



## **PLANNING COMMISSION**

**ISD #15 DISTRICT OFFICE BUILDING  
4115 AMBASSADOR BLVD.**

**October 18, 2017**

**7:00 PM**

### **AGENDA**

1. Call to Order/Pledge of Allegiance
2. Roll Call
3. Adopt Agenda
4. Approve Minutes 09/20/2017
5. Public Comment
6. Public Hearings
  - a. Conditional Use Permit – Verizon Wireless
  - b. Ordinance Amendment – Solar Energy Systems
7. Regular Business Items
  - a. Schedules
    - i. Community meeting regarding 2040 Comprehensive Plan, October 26<sup>th</sup>  
6:30 p.m.
    - ii. November 15, Planning and Zoning Commission
    - iii. December 20, Planning and Zoning Commission
8. Discussion by Planning Commissioners
9. Adjournment

**CITY OF ST. FRANCIS  
ST. FRANCIS, MN  
PLANNING COMMISSION MINUTES  
September 20, 2017**

1. **Call to Order:** The Planning Commission meeting was called to order at 7:00 pm by Chairman Steinke.
2. **Roll Call:** Present were Ray Steinke, Brittney Berndt, Todd Gardner, Joel Olson, Greg Zutz, Julie Morin and William Murray. Absent: none

**Others in attendance:** Ben Gozola- Sambatek, Shane Nelson - Hakanson Anderson, Rich Skordahl – Council, Kate Thunstrom - staff

3. **Adopt Agenda:** Motion by Zutz, second by Olson, to approve the agenda. Motion carried 7-0.
4. **Approve Minutes:** Motion by Olson, second by Murray to approve the August 16, 2017 minutes. Motion carried 7-0.
5. **Public Comment:**

Nothing received

6. **Public Hearing:**

1. Conditional Use Permit, 4020 233<sup>rd</sup> Revisions to Kwik Trip Site Plan  
Gozola reviewed revisions for motor fuel station and site plan changes.  
Changes to the site are due to MNDOT requested accesses changes  
Landscape plan was updated, increased and improved from original plan  
Change in signage due to site offering a car wash verses a diesel station  
Updated parking

Staff recommends approval with changes.

7:05 Public Hearing Open

Dean George, Kwik Trip, clarified changes was in attendance to answer any questions

No additional comments received,

7:06 Public Hearing Closed

Olson, recommended the City Council to approve the requested conditional use permit based on the finding of fact listed on pages 12 & 13 of the report. Furthermore the approval shall include the conditions listed on pages 13 & 14 in the staff report as may have been amended here tonight.

Berndt, 2<sup>nd</sup>

No further discussion, motion passed 7-0

2. Stormwater Ordinance Amendment, Chapter 10 Section 93

Nelson reviewed changes to stormwater ordinance and how changes are needed to meet city MS4 requirements.

Mandated requirements

Updates to erosion and sediment control within the city.

7:10 Public Hearing Open

Ray Jones, 23725 Nacre Street, St. Francis: discussed concern over stormwater fee that city collects. Identified out of state incidents in which he felt were related.

Questions regarding the City process and procedures of these fees.

Skordahl, answered several questions and worked to clarify how the city got to the collection of fee's and the process in which the fees will assist the City in meeting MS4 requirements. Referred Mr. Jones back to the presentation that was at Council and the descriptions and policies identified within.

Nelson clarified that the ordinance amendment does not establish or modify the stormwater fees. They are separate issues.

No additional comments received

7:24 Public Hearing Closed

Olson moved to adopt Ordinance Amendments and move to Council  
Murray 2<sup>nd</sup>

No further discussion, motion passed 7-0

7. **Regular Business Items:**

October 4<sup>th</sup>, workshop, at Community Center, 6pm for Comp Plan

8. **Planning Commission Discussion:**

Murry requested additional information regarding storm water fee, Skordahl addressed and clarified fee.

Skordahl provided update that Fire Chief is reviewing the inquiry about the safety of the river and grants that may be available.

