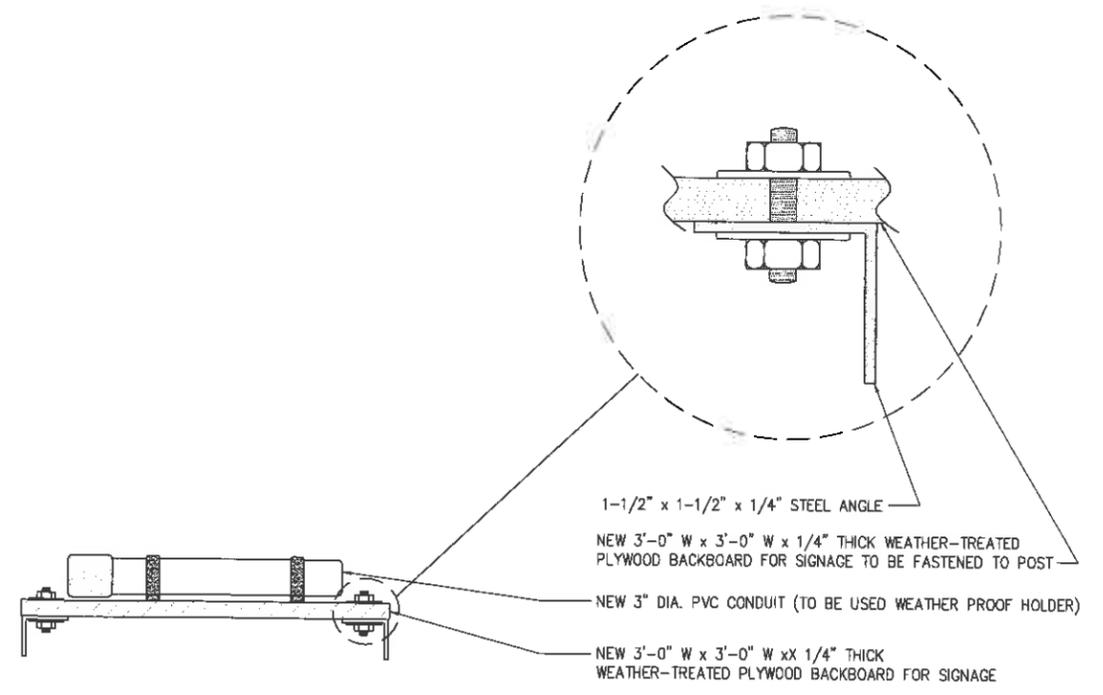
THE FOLLOWING INFORMATION IS SHALL BE POSTED BY THE GENERAL CONTRACTOR FROM THAT HAS BEEN AWARDED THE CONSTRUCTION FOR THIS SITE FAILURE TO POST THIS INFORMATION CONSTITUTES A VIOLATION OF THE MASTER SCOPE OF WORK AGREEMENT BETWEEN THE CONTRACTOR & T-MOBILE

SITE NUMBER:	SITE NAME:
GENERAL CONTRACTOR:	EMERGENCY CONTACTS: FIRE _____ POLICE/FIRE PHONE# _____ T-MOBILE CONSTRUCTION _____ CONSTRUCTION MANAGER _____ CONTACT PHONE # _____ PROJECT MANAGER _____ CONTACT PHONE # _____
CONTRACTOR LICENSE# _____ POINT OF CONTACT NAME _____ CONTACT PHONE # _____ NAMES OF ON-SITE STAFF _____	LOCAL TELCO: ENGINEER _____ PHONE # _____ LOCAL ELECTRIC COMPANY: ENGINEER _____ PHONE # _____
ELECTRICAL CONTRACTOR:	ON-SITE CHECKLIST:
CONTRACTOR LICENSE# _____ POINT OF CONTACT NAME _____ CONTACT PHONE # _____ CREW LEADER PHONE # _____	AVAILABLE YES NO N/A DATE PERMITTED DRAWINGS _____ CONSTRUCTION PERMIT _____ ELECTRICAL PERMIT _____ CLIMBING CERTIFICATIONS _____ CITY INSPECTION STICKERS _____
ANTENNA & LINE CREW CO.:	
CLIMBING CERTIFICATION# _____ POINT OF CONTACT NAME _____ CONTACT PHONE # _____ CREW LEADER PHONE # _____ NAMES OF ON-SITE STAFF _____	

IMPORTANT: GENERAL CONTRACTOR SHALL POST THIS MANDATORY SIGN ON THE SITE INFORMATION BOARD ALONG WITH THE MATERIALS FROM THE ABOVE LISTED CHECKLIST IN A VISIBLE AREA ON SITE.

Get more from life

ON-SITE MANDATORY INFORMATION 2
SCALE: NONE



PLAN VIEW
SCALE: NONE 3

T-Mobile
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8550 BRYN MAWR AVENUE, SUITE 100
CHICAGO, ILLINOIS 60631

PLANS PREPARED BY:
WT
W-T COMMUNICATION DESIGN GROUP, LLC.
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SEAL:
JEFFERY GUTOWSKY
REGISTERED PROFESSIONAL ENGINEER OF ILLINOIS
LICENSE # 062-047235
EXPIRES: 11/30/2017 SIGNED: 08/01/16

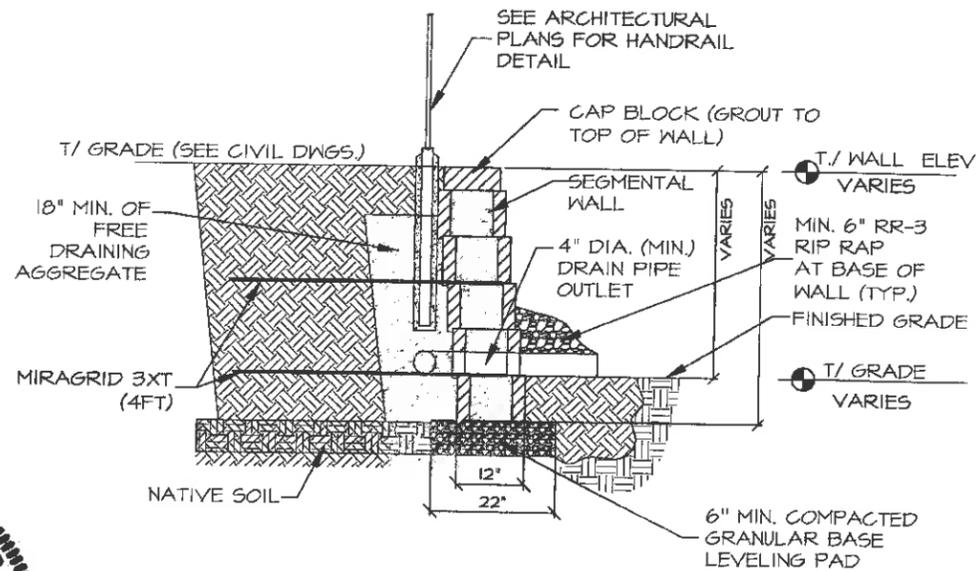
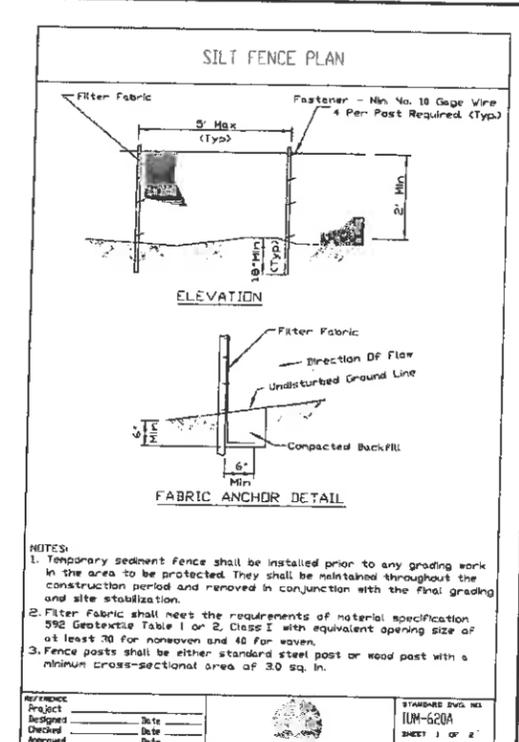
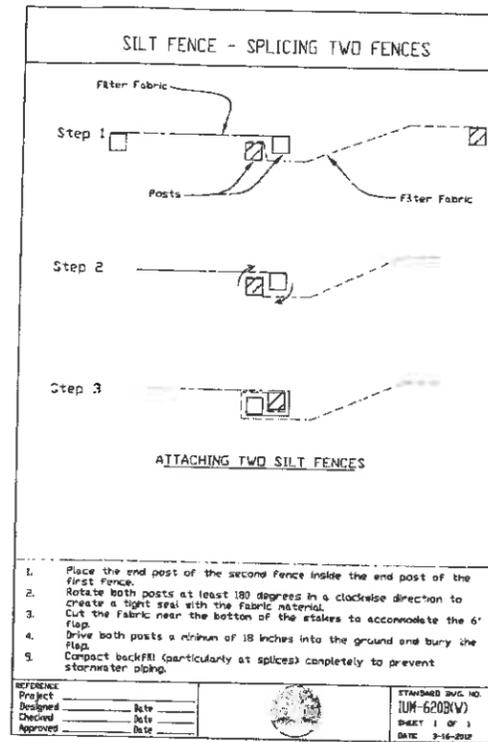
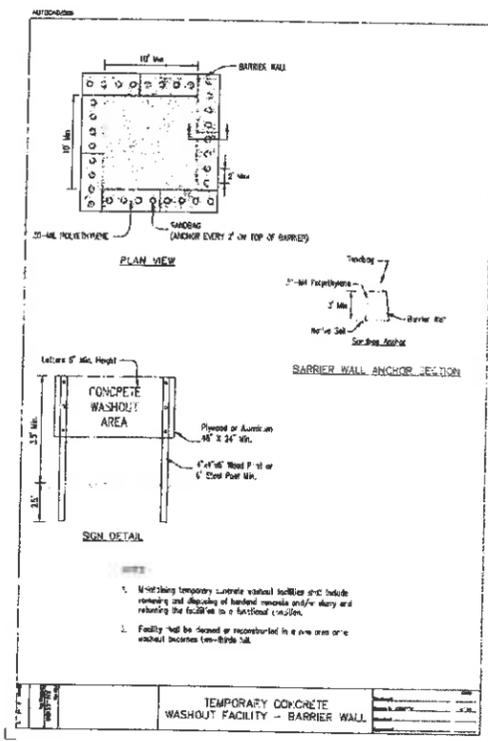
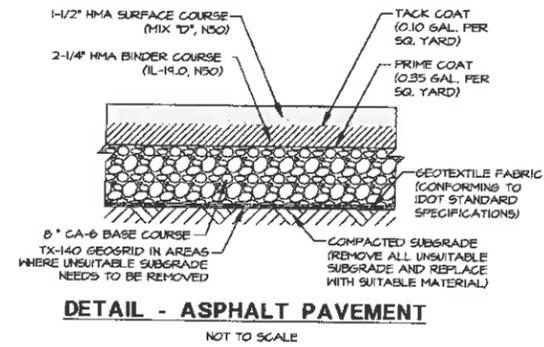
DATE:	DESCRIPTION:	BY:	REV:
08/05/15	LEASE EXHIBIT	JTB	A
08/10/15	PER CLIENTS COMMENTS	DAY	B
08/27/15	REVISION	JS	C
09/02/15	REVISION	JS	D
12/09/15	REVISION	RSM	E
03/15/16	REVISION	SC	F
04/07/16	REVISION	NN	G
06/13/16	REVISION	KLS	H
06/17/16	REVISION	RSM	I
08/01/16	FINALS	RSM	D

SITE INFORMATION:
CH92341A
SISTERS OF ST. JOSEPH
1515 OGDEN AVENUE
LA GRANGE PARK, IL 60526
W-T JOB NUMBER: T1505246

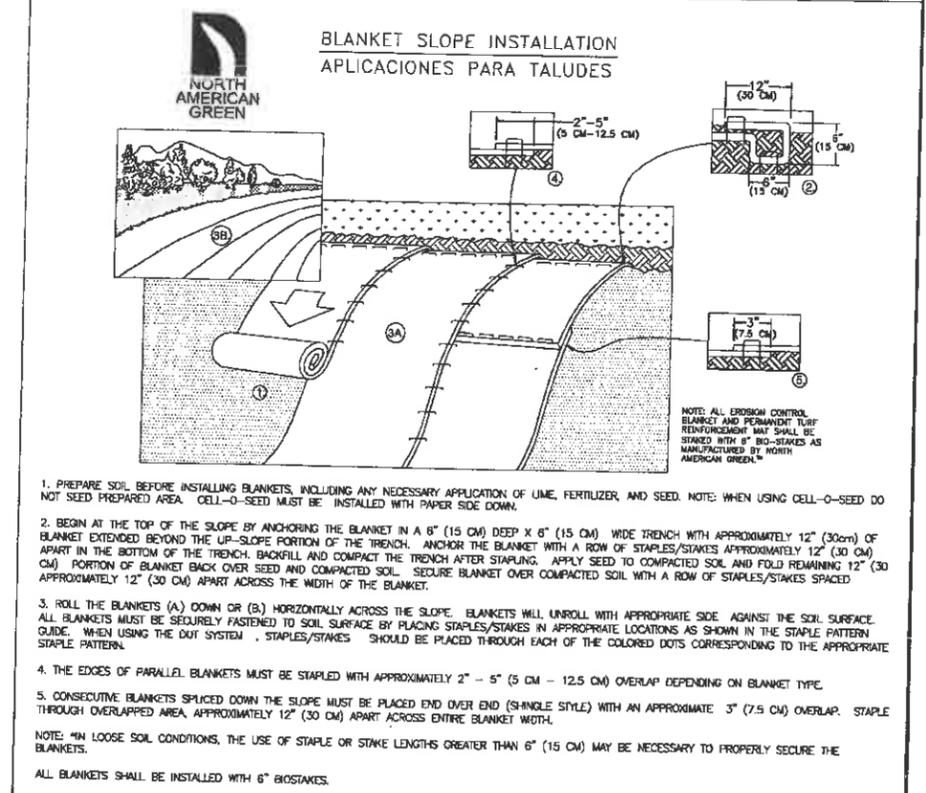
SHEET TITLE:
OSHA SIGNAGE

SHEET NUMBER:
SG-1

PLOT SCALE: 1:1 @ 11"x17"



NOTE: RETAINING WALL DETAIL IS SHOWN FOR CROSS SECTION PURPOSES ONLY. CONTRACTOR TO PROVIDE MANUFACTURED SHOP DRAWINGS WITH STRUCTURAL ENGINEER'S STAMP AND SPECIFICATIONS PRIOR TO CONSTRUCTION.



1. PREPARE SOIL BEFORE INSTALLING BLANKETS, INCLUDING ANY NECESSARY APPLICATION OF LIME, FERTILIZER, AND SEED. NOTE: WHEN USING CELL-O-SEED DO NOT SEED PREPARED AREA. CELL-O-SEED MUST BE INSTALLED WITH PAPER SIDE DOWN.
 2. BEGIN AT THE TOP OF THE SLOPE BY ANCHORING THE BLANKET IN A 6" (15 CM) DEEP X 6" (15 CM) WIDE TRENCH WITH APPROXIMATELY 12" (30 CM) OF BLANKET EXTENDED BEYOND THE UP-SLOPE PORTION OF THE TRENCH. ANCHOR THE BLANKET WITH A ROW OF STAPLES/STAKES APPROXIMATELY 12" (30 CM) APART IN THE BOTTOM OF THE TRENCH. BACKFILL AND COMPACT THE TRENCH AFTER STAPLING. APPLY SEED TO COMPACTED SOIL AND FOLD REMAINING 12" (30 CM) PORTION OF BLANKET BACK OVER SEED AND COMPACTED SOIL. SECURE BLANKET OVER COMPACTED SOIL WITH A ROW OF STAPLES/STAKES SPACED APPROXIMATELY 12" (30 CM) APART ACROSS THE WIDTH OF THE BLANKET.
 3. ROLL THE BLANKETS (A) DOWN OR (B) HORIZONTALLY ACROSS THE SLOPE. BLANKETS WILL UNROLL WITH APPROPRIATE SIDE AGAINST THE SOIL SURFACE. ALL BLANKETS MUST BE SECURELY FASTENED TO SOIL SURFACE BY PLACING STAPLES/STAKES IN APPROPRIATE LOCATIONS AS SHOWN IN THE STAPLE PATTERN GUIDE. WHEN USING THE DUT SYSTEM, STAPLES/STAKES SHOULD BE PLACED THROUGH EACH OF THE COLORED DOTS CORRESPONDING TO THE APPROPRIATE STAPLE PATTERN.
 4. THE EDGES OF PARALLEL BLANKETS MUST BE STAPLED WITH APPROXIMATELY 2" - 5" (5 CM - 12.5 CM) OVERLAP DEPENDING ON BLANKET TYPE.
 5. CONSECUTIVE BLANKETS SPLICED DOWN THE SLOPE MUST BE PLACED END OVER END (SHINGLE STYLE) WITH AN APPROXIMATE 3" (7.5 CM) OVERLAP. STAPLE THROUGH OVERLAPPED AREA, APPROXIMATELY 12" (30 CM) APART ACROSS ENTIRE BLANKET WIDTH.
- NOTE: *IN LOOSE SOIL CONDITIONS, THE USE OF STAPLE OR STAKE LENGTHS GREATER THAN 6" (15 CM) MAY BE NECESSARY TO PROPERLY SECURE THE BLANKETS.
- ALL BLANKETS SHALL BE INSTALLED WITH 6" BIOSTAKES.