9. **Adjournment:** Motion by Zutz, second by Berndt to adjourn.

Motion carried 7-0. Meeting adjourned at 7:37 pm.

DATE APPROVED:

City of St Francis Planning Commission Agenda Item  
Executive Summary

*Title of Item:* **CONDITIONAL USE PERMIT:** A request from Verizon Wireless to construct a personal wireless service tower with antennas on an unaddressed property within the A-2 (Rural Estate Agriculture) zoning district – PID 33-34-25-21-0001

*Meeting Date:* **10-18-17**

*Staff Reporting:* **Ben Gozola, City Planner**

*Summary:* The applicant is proposing to construct a 100 foot tall telecommunications (cell) tower with antennas and related equipment. The applicants have provided sufficient engineering documentation to justify both the proposed location and height, and the plans have been shown to meet City standards provided a number of conditions of approval are followed.

*Recommendations:*

- **Staff believes the CUP can be approved with conditions.**
- **Because of an unusual provision in code, the applicants will need to return to the Planning Commission in November to request an IUP for the proposed height.**
- **Template motions, recommended findings, and suggested conditions can be found on pages 11-13**

*List of Attachments:*

- A) *Staff Report*
- B) *Engineering Memo*
- C) *Applicant's submittals*

City of St. Francis Planning Department  
**CUP & IUP Report**

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*To:* **Planning Commission**  
*From:* Ben Gozola, City Planner  
*Meeting Date:* **10-18-17**  
*Applicant:* **Verizon Wireless**  
*Property Owner:* Raymond H Jones Trustee  
*Location:* Unaddressed property to the SW of Hill and Dale Drive & Variolite St NW  
(see page 2)  
*Zoning:* **A-2: Rural Estate Agriculture**

### ***Introductory Information***

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- |                                        |                                                                                                                                                                                                                                                                                                                                                                     |
|----------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>Project:</i></b>                 | The applicant is proposing to construct a 100 foot tall telecommunications (cell) tower with antennas and related equipment.                                                                                                                                                                                                                                        |
| <b><i>CUP&amp; IUP Request(s):</i></b> | <p>The proposed tower and antennas will require the following permits:</p> <ol style="list-style-type: none"><li>1. A conditional use permit to allow a personal wireless service tower with antennas and related equipment.</li><li>2. An interim use permit to allow the proposed personal wireless service tower to exceed the 75 foot height maximum,</li></ol> |

### ***Findings***

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- |                                   |                                                                                                                                                                                                                                                                          |
|-----------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b><i>Site Data:</i></b>          | <ul style="list-style-type: none"><li>▪ Lot Size ≈ 26.71 acres</li><li>▪ Existing Use – Agricultural land (vacant)</li><li>▪ Existing Zoning – A-2</li><li>▪ Property Identification Number (PID): 33-34-25-21-0001</li></ul>                                            |
| <b><i>Comp Plan Guidance:</i></b> | <ul style="list-style-type: none"><li>▪ The comprehensive plan guides this lot for Agricultural use.</li><li>▪ The corresponding zoning assigned to this property (A-2) allows personal wireless service towers and antennas as a conditionally permitted use.</li></ul> |



**Unaddressed Vacant Property  
PID: 33-34-25-21-0001**



Location within the City of St Francis



**SITE IDENTIFICATION MAP**



## Application Review:

### Applicable Code Definitions:

**CONDITIONAL USE:** A use which, because of special problems of control the use presents, requires reasonable, but special, unusual and extraordinary limitations peculiar to the use for the protection of the public welfare and the integrity of the City Comprehensive Plan.

**CONDITIONAL USE PERMIT:** A permit issued by the City Council in accordance with procedures specified in this Ordinance, as a flexibility device to enable the City Council to assign dimensions to a proposed use or conditions surrounding it after consideration of adjacent uses and their functions and the special problems which the proposed use presents.

**INTERIM USE:** A temporary use of property until a particular date, until the occurrence of a particular event, or until zoning regulations no longer allow it.