TODD O. ABRAMS
082-061600
LICENSED PROFESSIONAL ENGINEER
STATE OF ILLINOIS

EXP 11-30-17

T-Mobile
stick together
8550 BRYN MAWR AVENUE, SUITE 100
CHICAGO, ILLINOIS 60631

PLANS PREPARED BY:
WT
W-T CIVIL ENGINEERING, LLC.
CIVIL AND STRUCTURAL ENGINEERS

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PH: (224) 293-8293 FAX: (224) 293-8444
www.wt-engineering.com
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SEAL:

DATE	DESCRIPTION	BY	REV
04/05/16	CLIENT REVIEW	MP	TA
06/28/16	CLIENT REVIEW	MP	TA
07/28/16	PER VILLAGE COMMENTS	MP	TA

SITE INFORMATION:
CH92341A
SISTERS OF ST. JOSEPH
1515 OGDEN AVENUE
LA GRANGE, IL 60526
W-T JOB NUMBER: C216038

SHEET TITLE:
CONSTRUCTION DETAILS

SHEET NUMBER:
C-5.0

PLOT SCALE: 1:1 @ 11"x17"

Exhibit B-Maintenance Plan

The site is an unmanned facility. Any landscaping installed at the request of the Village of La Grange Park will be maintained by the owner of the property and tower. AT&T, T-Mobile, and the Village of La Grange Park will make periodic visits to the property and will maintain the compound and equipment on the tower.

As agreed upon between the parties, a letter of understanding regarding the maintenance plan will be provided to the Village of La Grange Park.



June 16, 2016

VIA U.S. MAIL

T-Mobile Central LLC
Attn: Mike Blasutti
Senior Manager, Engineering & Development
8550 W Bryn Mawr Ave, Suite 100
Chicago, IL 60631

AT&T Mobility
Attn: Julie Kilburn
930 National Parkway, 4th Floor
Real Estate/Property Management
Schaumburg, IL 60173

RE: Letter of Understanding Regarding "Cell Tower"

This Letter of Understanding (the "Letter") sets forth the terms and understandings between the Congregation of the Sisters of St. Joseph (the "Congregation") and T-Mobile Central LLC ("T-Mobile") and AT&T Mobility ("AT&T", collectively, the "Parties") regarding the potential location of a cell tower on the Congregation's property located at 1515 W. Ogden Avenue (the "Cell Tower") in the Village of La Grange Park, Illinois.

The Parties agree to the following:

1. Cooperation; Application; Compliance. The Parties agree to operate in "good faith" and "fair dealing" regarding the terms of this transaction. The Parties agree to take all necessary steps to complete and file for all applications for all governmental and quasi-governmental approvals including, without limitation, all land use approvals and building approvals necessary for the erection of the contemplated Cell Tower. The Parties will comply with all applicable state and federal laws and municipal ordinances regarding this transaction.
2. Equipment Maintenance. AT&T and T-Mobile will maintain all technical equipment regarding the operation of the Cell Tower including, without limitation, transmitters, receivers, digital signal processors, central electronics, GPS receivers, and primary and backup electrical power sources (collectively, the "Equipment").
3. Grounds Maintenance. The Congregation shall take all necessary steps to maintain the area surrounding the Cell Tower and keep the same area reasonably landscaped and free from debris.
4. Electrical Power Source. The Congregation shall allow T-Mobile and AT&T access to all necessary power sources for the operation of the Equipment.
5. Lease. The Parties intend to enter into a binding, long term lease agreement regarding the Cell Tower. Except as set forth in Paragraph 1 above, which shall be legally binding upon the Parties, it is the intent of the Parties that this Letter shall not give rise to any legally binding obligations between the Parties. Except as set forth in Paragraph 1 above, the Letter only expresses the intent of the Parties to conduct negotiations that may or may not result in the formation and

consummation of a binding contract between the Parties. The Parties agree that any expenses incurred in anticipation of entering into a binding agreement shall be borne by each individual Party.

Please contact me at (708)-222-7000 if you would like to discuss, or return your written consent to this letter to me at the earliest convenience.

Very Truly Yours,
Del Galdo Law Group


James M. Vasselli, Esq.
Attorney for the Congregation

AGREED AND ACCEPTED BY:

AT&T

By: _____

Its: _____

Dated: _____

T-Mobile

By: _____

Its: _____

Dated: _____

Congregation of the Sisters of St. Joseph

By: _____

Its: _____

Dated: _____

CC: Robert Stapleton
Adam Kauffman

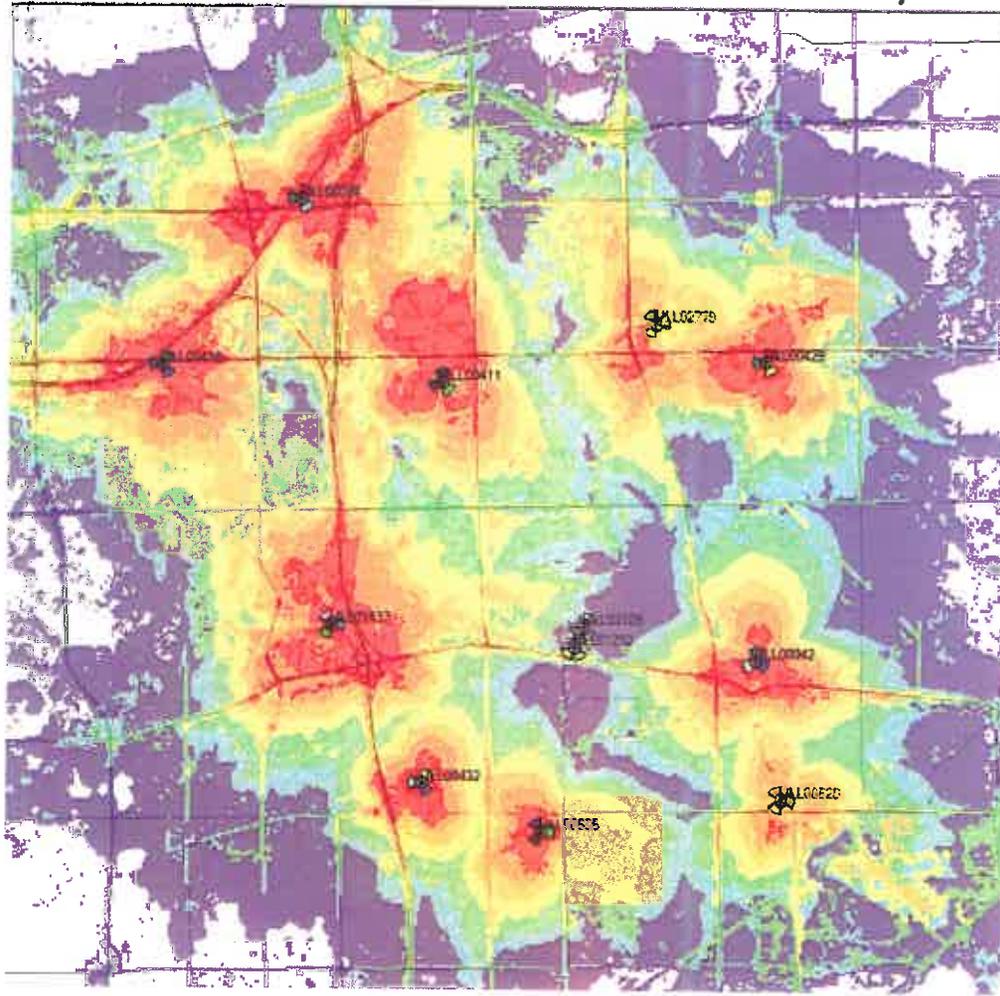
Exhibit C

**Disclosure of what is proposed, demonstrating the need for the wireless telecommunications tower
where proposed**

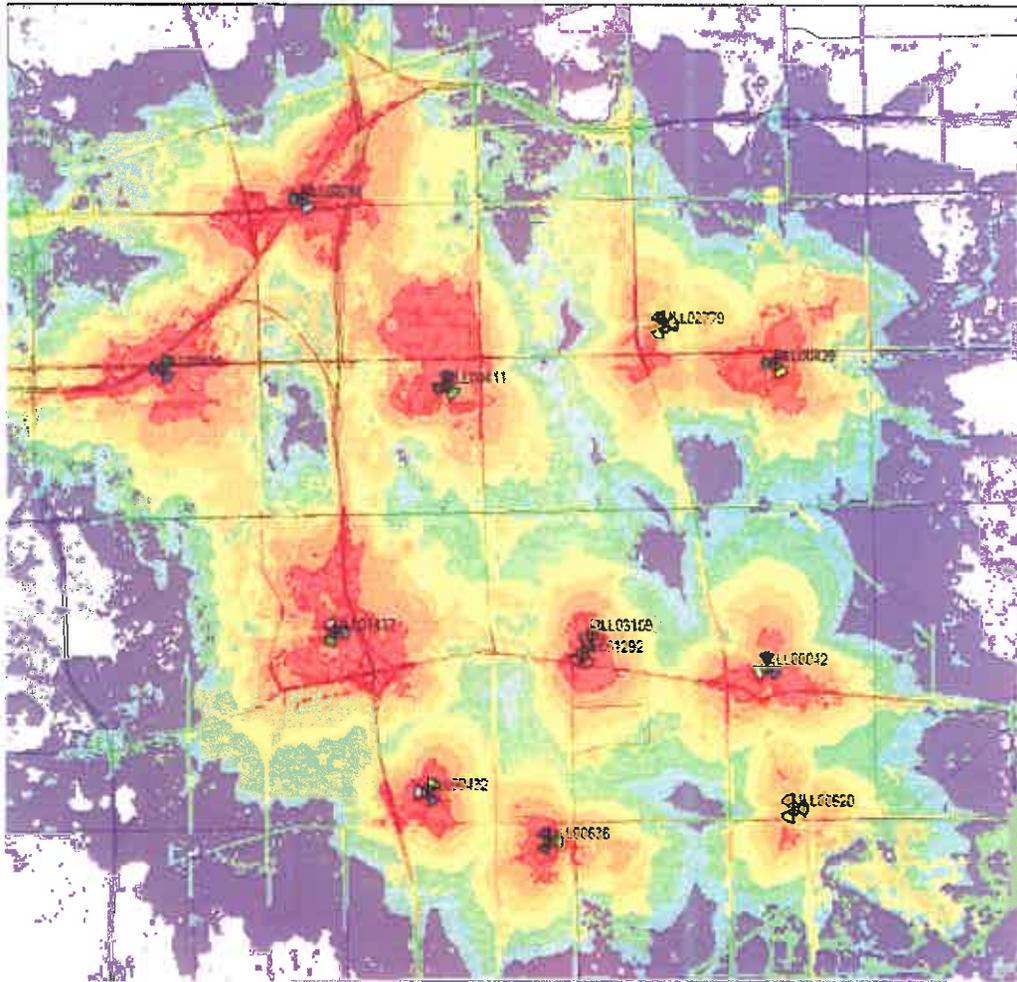
RELO Site IL3109

RSRP Plot for Zoning

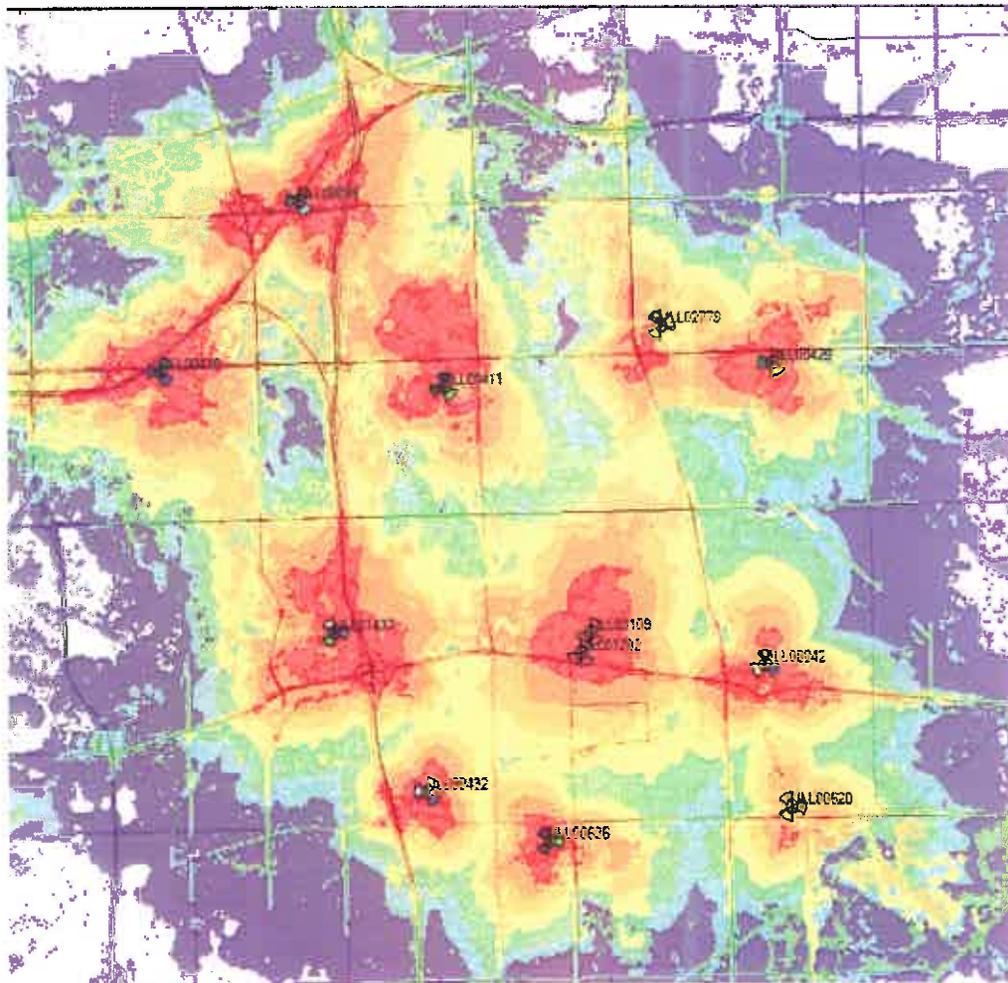
RSRP Plot - without IL3109/IL1292



RSRP Plot - with IL1292

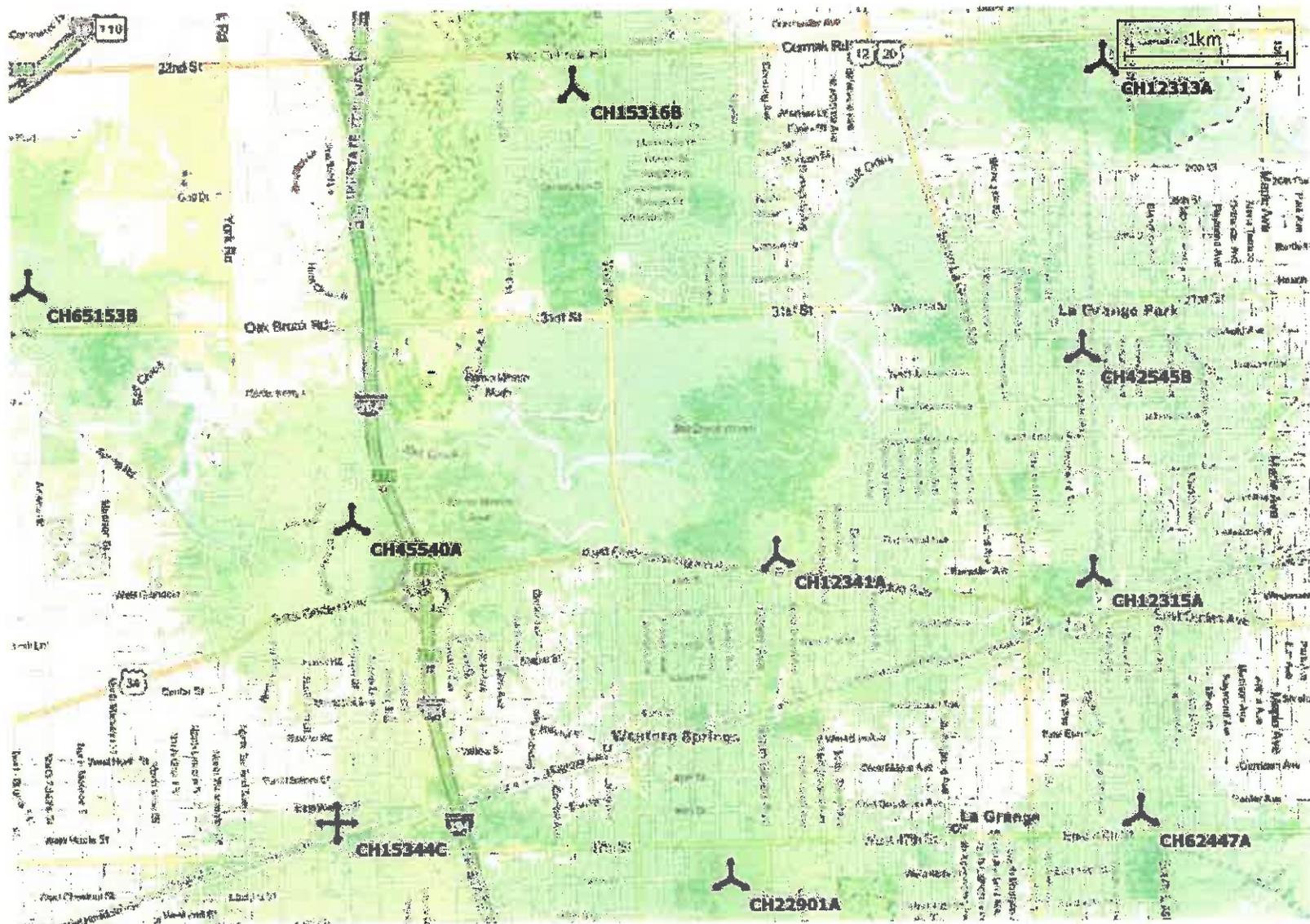


RSRP Plot - with IL3109 at 110ft



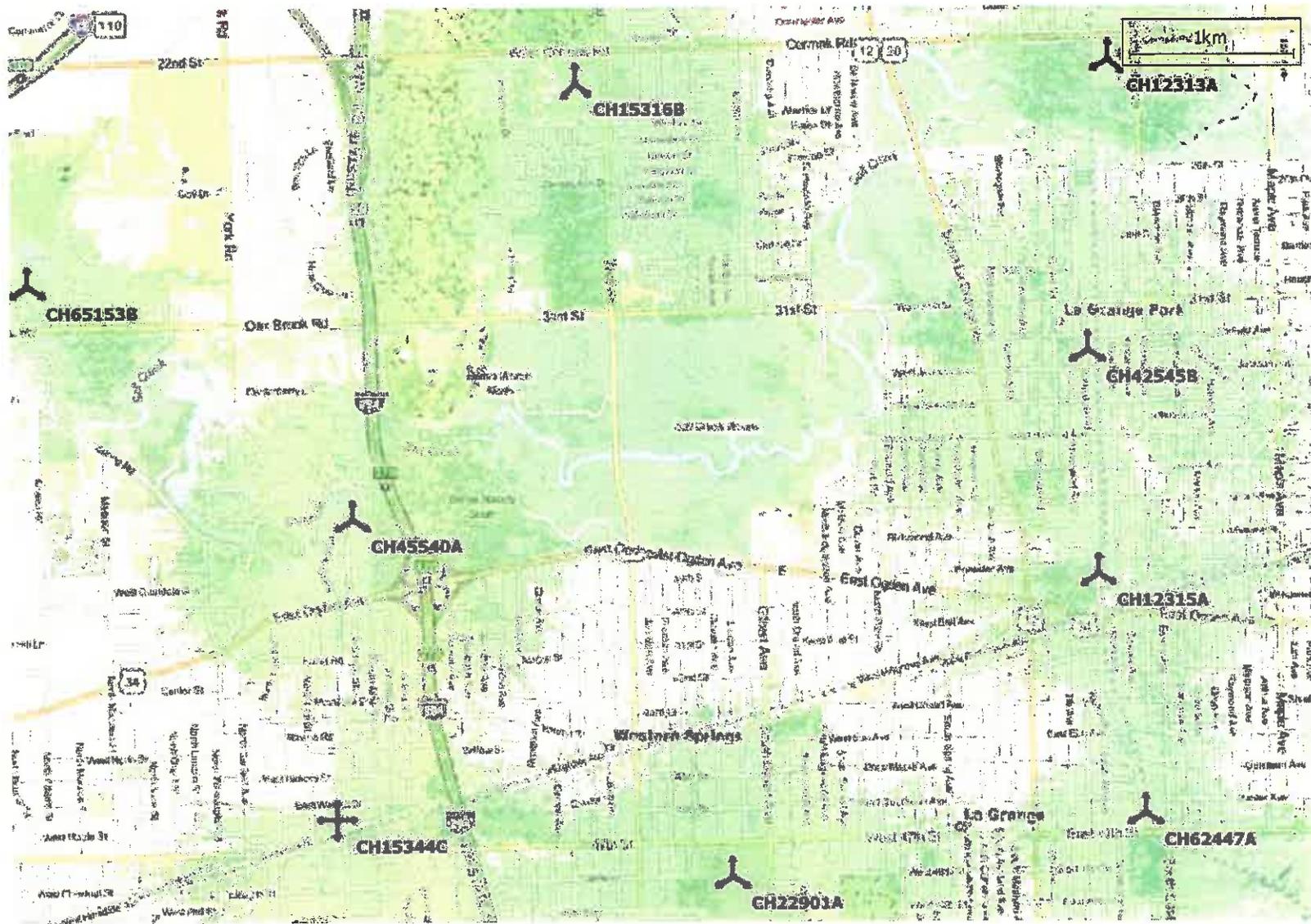
- Transmitters**
Copy of RSRP (dBm) - Indoor
- Best RSRP (RS EPRE) Level (dBm) ≥ -90
 - Best RSRP (RS EPRE) Level (dBm) ≥ -98
 - Best RSRP (RS EPRE) Level (dBm) ≥ -103
 - Best RSRP (RS EPRE) Level (dBm) ≥ -108
 - Best RSRP (RS EPRE) Level (dBm) ≥ -113
 - Best RSRP (RS EPRE) Level (dBm) ≥ -116
 - Best RSRP (RS EPRE) Level (dBm) ≥ -118
 - Best RSRP (RS EPRE) Level (dBm) ≥ -126

T-Mobile Existing Coverage With CH12341A @76'



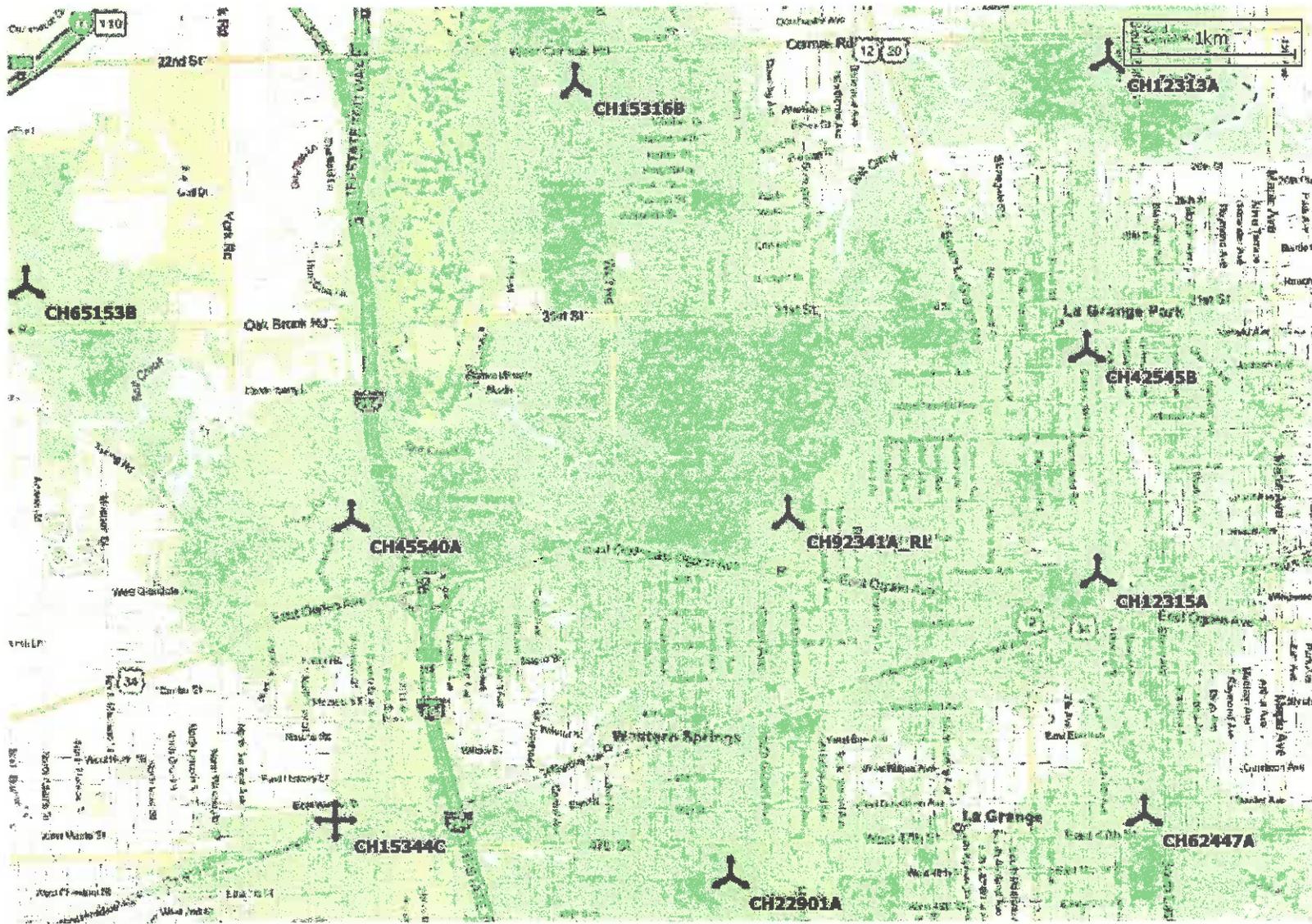
INDOOR Indoor coverage with Existing site

T-Mobile Existing Coverage without CH12341A



 Indoor coverage without New Site

T-Mobile Proposed Coverage With CH92341A @120'



Indoor coverage with New Site

Exhibit D

Radio Frequency Justification

T-Mobile and AT&T appreciate the opportunity to elaborate on the need for a wireless communications facility in La Grange Park and explain why the proposed site was chosen to replace its existing coverage in this area. The T-Mobile name given to this project is CH92341 and the AT&T site number is IL3109. Throughout the Radio Frequency Justification, the project will be referred to as the Sisters of St. Joseph Relocation ("SSJ Relo").

T-Mobile and AT&T both operate under its Federal Communications Commission ("FCC") License to operate in the Chicago BTA. T-Mobile and AT&T provide an essential service to individuals and businesses within La Grange, La Grange Park, and Western Springs from this site location, subject to the jurisdiction of the FCC.

National statistics compiled by the FCC indicate that more than 75% of E-911 calls to police and fire departments are now made using wireless phones. That percentage grows each year. For many Americans, the ability to call E-911 for help in an emergency is one of the main reasons they own a wireless phone. Other wireless E-911 calls come from "Good Samaritans" reporting traffic accidents, crimes or other emergencies. The prompt delivery of wireless E-911 calls to public safety organizations benefits the public by promoting safety of life and property. The public relies on wireless communications for emergency access to law enforcement and public safety services. Many police departments also rely on wireless data services between patrol cars and law enforcement databases. Wireless data services help police departments utilize their limited resources more effectively to better protect the public. It is in the public's interest to ensure that robust and reliable emergency voice and data services remain available to everyone in our service areas.

The Centers for Disease Control and Prevention ("CDC") reported that as of December 2015, at least 47% of all American homes have abandoned the older wireline service entirely, and instead rely exclusively on wireless phones to make emergency 911 and other calls. In this same report, the CDC reported that only 8% of households have just wireline service. This demonstrates that the Applicant provides essential services to individuals and businesses within La Grange Park and the surrounding community. The public requires reliable and state-of-the-art communications infrastructure to deliver service they rely on. This empirical data demonstrates that large numbers of people have "cut the cord" on traditional wireline service and now rely exclusively on wireless services to connect to each other. The U.S. Government report confirms that wireless communication is the primary communications channel for more than 47% of the general population. This dependence upon the availability of wireless service by a significant proportion of the population clearly demonstrates a public need for ensuring the availability of reliable wireless communications services for all, including visitors, travelers and the residents of the La Grange Park area.

Background – T-Mobile's and AT&T's communication system, and indeed all carriers' wireless communications systems, rely on an overlapping and interconnected network of individual antenna sites. Individual sites, like the one under consideration here, consist of antennas mounted on a support structure. The radios and other electronic equipment that are needed to make wireless communications work are typically located at the base of the antenna support structure. These antenna sites transmit and receive wireless communications signals to and from mobile wireless handsets or similar devices.

Individually, these communications facilities have a limited coverage area. The extent of the coverage depends on several factors, including antenna height, local topography, proximity and height of other adjacent antenna installations, and localized customer usage demands. When linked electronically to form a network, however, individual antenna sites operate to deliver a seamless wireless communications service to individuals, businesses, and government. The "seamless" part is important, even crucial, to understanding the need for this site. Without overlapping coverage, calls can't get through or be completed. The locations of antenna sites are therefore carefully thought out and selected to be located as far apart as is consistent with the number of customers in the service area, while still being close enough to "hand off" a call from one tower to the next, without dropping the call.

To be effective, any new antenna facility must first be integrated into the existing network, so that it can transmit, receive, and offload calls to and from its siblings without interference. The requirement that any new site must be able to perform a call "handoff", as when a motorist drives from one coverage area into another, is absolutely essential. If a call cannot be handed off, the site is useless as a network component.

This brings us to consideration of the proposed SSJ Relo site. This facility is only required because of the planned redevelopment of the building where T-Mobile and AT&T's equipment is currently located. In the event that the Village of La Grange Park does not allow the proposed Special Use Permit and Height Variance, the Village will create pressing service problems, problems that cannot be solved merely by re-engineering our existing antenna sites.

The need for robust wireless service in suburban areas:

Capacity Problem - The first problem is one of capacity. As problems go, a large and growing customer base is a good one to have, but it also means that local demand for wireless services would exceed the capacity of our existing sites in this area to handle. Customers from this area will report that during peak use times they cannot connect to the network, or reflexively that calls to customers within this service area will not get through. This means that this geographic area will no longer be served effectively, if the SUP and Variance applications are denied.

Coverage Problem - The huge increase in demand for wireless services, in particular the exponential increase in demand for mobile data services, requires the use of all of the applicants' licensed frequencies in this area. If the SUP and Variance applications are denied, the coverage area depicted in Exhibit D will be severely compromised.

Finally, one final – indeed critical – system performance limitation must be kept clearly in mind in any discussion of any cell site location. The relative coverage limits of signals sent by the cell sites in different frequency bands are important design criteria. These signals however are only one-half of the communications link. The thing that must be kept in mind is the extremely weak signals from cell phones and other mobile data devices, which provide the return link in the signal path. The power levels of these return signals are limited by federal law to a maximum of 0.6 watts for the older "feature" phones (i.e. – dumb phones), and to 0.25 watts of power for today's LTE smart phones. These weak return signals must also penetrate whatever materials a vehicle or buildings are made of, in order to communicate with the network. This as much as any other reason is why cell sites must be located within the area proposed to be served. Simply adding another ring of sites around La Grange Park if this site is eliminated will not solve the problem.