**INTERIM USE PERMIT:** A permit issued in accordance with procedures specified in this Ordinance, as a flexible device to enable the City Council to assign time limits and conditions to a proposed use after consideration of current or future adjacent uses and their functions.

**PERSONAL WIRELESS SERVICE:** A device consisting of metal, carbon fiber, or other electromagnetically conductive rods or elements, usually arranged in a circular array on a single supporting pole or other structure, and used for the transmission and reception of wireless communication radio waves including cellular, personal communication service (PCS), enhanced specialized mobilized radio (ESMR), paging and similar services and including the support structure thereof.

**TOWER:** A self-supporting lattice, guyed or monopole structure constructed from grade which supports personal wireless service antennas. The term antenna tower shall not include amateur radio operators' equipment, as licensed by the FCC.

### Applicable Codes:

- **Chapter 10, Section 6: Conditional Use Permits**  
Outlines the general standards required of all conditionally permitted uses within the City of St. Francis.
- **Chapter 10, Section 22: Antennas**  
Outlines the general standards required for all cell towers and antennas within the City.
- **Chapter 10, Section 52: A-2 Rural Estate Agriculture District**  
Outlines the allowed uses and other general development restrictions within the A-2 zoning district.

**Federal  
Communications  
Commission  
Regulations:**

**Section 332(c)(7) of the Communications Act** preserves state and local authority over zoning and land use decisions for personal wireless service facilities, but sets forth specific limitations on that authority. Specifically, a state or local government may not unreasonably discriminate among providers of functionally equivalent services, may not regulate in a manner that prohibits or has the effect of prohibiting the provision of personal wireless services, must act on applications within a reasonable period of time, and must make any denial of an application in writing supported by substantial evidence in a written record. The statute also preempts local decisions premised directly or indirectly on the environmental effects of radio frequency (RF) emissions, assuming that the provider is in compliance with the Commission's RF rules.

Staff Comment:

Although local jurisdictions are somewhat limited by FCC regulations, the conditional use permitting process allows for local review and oversight of telecommunication facilities, including the imposition of reasonable standards and conditions to ensure that the health, safety and general welfare of the community is taken into consideration.

**Cell Tower  
Performance  
Standards:**

Section 22 of the Zoning Code (Antennas) establishes specific standards that all cell phone towers must adhere to within the City of St. Francis. The following is a summary of those requirements as they relate to the subject application.

- (A) *General Standards (10-22-2): A number of general standards can be met by via conditions attached to any approval including:*
- *Antennas and/or obsolete equipment must be removed within twelve (12) months of cessation of operation at the site.*
  - *All building and electrical codes must be met, and all applicable permits must be obtained both now and in the future.*
  - *Structure must be constructed per the manufacture's specifications, and shall be verified and approved by a structural engineer.*
  - *No advertising message shall be affixed to the antenna structure or tower.*
  - *Antennas shall not be artificially illuminated unless otherwise required by law or other governmental agency.*
  - *The tower shall be painted a non-contrasting color consistent with the surrounding area such as : blue, gray, brown, or silver, or have a galvanized or oxidized finish to reduce visual impact.*

Staff Comment:

The city's zoning approval provisions at Section 10-3-5, include a requirement for a Performance Agreement upon approval of a conditional use permit. Performance agreements are intended to guarantee conformance and compliance with the conditions of the approval and codes of the city. The attached conditions of approval include this requirement. **Criteria addressed.**

- (cont.) (B) *The height of the antenna shall be the minimum necessary to function satisfactorily, as verified by an engineer or other qualified professional.*

Staff Comment:

The applicant is proposing a monopole design as required by code. The proposed height of the pole is 100 feet plus a nine foot lightning rod. The applicant has provided an engineering analysis which addresses the need for the proposed height in order to provide adequate coverage to the surrounding area. The City Engineer has reviewed the analysis and finds the proposed height is indeed justified to provide the desired service to this area of the City. **Criteria met**