The inherent limitations in the physics of electromagnetic signal propagation and absorption are unalterable facts. In the case of La Grange Park, these limitations and the implementation of the technical solutions discussed above will require construction of a new 120' tower with a 5' lightning rod to replace the existing site. To accomplish this, the applicant is proposing the SSJ Relo site.

T-Mobile and AT&T radio frequency engineers have worked to identify the optimum location and height at which antennas should be placed to connect with the existing network in order to accommodate growing customer demand, to avoid interference with other wireless communications sites, and to close this pending service gap.

The Search for Existing Tall Structures - Before proposing this new tower site, T-Mobile and AT&T first evaluated whether any existing towers or other tall structures might be technically feasible for coverage purposes and suitable for collocation. T-Mobile and AT&T are committed to collocation and regularly locate equipment on existing towers and buildings. Collocation on existing tall structures saves time and money compared to building a new tower. Reciprocally, T-Mobile and AT&T encourage in-bound collocation on its towers by third-party applicants, offering tower space on a first come, first served basis, at competitive, non-discriminatory rents, so long as such shared use does not interfere with any other tower tenant's equipment or operations, and provided the applicant's equipment is installed in accordance with the requirements of the local Zoning and Building Code, and maintained in accordance with the requirements of the Federal Communications Commission.

As detailed on Exhibit I, if the existing building located at 1515 W Ogden Ave is redeveloped from a 6-story to a 2-story structure, there are no existing structures of sufficient verticality to replace the existing AT&T and T-Mobile sites on the rooftop of 1515 W Ogden.

Optimum Location

The proposed tower will allow AT&T and T-Mobile to close the service gap in the La Grange Park area caused by the removal of the existing site located on the rooftop of 1515 W Ogden. The proposed height is the minimum height required and will provide the best solution to serve the requirements of the area. Without the proposed site, people in this area of La Grange Park will experience call blocking and poor signal coverage, preventing them from wirelessly connecting to the national telephone system.

The proposed facility is needed to provide an essential public service to wireless communication users in La Grange Park and the area that cannot be established in any other manner. The construction and integration of this site into AT&T and T-Mobile's existing network will provide or improve access to mobile voice and wireless data services that will be degraded or unavailable if this SUP and Variance application is denied. It will also support Homeland Security and local PSAPs through enhanced 911 services, and it will provide a location for the Village of La Grange Park's public safety equipment. Finally, it will prevent a service gap in this area.

Exhibit E

The Service Area of the Proposed Wireless Telecommunications Tower

AT&T and T-Mobile will be providing service to the Salt Creek Woods to the North, along East Ogden Avenue in La Grange and La Grange Park, East to Route 12, South to Route 34, and just West of Wolf Road in La Grange Park, La Grange, and Western Springs. AT&T and T-Mobile have sites to the North, North West, East, South, South East, South, Southwest, West, and Northwest. If the existing site on the building located at 1515 W Ogden Ave is removed from the network, this exact area described above will have degraded or no service.

Exhibit F
EME/RF Study



SITESAFE
RF COMPLIANCE EXPERTS

A BUSINESS OF FDH VELOCITEL

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info@sitesafe.com • www.sitesafe.com

**T-Mobile
Site ID – CH92341A
Site Name – Sisters of St. Joseph
Site Compliance Report**

**1515 Ogden Avenue
La Grange, IL 60526**

Latitude: N41-49-21.47
Longitude: W87-53-14.92
Structure Type: Monopole

Report generated date: May 3, 2016
Report by: Kobi Thompson
Customer Contact: Stormy Seibt

**T-Mobile Will Be Compliant based on FCC Rules
and Regulations.**

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**David Charles Cotton, Jr.
Licensed Professional Engineer
State of Illinois, 062.062055
Date: 2016-May-04**

T-Mobile

Sisters of St. Joseph - CH92341A

Radio Frequency (RF) Site Compliance Report



1515 Ogden Avenue, La Grange, IL 60526



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1 Executive Summary

T-Mobile has contracted with Sitesafe, Inc. (Sitesafe), an independent Radio Frequency (RF) regulatory and engineering consulting firm, to determine whether the proposed communications site, CH92341A - Sisters of St. Joseph, located at 1515 Ogden Avenue, La Grange, IL, is in compliance with Federal Communication Commission (FCC) Rules and Regulations for RF emissions.

This report contains a detailed summary of the RF environment at the site including:

- diagram of the site;
- inventory of the make / model of all antennas
- theoretical MPE based on modeling.

This report addresses exposure to radio frequency electromagnetic fields in accordance with the FCC Rules and Regulations for all individuals, classified in two groups, "Occupational or Controlled" and "General Public or Uncontrolled." This **site will be compliant** with the FCC rules and regulations, as described in OET Bulletin 65.

This document and the conclusions herein are based on the information provided by T-Mobile.

If you have any questions regarding RF safety and regulatory compliance, please do not hesitate to contact Sitesafe's Customer Support Department at (703) 276-1100.

2 Regulatory Basis

2.1 FCC Rules and Regulations

In 1996, the Federal Communication Commission (FCC) adopted regulations for the evaluating of the effects of RF emissions in 47 CFR § 1.1307 and 1.1310. The guideline from the FCC Office of Engineering and Technology is Bulletin 65 ("OET Bulletin 65"), *Evaluating Compliance with FCC Guidelines for Human Exposure to Radio Frequency Electromagnetic Fields*, Edition 97-01, published August 1997. Since 1996 the FCC periodically reviews these rules and regulations as per their congressional mandate.

FCC regulations define two separate tiers of exposure limits: Occupational or "Controlled environment" and General Public or "Uncontrolled environment". The General Public limits are generally five times more conservative or restrictive than the Occupational limit. These limits apply to accessible areas where workers or the general public may be exposed to Radio Frequency (RF) electromagnetic fields.

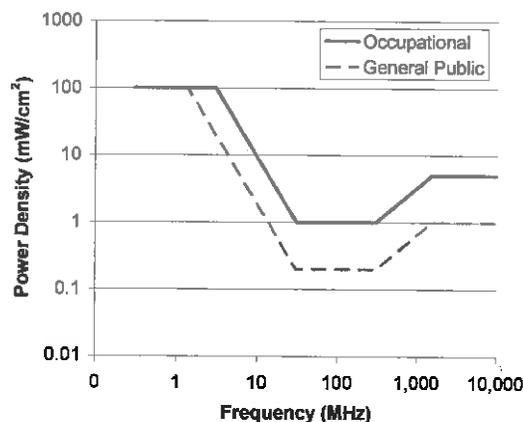
Occupational or Controlled limits apply in situations in which persons are exposed as a consequence of their employment and where those persons exposed have been made fully aware of the potential for exposure and can exercise control over their exposure.

An area is considered a Controlled environment when access is limited to these aware personnel. Typical criteria are restricted access (i.e. locked or alarmed doors, barriers, etc.) to the areas where antennas are located coupled with proper RF warning signage. A site with Controlled environments is evaluated with Occupational limits.

All other areas are considered Uncontrolled environments. If a site has no access controls or no RF warning signage it is evaluated with General Public limits.

The theoretical modeling of the RF electromagnetic fields has been performed in accordance with OET Bulletin 65. The Maximum Permissible Exposure (MPE) limits utilized in this analysis are outlined in the following diagram:

FCC Limits for Maximum Permissible Exposure (MPE)
Plane-wave Equivalent Power Density





Limits for Occupational/Controlled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-3.0	614	1.63	(100)*	6
3.0-30	1842/f	4.89/f	(900/f ²)*	6
30-300	61.4	0.163	1.0	6
300-1500	—	—	f/300	6
1500-100,000	—	—	5	6

Limits for General Population/Uncontrolled Exposure (MPE)

Frequency Range (MHz)	Electric Field Strength (E) (V/m)	Magnetic Field Strength (H) (A/m)	Power Density (S) (mW/cm ²)	Averaging Time E ² , H ² or S (minutes)
0.3-1.34	614	1.63	(100)*	30
1.34-30	824/f	2.19/f	(180/f ²)*	30
30-300	27.5	0.073	0.2	30
300-1500	—	—	f/1500	30
1500-100,000	—	—	1.0	30

f = frequency in MHz *Plane-wave equivalent power density

2.2 OSHA Statement

The General Duty clause of the OSHA Act (Section 5) outlines the occupational safety and health responsibilities of the employer and employee. The General Duty clause in Section 5 states:

(a) Each employer –

- (1) shall furnish to each of his employees employment and a place of employment which are free from recognized hazards that are causing or are likely to cause death or serious physical harm to his employees;
- (2) shall comply with occupational safety and health standards promulgated under this Act.

(b) Each employee shall comply with occupational safety and health standards and all rules, regulations, and orders issued pursuant to this Act which are applicable to his own actions and conduct.

OSHA has defined Radiofrequency and Microwave Radiation safety standards for workers who may enter hazardous RF areas. Regulation Standards 29 CFR § 1910.147 identify a generic Lock Out Tag Out procedure aimed to control the unexpected energization or start up of machines when maintenance or service is being performed.



3 Site Compliance

3.1 Site Compliance Statement

Upon evaluation of the cumulative RF emission levels from all operators at this site, Sitesafe has determined that:

This **site will be compliant** with the FCC rules and regulations, as described in OET Bulletin 65.

The compliance determination is based on theoretical modeling, RF signage placement recommendations, proposed antenna inventory and the level of restricted access to the antennas at the site. Any deviation from the T-Mobile's proposed deployment plan could result in the site being rendered non-compliant.

3.2 Actions for Site Compliance

Based on common industry practice and our understanding of FCC and OSHA requirements, this section provides a statement of recommendations for site compliance. RF alert signage recommendations have been proposed based on theoretical analysis of MPE levels. Barriers can consist of locked doors, fencing, railing, rope, chain, paint striping or tape, combined with RF alert signage.

The site will be made compliant if the following are implemented:

- Restrict access to the site, preventing anyone from the general public access to the site;
- and,
- Post RF sign such that a person could read and understand the signs prior to accessing the site;

Site Access Location

Install a Yellow caution sign at the access gate.
Install an RF Guideline sign at the access gate.



4 Safety Plan and Procedures

The following items are general safety recommendations that should be administered on a site by site basis as needed by the carrier.

General Maintenance Work: Any maintenance personnel required to work immediately in front of antennas and / or in areas indicated as above 100% of the Occupational MPE limits should coordinate with the wireless operators to disable transmitters during their work activities.

Training and Qualification Verification: All personnel accessing areas indicated as exceeding the General Population MPE limits should have a basic understanding of EME awareness and RF Safety procedures when working around transmitting antennas. Awareness training increases a workers understanding to potential RF exposure scenarios. Awareness can be achieved in a number of ways (e.g. videos, formal classroom lecture or internet based courses).

Physical Access Control: Access restrictions to transmitting antennas locations is the primary element in a site safety plan. Examples of access restrictions are as follows:

- Locked door or gate
- Alarmed door
- Locked ladder access
- Restrictive Barrier at antenna (e.g. Chain link with posted RF Sign)

RF Signage: Everyone should obey all posted signs at all times. RF signs play an important role in properly warning a worker prior to entering into a potential RF Exposure area.

Assume all antennas are active: Due to the nature of telecommunications transmissions, an antenna transmits intermittently. Always assume an antenna is transmitting. Never stop in front of an antenna. If you have to pass by an antenna, move through as quickly and safely as possible thereby reducing any exposure to a minimum.

Maintain a 3 foot clearance from all antennas: There is a direct correlation between the strength of an EME field and the distance from the transmitting antenna. The further away from an antenna, the lower the corresponding EME field is.

Site RF Emissions Diagram: Section 5 of this report contains an RF Diagram that outlines various theoretical Maximum Permissible Exposure (MPE) areas at the site. The modeling is a worst case scenario assuming a duty cycle of 100% for each transmitting antenna at full power. This analysis is based on one of two access control criteria: General Public criteria means the access to the site is uncontrolled and anyone can gain access. Occupational criteria means the access is restricted and only properly trained individuals can gain access to the antenna locations.

5 Analysis

5.1 RF Emissions Diagram

The RF diagram(s) below display theoretical spatially averaged percentage of the Maximum Permissible Exposure for all systems at the site unless otherwise noted. These diagrams use modeling as prescribed in OET Bulletin 65 and assumptions detailed in Appendix B.

Simulations predict averaged RF exposure from 0 to 6 feet above the walking surfaces and are calculated for the various elevations on the site. A main level is chosen and the height difference in feet of the other levels is indicated on the diagram. The antenna height (Z) is also referenced to this main level.

In elevation views RF exposure levels are predicted based on a workers feet at each modeled level.

The compass and legend at the bottom left indicate the direction of true north and scale.

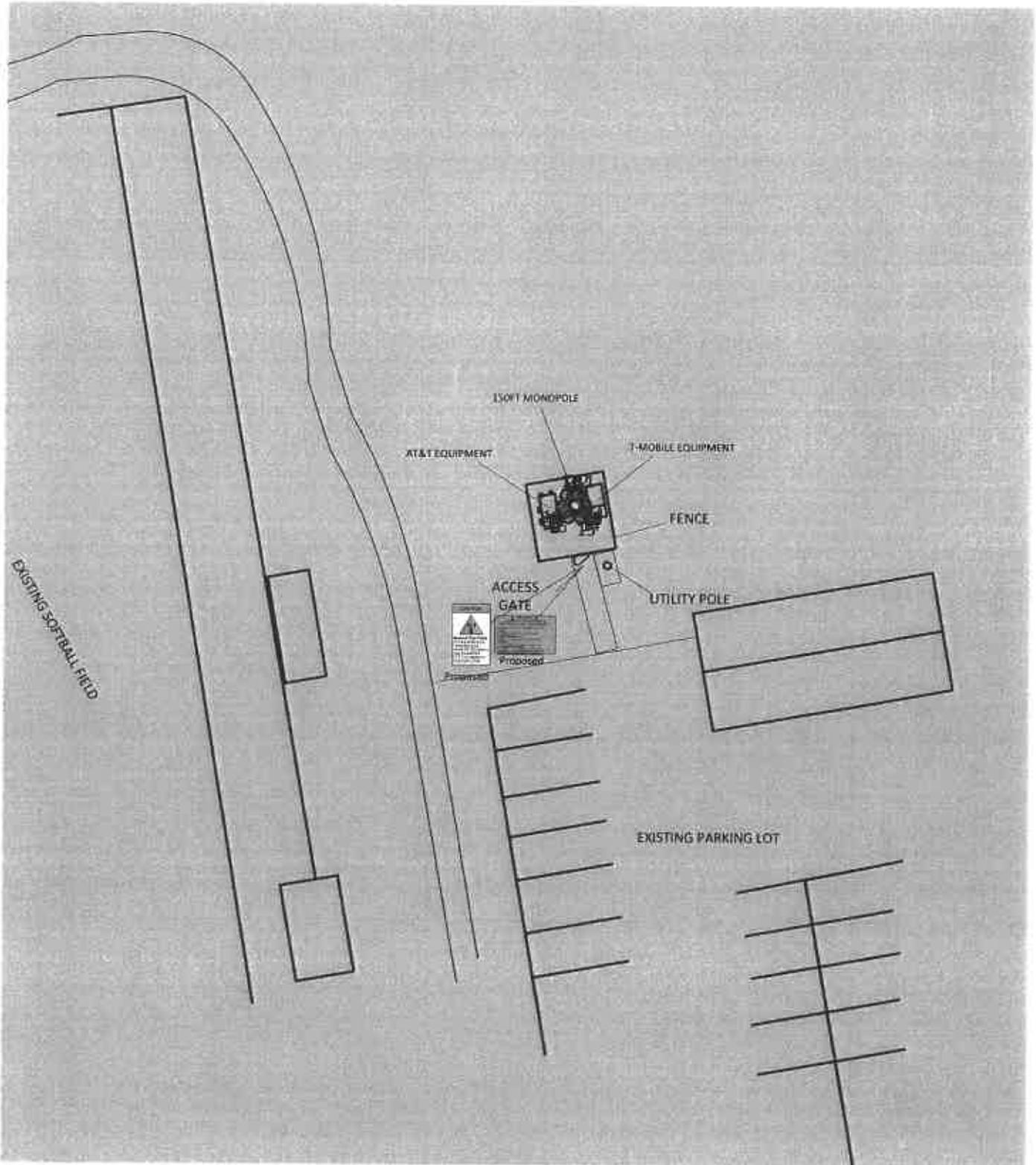
The key at the bottom of each RF Emissions Simulation indicates percentages displayed referenced to FCC General Public Maximum Permissible Exposure (MPE) limits. Color coding on the diagram is as follows:

- Areas indicated as Gray are predicted to be below 5% of the MPE limits. **Gray represents areas more than 20 times below the most conservative exposure limit.**
- Green represents areas are predicted to be between 5% and 100% of the MPE limits. **Green areas are accessible to anyone.**
- Blue represents areas predicted to exceed the General Public MPE limits but are less than Occupational limits. **Blue areas should be accessible only to RF trained workers.**
- Yellow represents areas predicted to exceed Occupational MPE limits. **Yellow areas should be accessible only to RF trained workers able to assess current exposure levels.**
- Red represents areas predicted to have exposure more than 10 times the Occupational MPE limits. **Red indicates that the RF levels must be reduced prior to access.** An RF Safety Plan is required which outlines how to reduce the RF energy in these areas prior to access.