- (C) *If a new tower is to be constructed, it shall be designed structurally, electrically, and in all respects, to accommodate both the applicant's antennas and comparable antennas for at least one additional use, including, but not limited to, other cellular communication companies, local police, fire and ambulance companies. Towers shall be designed to allow for future rearrangement of antennas upon the tower and to accept antennas mounted at varying heights.*

Staff Comment:

The purpose of this provision is to reduce the number of these types of structures due to their visual impact on the environment and to promote economic efficiencies. The applicant is proposing a monopole with an attached Verizon antennae array mounted at the top of the pole at 96 feet above grade. Two additional colocation positions on the pole are being made available for future users below the Verizon antenna installation. **Criteria met.**

- (D) *Documentation or studies utilized to determine the necessary location and height of the antenna shall be provided*

Staff Comment:

The applicant has provided an engineering study documenting the need for an installation at this location and at the proposed height. As stated, the City Engineer has reviewed the analysis and finds the proposed location is needed to provide better cellular service within the community, and again, the proposed height is necessary to maximize effectiveness of the new tower. **Criteria met.**

- (E) *In addition to the information required elsewhere in this Ordinance, development applications for towers, excluding amateur radio towers, shall include the following supplemental information:*

- *A letter of intent committing the tower owner and their successors to allow the shared use of the tower if an additional use agrees in writing to meet reasonable terms and conditions for shared use.*

(cont.)

- *A copy of the relevant portions of a signed lease which requires the applicant to remove the tower and associated facilities when they are abandoned, unused or become hazardous shall be submitted to the City.*

Staff Comment:

The applicant has provided a letter acknowledging the city's shared use requirement and agreeing to allow additional users in the future. Also, an excerpt from the lease agreement which provides for the removal of the improvements upon expiration or termination of the lease has also been submitted. Pending city attorney review and approval, this **criteria is considered to be met.**

- (F) *Tower Design (10-22-3): General wireless communication towers shall be of a monopole design unless the City Council determines that an alternative design requested by the applicant would better blend into the surrounding environment.*

Staff Comment:

The applicant is proposing a monopole design as required by code. **Criteria met.**

- (G) *Co-Location Requirement (10-22-4): A new tower shall not be approved unless the City finds that the antennas cannot be accommodated on an existing or approved tower, building, or structure within one (1) mile search radius due to a listed reason in code.*

Staff Comment:

Verizon has supplied an analysis of the need for the proposed tower consistent with code provisions. According to the submission, the applicant has demonstrated that location of the antenna, as proposed, is necessary to provide adequate coverage and capacity to areas in the vicinity which cannot be adequately served by locating the antennas in a less restrictive district or an existing structure. Note that trade secret information provided as part of the capacity analysis is classified as non-public data pursuant to Minnesota Statute 13.37. **Criteria Met.**

- (H) *Setbacks (10-22-5): Towers shall meet the principal structure setbacks of the base zoning district*

Staff Comment:

The proposed tower location meets the setback requirements of the A-2 district. **Criteria met.**

- (cont.) (I) *Personal Wireless Service Antennas (10-22-9): The specific standards for Personal Wireless Service Antennas for Agricultural and Residential Districts, including the subject site's A-2, Rural Estate Agricultural District zoning are as follows:*

*10-22-9(A)(2): Antennas Not Located Upon a Public Structure or Existing Tower: Personal wireless service antenna not located upon a public or quasi-public structure or existing tower shall require the processing of a conditional use permit and shall comply with the following standards:*

- 1) The applicant shall demonstrate by providing a coverage/ interference analysis and capacity analysis prepared by a qualified engineer that location of the antennas as proposed is necessary to meet the frequency reuse and spacing needs of the wireless system and to provide adequate portable coverage and capacity to areas which cannot be adequately served by locating the antennas in a less restrictive district.*

Staff Comment:

The required analysis was submitted and deemed acceptable by the City Engineer. To achieve the desired coverage in this portion of the community, there is not believed to be a location in a less restrictive zoning district.