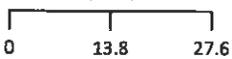
The RF diagrams are based on very conservative modeling assumptions; actual levels are expected to be significantly lower. The diagrams below indicate the following:

- The maximum predicted exposure from T-Mobile antennas at the ground level is less than 5% of the applicable public exposure limit. This area is safe and can be accessed by anyone at any time.

RF Exposure Simulation For: Sisters of St. Joseph Site Plan view

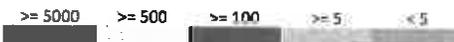


(Feet)



www.sitesafe.com
Site Name: Sisters of St. Joseph
5/3/2016 6:34:45 PM

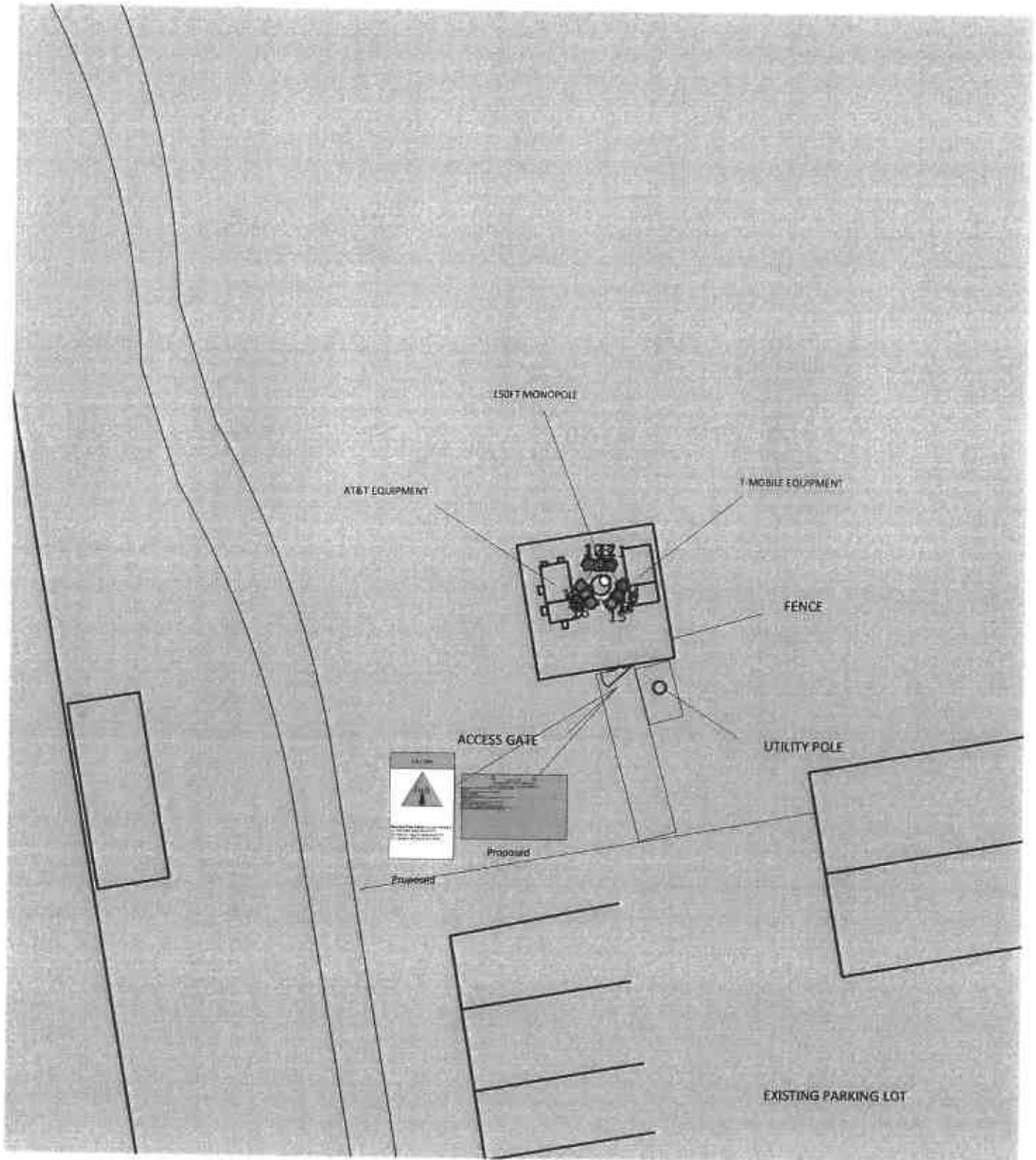
**% of FCC Public Exposure Limit
Spatial average 0' - 6'**



AT&T MOBILITY LLC	VERIZON WIRELESS	T-MOBILE	NETSCAPE	CHOIXT COMMUNICATIONS	CLEARWIRE	SPRINT
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SitesafeTC Version: 1.0.0.0 - 0.0.0.247
Sitesafe OET-65 Model
Field Boundary: $2 \cdot \text{Aperture}^2 / \text{Wavelength}$
Reflection Factor: 1.6
Spatially Averaged

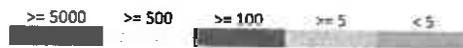
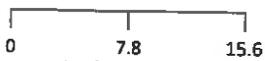
RF Exposure Simulation For: Sisters of St. Joseph Enlarged Plan View



**% of FCC Public Exposure Limit
Spatial average 0' - 6'**



(Feet)

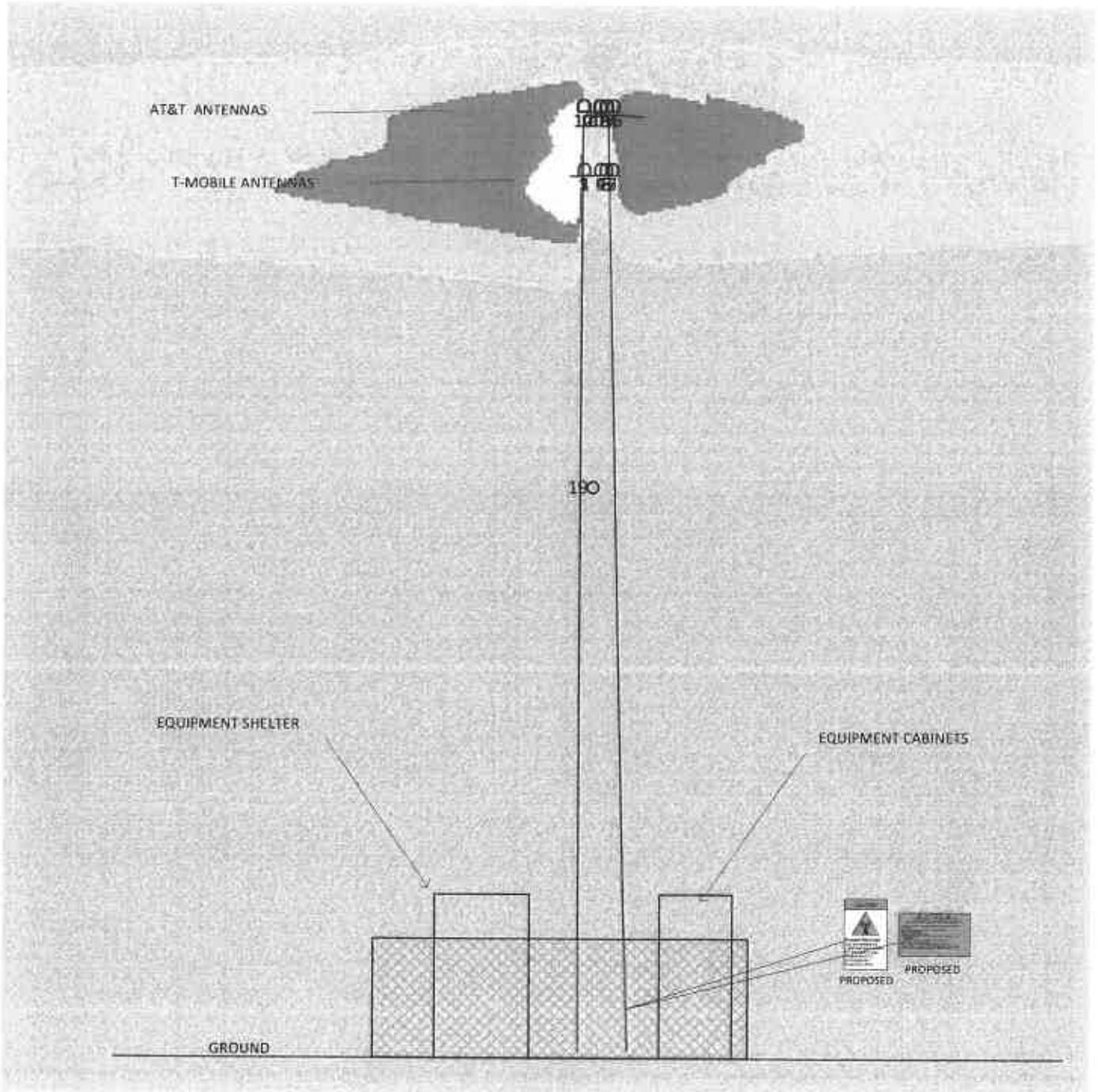


AT&T MOBILITY LLC	VERIZON WIRELESS	T-MOBILE	NETSCAPE	CRICKET COMMUNICATIONS	CLEARWIRE	SPRINT
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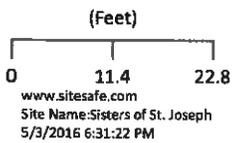
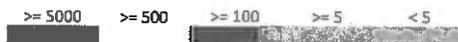
www.sitesafe.com
Site Name: Sisters of St. Joseph
5/3/2016 6:35:45 PM

SitesafeTC Version: 1.0.0.0 - 0.0.0.247
Sitesafe OET-65 Model
Field Boundary: $2 * \text{Aperture}^2 / \text{Wavelength}$
Reflection Factor: 1.6
Spatially Averaged

RF Exposure Simulation For: Sisters of St. Joseph ELEVATION VIEW



**% of FCC Public Exposure Limit
Spatial average 0' - 6'**



SitesafeTC Version: 1.0.0.0 - 0.0.0.247
Sitesafe OET-65 Model
Near Field Boundary: 2 * Aperture² / Wavelength
Reflection Factor: 1.6
Spatially Averaged



6 Antenna Inventory

The Antenna Inventory shows all transmitting antennas at the site. This inventory was provided by the customer, and was utilized by Sitesafe to perform theoretical modeling of RF emissions. The inventory coincides with the site diagrams in this report, identifying each antenna's location at CH92341A - Sisters of St. Joseph. The antenna information collected includes the following information:

- Licensee or wireless operator name
- Frequency or frequency band
- Transmitter power – Effective Radiated Power ("ERP"), or Equivalent Isotropic Radiated Power ("EIRP") in Watts
- Antenna manufacturer make, model, and gain

For other carriers at this site, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information with regard to carrier, their FCC license and/or antenna information was not available nor could it be secured while on site. Equipment, antenna models and nominal transmit power were used for modeling, based on past experience with radio service providers.

The following antenna inventory, on this and the following page, were provided by the customer and were utilized to create the site model diagrams:

Table 3: Antenna Inventory

Ant #	Operated By	TX Freq (MHz)	ERP (Watts)	Antenna Gain (dBd)	Az (Deg)	Antenna Model	Ant Type	Len (ft)	Horizontal Half Power Beamwidth (Deg)	Location		
										X	Y	Z (AGL)
1	T-MOBILE	2100	2066.1	15.37	0	Andrew TMBXX-6516-A2M	Panel	4.2	64.5	124.5'	130.2'	140'
2	T-MOBILE	1900	1377.4	15.37	0	Andrew TMBX-6516-A1M	Panel	4.3	65	125.7'	130.2'	140'
3	T-MOBILE	2100	2066.1	15.37	0	Andrew TMBXX-6516-A2M	Panel	4.2	64.5	126.8'	130.2'	140'
3	T-MOBILE	1900	2066.1	15.37	0	Andrew TMBXX-6516-A2M	Panel	4.2	64.5	126.8'	130.2'	140'
4	T-MOBILE	2100	2066.1	15.37	120	Andrew TMBXX-6516-A2M	Panel	4.2	64.5	128.4'	127.6'	140'
5	T-MOBILE	1900	1377.4	15.37	120	Andrew TMBX-6516-A1M	Panel	4.3	65	127.9'	126.7'	140'
6	T-MOBILE	1900	2066.1	15.37	120	Andrew TMBXX-6516-A2M	Panel	4.2	64.5	127.3'	125.9'	140'
6	T-MOBILE	2100	2066.1	15.37	120	Andrew TMBXX-6516-A2M	Panel	4.2	64.5	127.3'	125.9'	140'
7	T-MOBILE	2100	2066.1	15.37	225	Andrew TMBXX-6516-A2M	Panel	4.2	64.5	124.7'	125.8'	140'
8	T-MOBILE	1900	1377.4	15.37	225	Andrew TMBX-6516-A1M	Panel	4.3	65	124.1'	126.7'	140'
9	T-MOBILE	1900	2066.1	15.37	225	Andrew TMBXX-6516-A2M	Panel	4.2	64.5	123.6'	127.6'	140'
9	T-MOBILE	2100	2066.1	15.37	225	Andrew TMBXX-6516-A2M	Panel	4.2	64.5	123.6'	127.6'	140'
10	AT&T MOBILITY	2100	866.9	14.6	30	Andrew SBNHH-1D65A	Panel	4.6	62	124.4'	130.4'	150'
11	AT&T MOBILITY	737	912.9	13.07	30	Andrew DBXNH-6565B-VTM	Panel	6.1	67	127'	130.3'	150'
12	AT&T MOBILITY	850	361.5	11.85	30	Andrew SBNH-1D6565A	Panel	4.2	66	125.9'	130.4'	150'
12	AT&T MOBILITY	1900	682.5	14.61	30	Andrew SBNH-1D6565A	Panel	4.2	58	125.9'	130.4'	150'
13	AT&T MOBILITY	2100	866.9	14.6	150	Andrew SBNHH-1D65A	Panel	4.6	62	128.3'	127.9'	150'
14	AT&T MOBILITY	850	361.5	11.85	150	Andrew SBNH-1D6565A	Panel	4.2	66	127.9'	126.7'	150'
14	AT&T MOBILITY	1900	682.5	14.61	150	Andrew SBNH-1D6565A	Panel	4.2	58	127.9'	126.7'	150'
15	AT&T MOBILITY	737	912.9	13.07	150	Andrew DBXNH-6565B-VTM	Panel	6.1	67	127'	125.7'	150'
16	AT&T MOBILITY	2100	866.9	14.6	230	Andrew SBNHH-1D65A	Panel	4.6	62	124.9'	125.7'	150'
17	AT&T MOBILITY	850	361.5	11.85	230	Andrew SBNH-1D6565A	Panel	4.2	66	124.3'	126.9'	150'

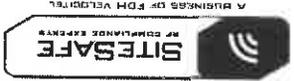


Table 3: Antenna Inventory

Ant #	Operated by	TX Freq (MHz)	ERP (Watts)	Antenna Gain (dbd)	Az (Deg)	Ant Model	Ant Type	Ant Len (ft)	Horizontal Half Power Beamwidth (Deg)	X	Y	Z (AGL)
17	AT&T MOBILITY	1900	682.5	14.61	230	Andrew SBNH-1D6565A	Panel	4.2	58	124.3'	126.9'	150'
18	AT&T MOBILITY	737	912.9	13.07	230	Andrew DBXNH-6565B-VTM	Panel	6.1	67	123.7'	127.6'	150'
19	Police Dept.	150	0	3.01	0	Andrew DB222 (Receive)	Omni	10.6	360	126.4'	128.4'	90'

NOTE: X, Y and Z indicate relative position of the antenna to the origin location on the site, displayed in the model results diagram. Specifically, the Z reference indicates antenna height above ground level (AGL). ERP values provided by the client and used in the modeling may be greater than are currently deployed.



7 Engineer Certification

The professional engineer whose seal appears on the cover of this document hereby certifies and affirms that:

I am registered as a Professional Engineer in the jurisdiction indicated in the professional engineering stamp on the cover of this document; and

That I am an employee of Sitesafe, Inc., in Arlington, Virginia, at which place the staff and I provide RF compliance services to clients in the wireless communications industry; and

That I am thoroughly familiar with the Rules and Regulations of the Federal Communications Commission (FCC) as well as the regulations of the Occupational Safety and Health Administration (OSHA), both in general and specifically as they apply to the FCC Guidelines for Human Exposure to Radio-frequency Radiation; and

That I have thoroughly reviewed this Site Compliance Report and believe it to be true and accurate to the best of my knowledge as assembled by and attested to by Kobi Thompson.

May 3, 2016



Appendix A – Statement of Limiting Conditions

Sitesafe will not be responsible for matters of a legal nature that affect the site or property.

Due to the complexity of some wireless sites, Sitesafe performed this analysis and created this report utilizing best industry practices and due diligence. Sitesafe cannot be held accountable or responsible for anomalies or discrepancies due to actual site conditions (i.e., mislabeling of antennas or equipment, inaccessible cable runs, inaccessible antennas or equipment, etc.) or information or data supplied by T-Mobile, the site manager, or their affiliates, subcontractors or assigns.

Sitesafe has provided computer generated model(s) in this Site Compliance Report to show approximate dimensions of the site, and the model is included to assist the reader of the compliance report to visualize the site area, and to provide supporting documentation for Sitesafe's recommendations.

Sitesafe may note in the Site Compliance Report any adverse physical conditions, such as needed repairs, observed during the survey of the subject property or that Sitesafe became aware of during the normal research involved in performing this survey. Sitesafe will not be responsible for any such conditions that do exist or for any engineering or testing that might be required to discover whether such conditions exist. Because Sitesafe is not an expert in the field of mechanical engineering or building maintenance, the Site Compliance Report must not be considered a structural or physical engineering report.

Sitesafe obtained information used in this Site Compliance Report from sources that Sitesafe considers reliable and believes them to be true and correct. Sitesafe does not assume any responsibility for the accuracy of such items that were furnished by other parties. When conflicts in information occur between data provided by a second party and physical data collected by Sitesafe, the physical data will be used.



Appendix B – Assumptions and Definitions

General Model Assumptions

In this site compliance report, it is assumed that all antennas are operating at **full power at all times**. Software modeling was performed for all transmitting antennas located on the site. Sitesafe has further assumed a 100% duty cycle and maximum radiated power.

The site has been modeled with these assumptions to show the maximum RF energy density. Sitesafe believes this to be a *worst-case* analysis, based on best available data. Areas modeled to predict emissions greater than 100% of the applicable MPE level may not actually occur, but are shown as a *worst-case* prediction that could be realized real time. Sitesafe believes these areas to be safe for entry by occupationally trained personnel utilizing appropriate personal protective equipment (in most cases, a personal monitor).

Thus, at any time, if power density measurements were made, we believe the real-time measurements would indicate levels below those depicted in the RF emission diagram(s) in this report. By modeling in this way, Sitesafe has conservatively shown exclusion areas – areas that should not be entered without the use of a personal monitor, carriers reducing power, or performing real-time measurements to indicate real-time exposure levels.

Use of Generic Antennas

For the purposes of this report, the use of "Generic" as an antenna model, or "Unknown" for an operator means the information about a carrier, their FCC license and/or antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of equipment, antenna models, and transmit power to model the site. If more specific information can be obtained for the unknown measurement criteria, Sitesafe recommends remodeling of the site utilizing the more complete and accurate data. Information about similar facilities is used when the service is identified and associated with a particular antenna. If no information is available regarding the transmitting service associated with an unidentified antenna, using the antenna manufacturer's published data regarding the antenna's physical characteristics makes more conservative assumptions.

Where the frequency is unknown, Sitesafe uses the closest frequency in the antenna's range that corresponds to the highest Maximum Permissible Exposure (MPE), resulting in a conservative analysis.

Definitions

5% Rule – The rules adopted by the FCC specify that, in general, at multiple transmitter sites actions necessary to bring the area into compliance with the guidelines are the shared responsibility of all licensees whose transmitters produce field strengths or power density levels at the area in question in excess of 5% of the exposure limits. In other words, any wireless operator that contributes 5% or greater of the MPE limit in an area that is identified to be greater than 100% of the MPE limit is responsible taking corrective actions to bring the site into compliance.

Compliance – The determination of whether a site is safe or not with regards to Human Exposure to Radio Frequency Radiation from transmitting antennas.

Decibel (dB) – A unit for measuring power or strength of a signal.

Duty Cycle – The percent of pulse duration to the pulse period of a periodic pulse train. Also, may be a measure of the temporal transmission characteristic of an intermittently transmitting RF source such as a paging antenna by dividing average transmission duration by the average period for transmission. A duty cycle of 100% corresponds to continuous operation.

Effective (or Equivalent) Isotropic Radiated Power (EIRP) – The product of the power supplied to the antenna and the antenna gain in a given direction relative to an isotropic antenna.

Effective Radiated Power (ERP) – In a given direction, the relative gain of a transmitting antenna with respect to the maximum directivity of a half wave dipole multiplied by the net power accepted by the antenna from the connecting transmitter.

Gain (of an antenna) – The ratio of the maximum intensity in a given direction to the maximum radiation in the same direction from an isotropic radiator. Gain is a measure of the relative efficiency of a directional antennas as compared to an omni directional antenna.

General Population/Uncontrolled Environment – Defined by the FCC, as an area where RFR exposure may occur to persons who are **unaware** of the potential for exposure and who have no control of their exposure. General Population is also referenced as General Public.

Generic Antenna – For the purposes of this report, the use of "Generic" as an antenna model means the antenna information was not provided and could not be obtained while on site. In the event of unknown information, Sitesafe will use our industry specific knowledge of antenna models to select a worst case scenario antenna to model the site.

Isotropic Antenna – An antenna that is completely non-directional. In other words, an antenna that radiates energy equally in all directions.

Maximum Measurement – This measurement represents the single largest measurement recorded when performing a spatial average measurement.



Maximum Permissible Exposure (MPE) – The rms and peak electric and magnetic field strength, their squares, or the plane-wave equivalent power densities associated with these fields to which a person may be exposed without harmful effect and with acceptable safety factor.

Occupational/Controlled Environment – Defined by the FCC, as an area where Radio Frequency Radiation (RFR) exposure may occur to persons who are **aware** of the potential for exposure as a condition of employment or specific activity and can exercise control over their exposure.

OET Bulletin 65 – Technical guideline developed by the FCC's Office of Engineering and Technology to determine the impact of Radio Frequency radiation on Humans. The guideline was published in August 1997.

OSHA (Occupational Safety and Health Administration) – Under the Occupational Safety and Health Act of 1970, employers are responsible for providing a safe and healthy workplace for their employees. OSHA's role is to promote the safety and health of America's working men and women by setting and enforcing standards; providing training, outreach and education; establishing partnerships; and encouraging continual process improvement in workplace safety and health. For more information, visit www.osha.gov.

Radio Frequency Radiation – Electromagnetic waves that are propagated from antennas through space.

Spatial Average Measurement – A technique used to average a minimum of ten (10) measurements taken in a ten (10) second interval from zero (0) to six (6) feet. This measurement is intended to model the average energy an average sized human body will absorb while present in an electromagnetic field of energy.

Transmitter Power Output (TPO) – The radio frequency output power of a transmitter's final radio frequency stage as measured at the output terminal while connected to a load.



Appendix C – Rules & Regulations

Explanation of Applicable Rules and Regulations

The FCC has set forth guidelines in OET Bulletin 65 for human exposure to radio frequency electromagnetic fields. Specific regulations regarding this topic are listed in Part 1, Subpart I, of Title 47 in the Code of Federal Regulations. Currently, there are two different levels of MPE - General Public MPE and Occupational MPE. An individual classified as Occupational can be defined as an individual who has received appropriate RF training and meets the conditions outlined below. General Public is defined as anyone who does not meet the conditions of being Occupational. FCC and OSHA Rules and Regulations define compliance in terms of total exposure to total RF energy, regardless of location of or proximity to the sources of energy.

It is the responsibility of all licensees to ensure these guidelines are maintained at all times. It is the ongoing responsibility of all licensees composing the site to maintain ongoing compliance with FCC rules and regulations. Individual licensees that contribute less than 5% MPE to any total area out of compliance are not responsible for corrective actions.

OSHA has adopted and enforces the FCC's exposure guidelines. A building owner or site manager can use this report as part of an overall RF Health and Safety Policy. It is important for building owners/site managers to identify areas in excess of the General Population MPE and ensure that only persons qualified as Occupational are granted access to those areas.

Occupational Environment Explained

The FCC definition of Occupational exposure limits apply to persons who:

- are exposed to RF energy as a consequence of their employment;
- have been made aware of the possibility of exposure; and
- can exercise control over their exposure.

OSHA guidelines go further to state that persons must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

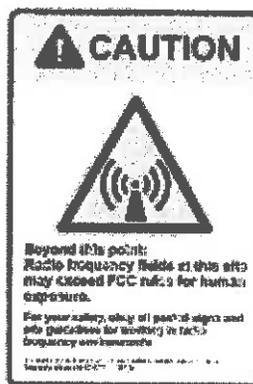
In order to consider this site an Occupational Environment, the site must be controlled to prevent access by any individuals classified as the General Public. Compliance is also maintained when any non-occupational individuals (the General Public) are prevented from accessing areas indicated as Red or Yellow in the attached RF Emissions diagram. In addition, a person must be aware of the RF environment into which they are entering. This can be accomplished by an RF Safety Awareness class, and by appropriate written documentation such as this Site Compliance Report.

All T-Mobile employees who require access to this site must complete RF Safety Awareness training and must be trained in the use of appropriate personal protective equipment.

Appendix D – General Safety Recommendations

The following are *general recommendations* appropriate for any site with accessible areas in excess of 100% General Public MPE. These recommendations are not specific to this site. These are safety recommendations appropriate for typical site management, building management, and other tenant operations.

1. All individuals needing access to the main site (or the area indicated to be in excess of General Public MPE) should wear a personal RF Exposure monitor, successfully complete proper RF Safety Awareness training, and have and be trained in the use of appropriate personal protective equipment.
2. All individuals needing access to the main site should be instructed to read and obey all posted placards and signs.
3. The site should be routinely inspected and this or similar report updated with the addition of any antennas or upon any changes to the RF environment including:
 - adding new antennas that may have been located on the site
 - removing of any existing antennas
 - changes in the radiating power or number of RF emitters
4. Post the appropriate **NOTICE**, **CAUTION**, or **WARNING** sign at the main site access point(s) and other locations as required. Note: Please refer to RF Exposure Diagrams in Appendix B, to inform everyone who has access to this site that beyond posted signs there may be levels in excess of the limits prescribed by the FCC. The signs below are examples of signs meeting FCC guidelines.



5. Ensure that the site door remains locked (or appropriately controlled) to deny access to the general public if deemed as policy by the building/site owner.
6. For a General Public environment the four color levels identified in this analysis can be interpreted in the following manner:
 - Gray represents area at below 5% of the General Public MPE limits or below. This level is safe for a worker to be in at any time.
 - Green represents areas predicted to be between 5% and 100% of the General Public MPE limits. This level is safe for a worker to be in at any time.



- Blue represents areas predicted to be between 100% and 500% of the General Public MPE limits. This level is safe for a worker to be in at any time.
- Yellow represents areas predicted to be between 500% and 5000% of the General Public MPE limits. This level is safe for a worker to be in.
- Red areas indicated predicted levels greater than 5000% of the General Public MPE limits. This level is not safe for the General Public to be in.

7. For an Occupational environment the four color levels identified in this analysis can be interpreted in the following manner:

- Areas indicated as Gray are at 5% of the Occupational MPE limits or below. This level is safe for a worker to be in at any time.
- Green represents areas predicted to be between 5% and 20% of the Occupational MPE limits. This level is safe for a worker to be in at any time.
- Yellow represents areas predicted to be between 20% and 100% of the Occupational MPE limits. Only individuals that have been properly trained in RF Health and Safety should be allowed to work in this area. This is not an area that is suitable for the General Public to be in.
- Red areas indicated predicted levels greater than 100% of the Occupational MPE limits. This level is not safe for the Occupational worker to be in for prolonged periods of time. Special procedures must be adhered to such as lock out tag out procedures to minimize the workers exposure to EME.

8. Use of a Personal Protective Monitor: When working around antennas, Sitesafe strongly recommends the use of a Personal Protective Monitor (PPM). Wearing a PPM will properly forewarn the individual prior to entering an RF exposure area.

Keep a copy of this report available for all persons who must access the site. They should read this report and be aware of the potential hazards with regards to RF and MPE limits.

Additional Information

Additional RF information is available by visiting both www.Sitesafe.com and www.fcc.gov/oet/rfsafety. OSHA has additional information available at: <http://www.osha-slc.gov/SLTC/radiofrequencyradiation>.

Exhibit G

Description of Applicant's interest in the property

The Applicant, T-Mobile Central LLC, has a leasehold interest in the property. MOL is attached to Exhibit G as evidence of leasehold interest.

VoiceStream GSM I Operating Company, LLC
8550 W. Bryn Mawr Ave., First Floor
Chicago, IL 60631



0010198774

017

Parcel No. 15-32-400-010

EXHIBIT C

Memorandum of Lease and Option

between Sisters of Saint Joseph of LaGrange ("Landlord")
and Cook Inlet / VoiceStream Operating Company, L.L.C., a Delaware limited liability company ("Tenant")



A Rooftop Site Lease with Option ("Lease") by and between Sisters of Saint Joseph of LaGrange ("Landlord") and Cook Inlet / VoiceStream Operating Company, L.L.C. ("Tenant") was made a portion of the following property:

See Attached Exhibit "A" incorporated herein for all purposes

The Option is for a term of nine months (9) month after date of Lease, with up to one additional 0 (0) month renewal ("Optional Period").

The Lease is for a term of five (5) years and will commence on the date as set forth in the Lease (the "Commencement Date") and shall terminate at midnight on the last day of the month in which the fifth anniversary of the Commencement Date shall have occurred. Tenant shall have the right to extend this Lease for four (4) additional five-year terms.

IN WITNESS WHEREOF, the parties hereto have respectively executed this memorandum effective as of the date of the last party to sign.

0010198774

5292/0018 82 002 Page 1 of 4
2001-03-14 13:32:32
Cook County Recorder 27.50

LANDLORD: Sisters of Saint Joseph of LaGrange

By: Ethel Vaca, CSJ
Printed Name: ETHEL VACA, CSJ
Its: Treasurer
Date: April 25, 2000

LANDLORD: **COOK COUNTY
RECORDER
EUGENE "GENE" MOORE
BRIDGEVIEW OFFICE**
By: _____
Printed Name: _____
Its: _____
Date: _____

TENANT: Cook Inlet / VoiceStream Operating Company, L.L.C.
By: VoiceStream PCS BTA I Corporation, its Agent
By: Raj Tank 4/28/00
Printed Name: Raj Tank
Its: Director of Ops. and Dev.
Date: _____

Site Number: CH12-341A
Site Name: Sisters of St. Joseph-
Market: Chicago

Rev. 2/00

- [Notary block for Landlord]

[Notary block for Corporation, Partnership, Limited Liability Company]

STATE OF Illinois)
) ss.
COUNTY OF Cook)

0010198774 Page 2 of 3

This instrument was acknowledged before me on April 25, 2001 by Ethel Vela, C.A.J. [title] Treasurer of Sisters of St. Joseph of the Grange a 501(c)(3) [type of entity], on behalf of said Sisters of St. Joseph [name of entity].

Dated: April 25, 2001



(Use this space for notary stamp/seal)

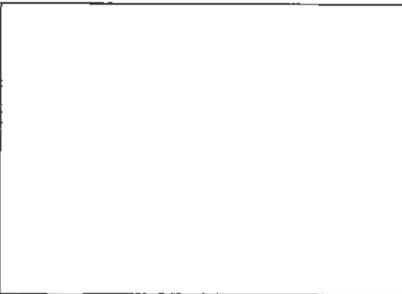
S. Kathleen Lucas C.S.J.
Notary Public
Print Name DR KATHLEEN LUCAS CSJ
My commission expires 9/10/03

[Notary block for Individual]

STATE OF _____)
) ss.
COUNTY OF _____)

This instrument was acknowledged before me on _____ by _____

Dated: _____



(Use this space for notary stamp/seal)

Notary Public
Print Name _____
My commission expires _____

[Notary block for Tenant]

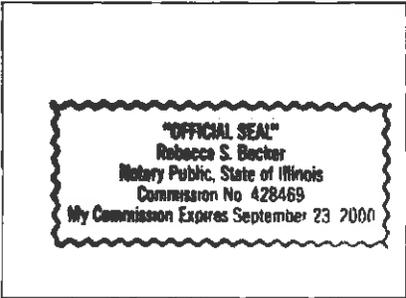
STATE OF ILLINOIS)
) ss.
COUNTY OF Cook)

I certify that I know or have satisfactory evidence that Rajesh Tank is the person who appeared before me, and said person acknowledged that he signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the Dir. of Operations to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: 4/28/10

Rebecca S. Becker

Notary Public _____
Print Name _____
My commission expires _____



(Use this space for notary stamp/seal)

EXHIBIT A
Legal Description

0010198774 PAGE 0 OF 1

The Property is legally described as follows:

Tract F in Bethlehem Woods Retirement Living Center Planned Unit Development, being a subdivision of Lot 2 in Sisters of St. Joseph of LaGrange Subdivision No. 1, part of the West 1/2 of the Southeast 1/4 of Section 32, Township 39 North, Range 12, East of the Third Principal Meridian, according to the Plat thereof recorded January 19, 1989 as Document 89028253, in Cook County, Illinois

Site Number: CH12-341A
Site Name: Sisters of St. Joseph
Market: Chicago

Rev. 2/00

A-1

Exhibit H

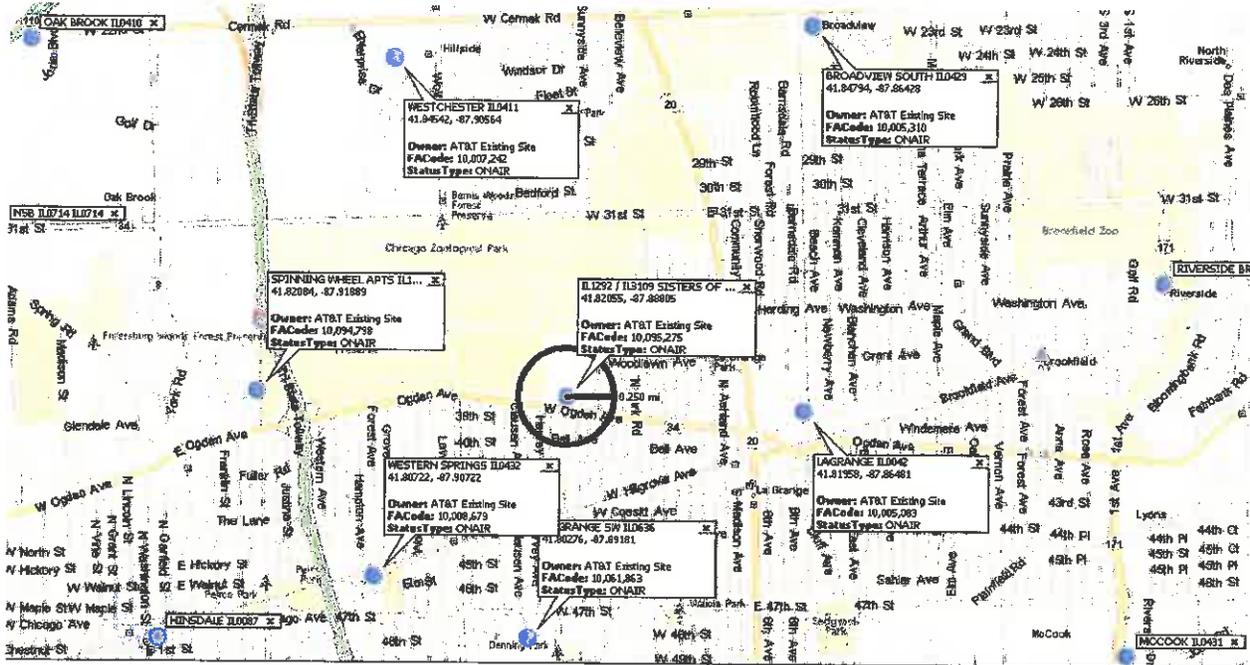
The identity and address of all owners and other persons with a real property recorded interest in the communications tower

- Sisters of St. Joseph of Lagrange – 1515 W Ogden Ave, La Grange Park, IL
- St. Nazareth Academy – 1515 W Ogden Ave, La Grange Park, IL
- AT&T Mobility – 930 National Parkway, 4th Floor, Schaumburg, IL 60173
- T-Mobile Central LLC – 8550 W. Bryn Mawr Ave, Suite 100, Chicago, IL 60631

EXHIBIT I Collocation Opportunities

If the existing building is redeveloped from a 6-story structure to a 2-story structure, there will be no collocation opportunities within 1.45 miles of the subject property. The closest existing structure is a 70' chimney located at Park Jr. High School. The chimney cannot be extended, due to restrictions in the Village of La Grange Park's code, and the highest available height on this chimney is 60'. T-Mobile and AT&T both require more than 120' and 110' respectively for their equipment, so this location will not solve the coverage issue in the vicinity.

AT&T's sites in the vicinity are depicted in the map below:



Site Name	Latitude	Longitude
Westchester	41.84542	-87.90564
Broadview South	41.84794	-87.86428
Spinning Wheel Apts	41.82084	-87.91889
Western Springs	41.80722	-87.90722
LaGrange SW	41.80276	-87.89181
LaGrange	41.81958	-87.86481

EXHIBIT I
Collocation Opportunities

T-Mobile's sites are depicted in the map below:



SITE ID	Latitude	Longitude
CH42545B	41.83186201	-87.8656342
CH12315A	41.81957855	-87.8648127
CH62447A	41.80644444	-87.8612222
CH22901A	41.80271928	-87.8915201
CH15344C	41.80566	-87.920621
CH45540A	41.822158	-87.919606
CH15316B	41.84633127	-87.9034519
CH12313A	41.847871	-87.864283

EXHIBIT I
Collocation Opportunities

The existing structures surrounding the Village of La Grange Park are located on the map below and listed below. The sites encircle the existing site that AT&T and T-Mobile are seeking to replace. None are viable replacements for the existing telecommunications site located on the rooftop of the Sisters of St. Joseph "Motherhouse" at 1515 W Ogden:

Site A – American Tower Corporation ("ATC") site located at the corner of Cermak and Wolf Road. Noted above as a tower that both AT&T ("Westchester") and T-Mobile ("CH15316B") are co-located on already.

Site B – ATC Tower located at the corner of 22nd St and S 25th Ave. Noted above as a tower that both AT&T ("Broadview South") and T-Mobile ("CH12313A") are already collocated on.

Site C—Cook County Sherrif's Dept Tower located near the corner of 26th St and Barnsdale Road and less than .5 miles from Site B and Site D. AT&T and T-Mobile are not co-located on this tower. However, this site is more than 1.8 miles from the existing T-Mobile and AT&T site on the Sisters of St. Joseph Property. The site would not replace the coverage provided by the existing site for either carrier. Finally, the Cook County Sherrif's department has not been willing to lease space on its towers to wireless carriers due to its use for public safety. This is not a viable collocation structure to replace coverage provided by the proposed wireless communications tower.

Site D – Village of La Grange Park Water Tower – Located on Barnsdale Road, T-Mobile ("CH42545A") is a tenant on this structure. This site would not replace AT&T's or T-Mobile's coverage from the existing Sisters of St. Joseph location.

Site E – AT&T Wireless Tower located at Shawmul Ave and Hazel Ave with T-Mobile ("CH12315A") and AT&T ("LaGrange") as tenants.

Site F – Village of Western Springs Water Tank located on Willow Springs road has AT&T ("LaGrange SW") and T-Mobile ("CH22901A") as tenants.

Site G – Water Tower located on Burlington Ave and Central Ave has AT&T ("Western Springs") as a tenant. This site would not replace the existing coverage for T-Mobile currently provided for on the Motherhouse on the Sisters of St. Joseph property, as T-Mobile has a site .3 miles to the West, CH15344C on the Adventist Hinsdale Hospital that covers this area. AT&T is also co-located on this facility.

Site H – "Spinning Wheel" Apartment Complex – AT&T ("Spinning Wheel Apts") is already collocated on this facility. T-Mobile's equipment is located on a separate building in this compound approximately 200' from the AT&T site ("CH45540A").

Site I – Park Jr. High School – Verizon recently received zoning approval to co-locate on this structure at 70'. The Junior High School does not have sufficient space for AT&T, T-Mobile, and the Village of La Grange Park to mount its equipment to the chimney. In addition, the available heights of 60' and below will not meet the minimum coverage requirements to support removing equipment from the rooftop of the Sisters of St. Joseph rooftop for either AT&T or T-Mobile.

Exhibit J

Certification by a State of IL Professional Engineer on proposed structure failure



10000-1st Avenue
P.O. Box 578
Peoria, IL 61611-0578
Phone: 309-686-3000
Fax: 309-686-3075
Toll Free: 800-727-ROHN

June 1, 2016

T-Mobile
Ali.Benhamida2@t-mobile.com

Attention: Mr. Ali Benhamida
Reference: 120 ft Telecom Pole
Site CH92341A
Sisters of St. Joseph
Village of La Grange Park, IL

Dear Mr. Benhamida,

ROHN's proposal for the referenced pole is based on the ANSI/TIA/222-G standard for communication structures. Per the site drawing for the proposed site, the structure is located within a 35 ft by 40 ft lease area. The structure is designed for a contained fall radius to support three cellular radio carriers, 3 levels of 18 GHz microwave dishes and a lower antenna on a side arm.

The proposed structure design is based on a 120 MPH ultimate wind speed in accordance with the requirements for an essential facility which requires a higher reliability compared to other types of communication structures. The return period for this wind speed at the proposed site is 1,700 years meaning that a wind speed of this magnitude is only expected to occur on the average of once every 1,700 years.

It is our understanding that the design of the structure be designed for a zero fall radius. Although the proposed structure is not designed to fail, stronger sections than required by analysis are proposed in the lower half of the structure for this purpose. This design enables the pole to fail through a combination of bending and buckling in the upper portion of the pole under a catastrophic wind loading. The expected failure mode would involve the upper portion of the pole folding over the intact lower half resulting in a fall radius within the leased property area or with an essentially zero fall radius.

ROHN is an AISC and CWB certified fabricator and has been providing communication structures for 68 years. Over that time period ROHN has been a leader in the development of design criteria for contained fall radius structures as well as other structural standards for communication structures. Please contact us at your convenience should you have further questions concerning the safety of pole structures or other aspects of pole design.

Sincerely,

David G. Brinker, S.E.
Rohn Products, LLC

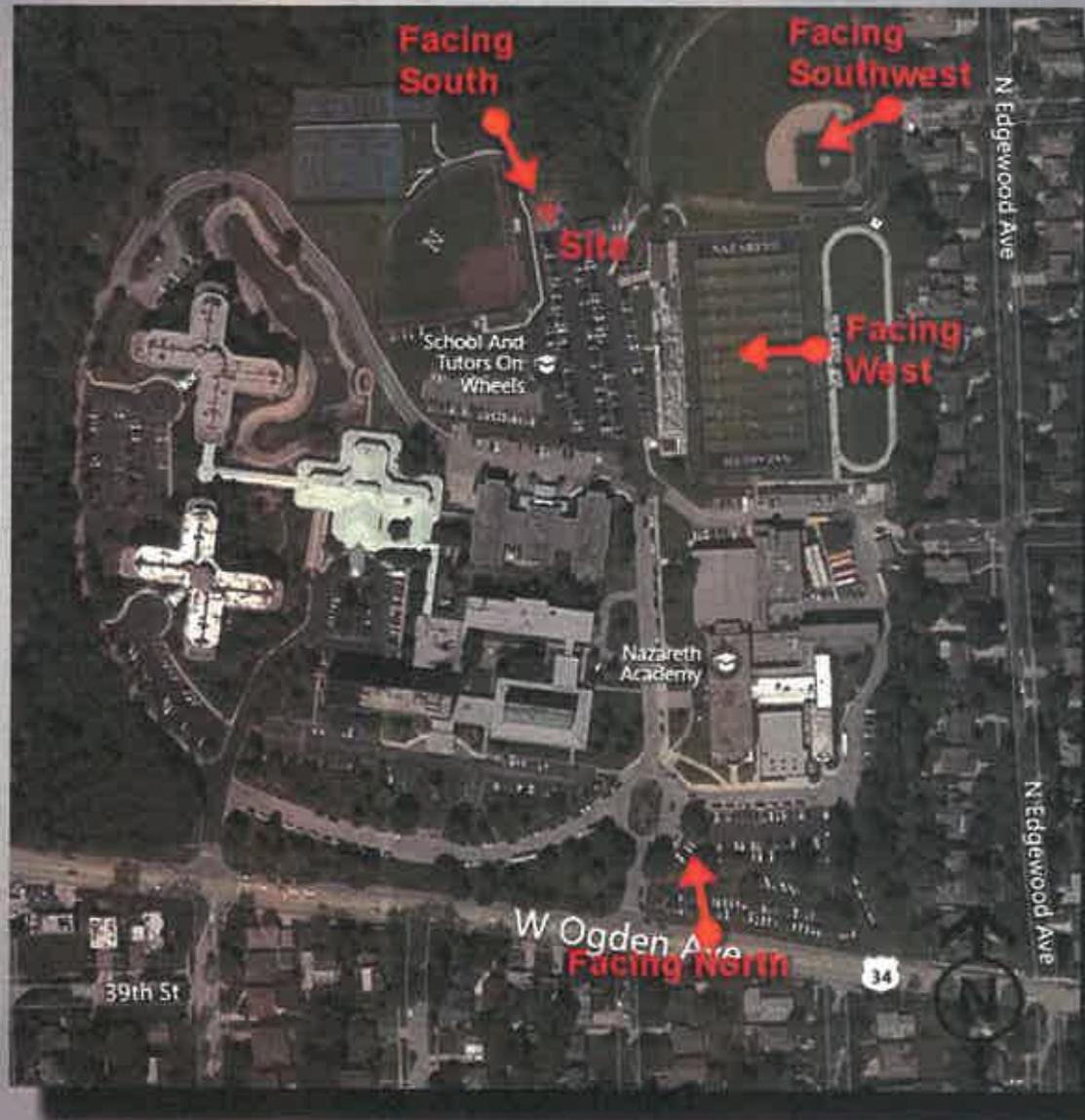


Exhibit K

A Visual Simulation of the proposed Communications Tower

CH92341A - Sisters of St. Joseph

1515 Ogden Ave.
La Grange Park, IL 60526



T-Mobile

W-T
W-T COMMUNICATION
DESIGN GROUP, LLC
WIRELESS INFRASTRUCTURE

Disclaimer: This photo simulation is an artist's depiction of a future installation. The actual construction may vary slightly in size, layout, color and texture from this simulation.

CH92341A - Sisters of St. Joseph

1515 Ogden Ave.
La Grange Park, IL 60526

Facing North



T-Mobile

EXISTING

W-T
W-T COMMUNICATION
DESIGN GROUP, LLC
WIRELESS INFRASTRUCTURE

Disclaimer: This photo simulation is an artist's depiction of a future installation. The actual construction may vary slightly in size, layout, color and texture from this simulation.

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CH92341A - Sisters of St. Joseph

1515 Ogden Ave.
La Grange Park, IL 60526

Facing North



T-Mobile

PROPOSED

W-T
W-T COMMUNICATION
DESIGN GROUP, LLC
WIRELESS INFRASTRUCTURE

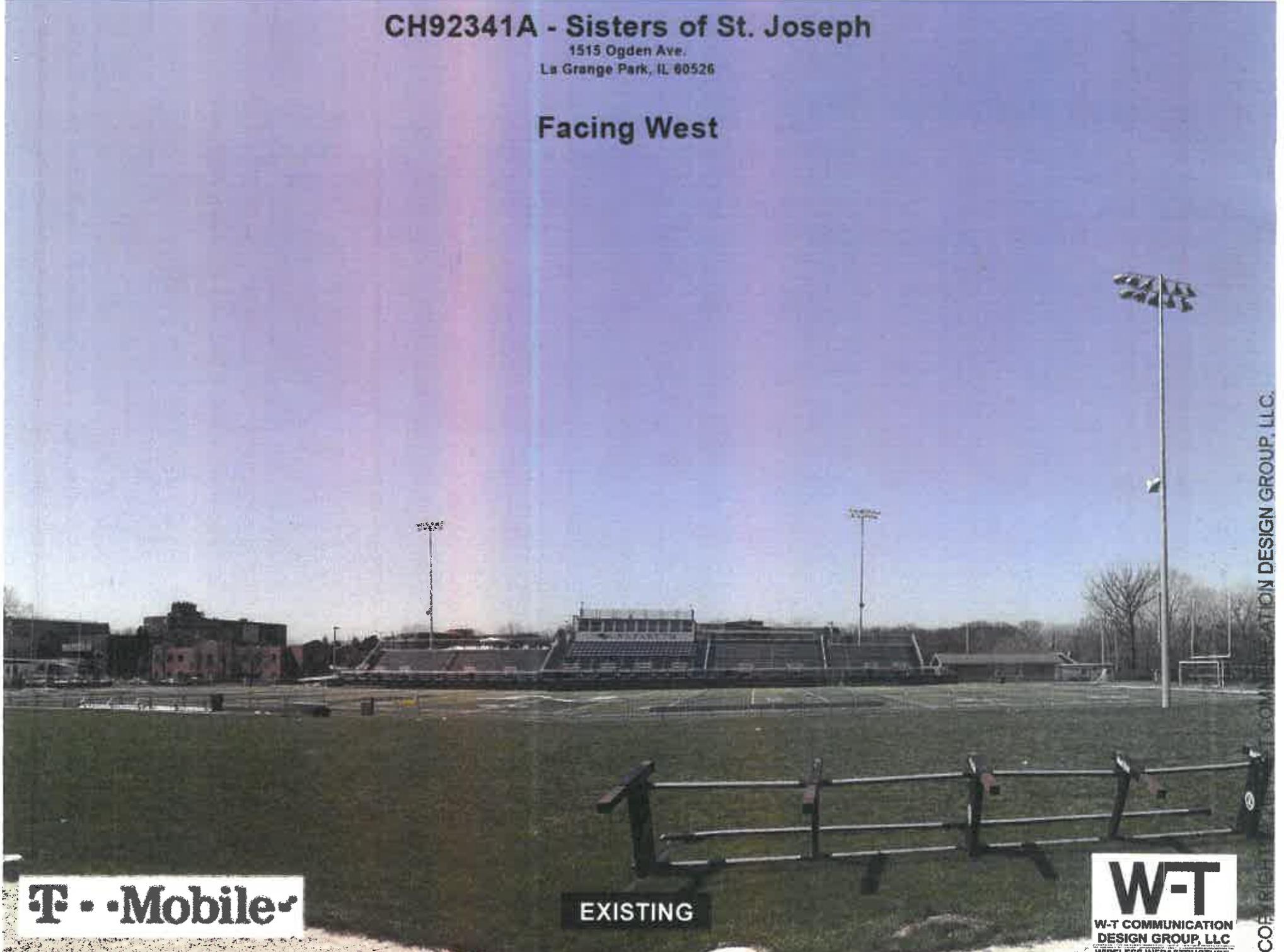
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Disclaimer: This photo simulation is an artist's depiction of a future installation. The actual construction may vary slightly in size, layout, color and location from this simulation.

CH92341A - Sisters of St. Joseph

1515 Ogden Ave.
La Grange Park, IL 60526

Facing West



T-Mobile

EXISTING

W-T
W-T COMMUNICATION
DESIGN GROUP, LLC
WIRELESS INFRASTRUCTURE

Disclaimer: This photo simulation is an artist's depiction of a future installation. The actual construction may vary slightly in size, layout, color and texture from this simulation.

W-T COMMUNICATION DESIGN GROUP, LLC

CH92341A - Sisters of St. Joseph

1515 Ogden Ave.
La Grange Park, IL 60526

Facing West



T-Mobile

PROPOSED

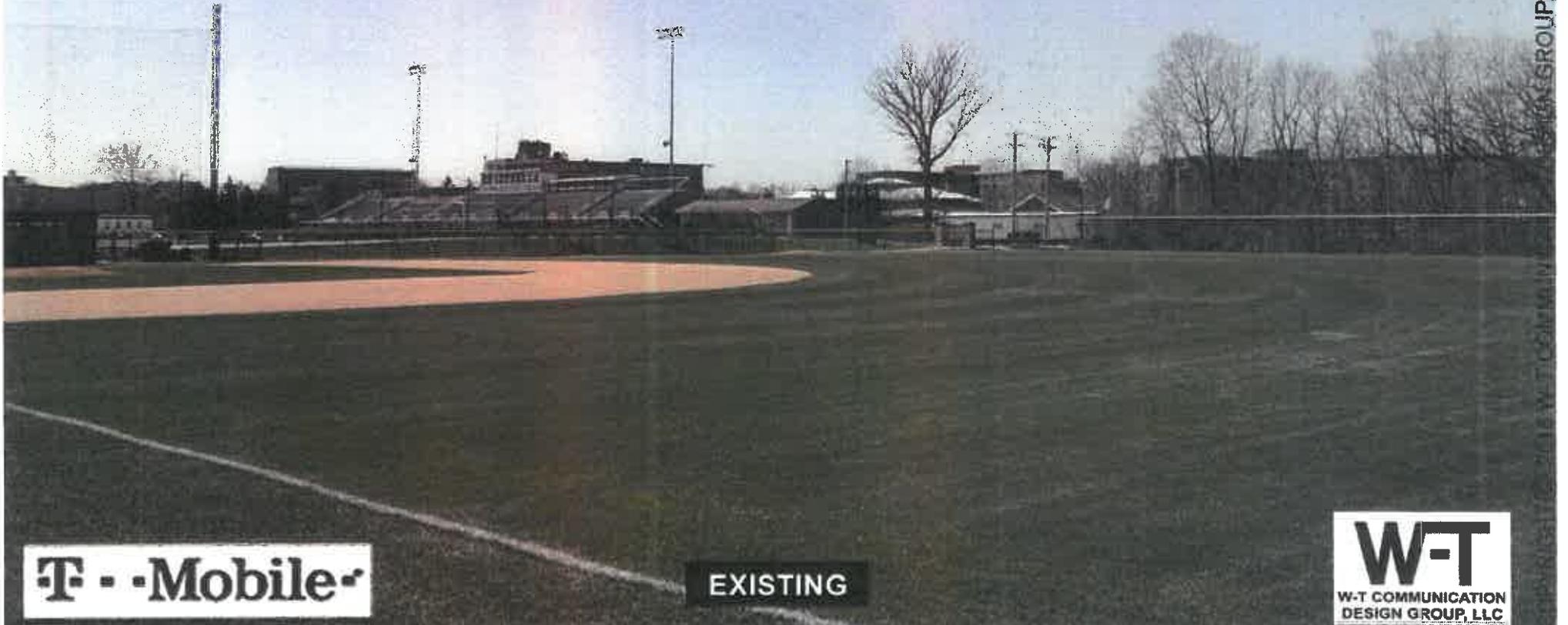
W-T
W-T COMMUNICATION
DESIGN GROUP, LLC
WIRELESS INFRASTRUCTURE

Disclaimer: This photo simulation is an artist's depiction of a future installation. The actual construction may vary slightly in size, layout, color and texture from this simulation.

CH92341A - Sisters of St. Joseph

1515 Ogden Ave.
La Grange Park, IL 60526

Facing Southwest



T-Mobile

EXISTING

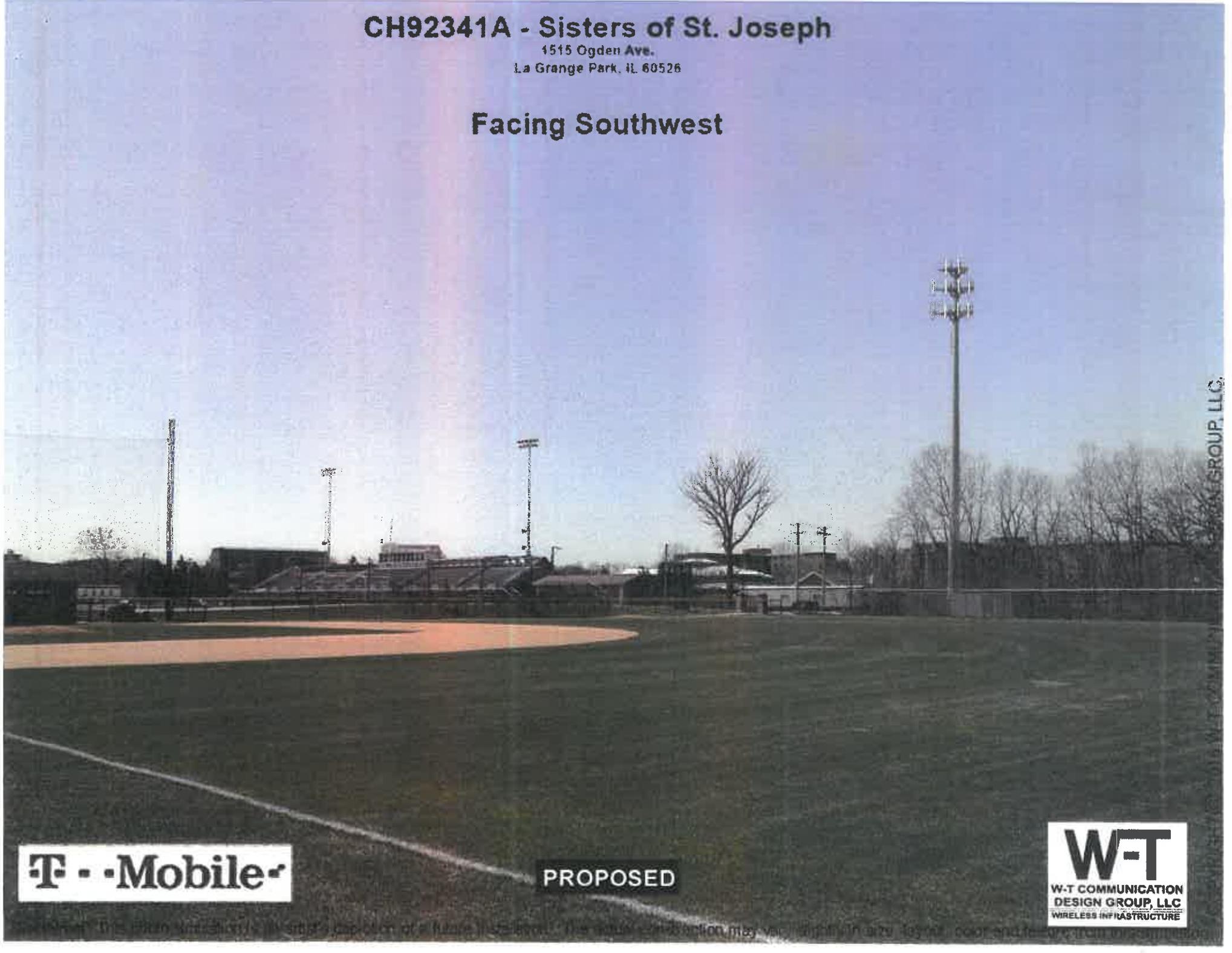
W-T
W-T COMMUNICATION
DESIGN GROUP, LLC
WIRELESS INFRASTRUCTURE

W-T COMMUNICATION DESIGN GROUP, LLC

CH92341A - Sisters of St. Joseph

1515 Ogden Ave.
La Grange Park, IL 60526

Facing Southwest



W-T COMMUNICATION DESIGN GROUP, LLC

T-Mobile

PROPOSED

W-T
W-T COMMUNICATION
DESIGN GROUP, LLC
WIRELESS INFRASTRUCTURE

This plan illustrates a proposed location of a future installation. The actual construction may vary slightly in size, color and feature from the illustration.

CH92341A - Sisters of St. Joseph
1515 Ogden Ave.
La Grange Park, IL 60526

Facing South



T-Mobile

EXISTING

W-T
W-T COMMUNICATION
DESIGN GROUP, LLC
SERVING BY ARCHITECTS

W-T DESIGN GROUP, LLC

The actual construction may vary slightly from the artist's rendering.

CH92341A - Sisters of St. Joseph

1315 Ogden Ave.
La Grange Park, IL 60526

Facing South



PROPOSED



W-T DESIGN GROUP, LLC

This is an artist's rendering of a proposed facility. The actual construction may vary slightly from this rendering.

Exhibit L

Fall Zone Setback

Per §11.R.3.a, a fall zone shall be constructed around any wireless telecommunications tower equal to one hundred twenty-five percent (125%) of the height of the tower. In this case, the proposed 120' Communications Tower will require a 150' fall zone from any structure. The 150' fall zone does not include the public right-of-way. The fall zone will not include property that is not owned or leased by the applicant. In addition, the tower is designed, in the event of a structural failure, to fall within the 35'x40' compound. The wireless telecommunications tower meets the underlying setback requirements of the zoning district.

The location was chosen for the tower to be the least visually intrusive location (setback from the property line and abutted to the North and West by forest preserve property), so under §11.R.3.b, T-Mobile is seeking relief from the Fall Zone requirements due to the fact that the tower is less visible as a result of its location and safety is not compromised. In addition, there are no adjoining property owners affected by this request for a waiver of the fall zone requirements, as the fall zone does not extend beyond the property lines.

As further support for this request for relief from §11.R.3., Exhibit J includes a "Zero Fall Zone" Letter from a Professional Engineer.



July 26, 2016

Dear Property Owner:

Please find enclosed a copy of a legal notice of public hearing regarding an application for a special use permit and an application for a variation for the property located at 1515 W. Ogden Avenue, La Grange Park. The applicant is the Sisters of St. Joseph La Grange who are requesting a special use permit to construct a cell tower and a variation to exceed the allowable height of a cell tower by twenty five (25) feet, for a total height of one hundred and twenty five (125) feet. The purpose of the cell tower is to accommodate wireless communication equipment that will be relocated as result of the proposed demolition of the existing six-story building owned by the applicant. The proposed site plan is enclosed.

The Zoning Board of Appeals will convene a public hearing on Tuesday, August 16, 2016 at 7:00 p.m. in the Board Room of the Village Hall, 447 North Catherine Avenue, La Grange Park, Illinois, to consider the application.

Copies of the application are available for review at Village Hall during normal business hours; Monday through Friday, 8:30 a.m. – 5:00 p.m. If your schedule does not permit your attendance at the hearing and you wish to present comments, you may do so by submitting them in writing to the undersigned.

If you have any questions concerning this matter, please contact me at (708) 354-0225 or at erodman@lagrangepark.org.

Sincerely,

A handwritten signature in black ink, appearing to read "ERODMAN".

Emily Rodman, AICP
Assistant Village Manager
Village of La Grange Park

**NOTICE OF PUBLIC HEARING BY THE
ZONING BOARD OF APPEALS
OF
LA GRANGE PARK, ILLINOIS**

Notice is hereby given that on August 16, 2016, a public hearing will be held before the Zoning Board of Appeals of La Grange Park, Illinois, in the Village Hall at 447 North Catherine Avenue, at 7:00 p.m. or soon thereafter for the purpose of considering an application for a special use permit for a telecommunications tower, and an application for a variation, on property zoned as I Institutional District located at 1515 West Ogden Avenue, La Grange Park, Illinois, which includes the following parcels: 15-32-400-013; 15-32-400-017; and 15-32-400-019.

The petitioner is requesting a special use permit to construct a new monopole telecommunications tower and a variation to allow the tower to be one hundred and twenty five (125) feet in height. The proposed tower would support the operations of up to three (3) wireless communication carriers.

The Application for a Special Use Permit and Application for a Variation and description of proposed use are available for examination during normal office hours at the La Grange Park Village Hall, 447 N. Catherine Avenue, La Grange Park, Illinois.

All interested persons are invited and welcome to attend the hearing. All persons interested in providing testimony at the hearing are welcome to do so.

ZONING BOARD OF APPEALS
VILLAGE OF LA GRANGE PARK

Eric Boyd, Chairman