**Criteria met.**

- 2) If no existing structure which meets the height requirements for the antennas is available for mounting purposes, the antennas may be mounted on a single ground-mounted pole provided that:*
- a) The pole does not exceed seventy-five (75) feet in height, except as may be allowed by approval of an interim use permit.*
- b) The setback of the pole from the nearest residential property line is not less than the height of the antenna. Exceptions to such setback may be granted if a qualified engineer specifies in writing that any collapse of the pole will occur within a lesser distance under all foreseeable circumstances.*

Staff Comment:

The applicant has demonstrated that no existing (height appropriate) structure is available for colocation within the specified one-mile radius. The proposal is for a 100 foot high monopole. A 9-foot lighting rod would be placed atop the pole for lighting protection. The proposed setback of the pole from the closest property line (to the south) matches the height of the pole.

While we would like to find this criteria is completely met, the zoning ordinance unfortunately contains an extremely unusual requirement in that an "interim use permit" is required to be obtained as a subset of an over-riding conditional use permit in order to approve a height in excess of 75 feet. Staff is recommending the City examine this (and similar) provisions in the future as the requirement seems to make little sense. One of the main goals of St.

(cont.)

Francis (and most communities) when it comes to cell towers is to limit the number of installations throughout the community. To ensure this happens, cities require engineering studies to show the location is necessary to address a coverage gap, and that the proposed monopole height is justified to maximize the tower's effectiveness. It is hard to imagine a scenario under which a community would determine a certain height was necessary to maximize effectiveness of the installation, and then later require the pole be lowered thereby (potentially) requiring another monopole be erected in a (relatively) nearby location.

Because staff only noticed for a conditional use permit review in October, we will need to return to the Planning Commission in November to focus on the proposed tower height IUP.

- 3) *Transmitting, receiving and switching equipment shall be housed within an existing structure whenever possible. If a new equipment building is necessary for transmitting, receiving and switching equipment, it shall be situated in the rear yard of the principal use and shall be screened from view by landscaping where appropriate.*
- 4) *At the discretion of the City, a security fence not greater than eight (8) feet in height with a maximum opacity of fifty (50) percent shall be provided around the support structure.*
- 5) *The interim use permit provisions of Chapter 7 of this Ordinance are considered and determined to be satisfied.*

Staff Comment:

The applicant's proposal does not currently include a building to contain the ancillary ground mounted equipment associated with this type of installation. Should the CUP be approved, staff is recommending a number of conditions which include a requirement for an architecturally appropriate building to house the equipment, and an eight foot high security fence with screening slats and landscaping to buffer the installation. **Criteria Met with conditions for 3 and 4 above.** As stated, the interim use provisions of Chapter 7 (e. above) will be examined at the November Planning Commission meeting.

**CUP Standards  
Review:**

Issuance of a CUP requires an analysis of the proposed use against the specific review criteria established in code. Staff has reviewed the City's criteria for cell phone towers, and we offer analysis on the following pages for consideration.

(cont) General review Criteria (10-6-3):

1. *The proposed action has been considered in relation to the specific policies and provisions of and has been found to be consistent with the Official City Comprehensive Plan.*

Staff Comment:

Cell towers are recognized as an important contributor to public safety, and the applicants have demonstrated a need for the equipment in the proposed location. The plans have also been considered in relation to the specific policies and provisions of code as outlined above. **Criteria met.**

2. *The proposed use is or will be compatible with present and future land uses of the area.*

Staff Comment:

Personal wireless service towers with antennas and related equipment are conditionally permitted in the A-2 zoning district, and required standards for such are designed to ensure compatibility with present and future land uses throughout the City. Provided the applicant demonstrates compliance with the performance standards outlined in code, we find this **criteria is met.**

3. *The proposed use conforms with all performance standards contained in this Ordinance.*

Staff Comment:

The performance standards for personal wireless service towers, antennas, and related equipment were reviewed on pages 4 – 8 of this report. With the exception of needing to acquire an IUP to address the proposed height, this **criteria is met.**

4. *The proposed use can be accommodated with existing public services and will not overburden the City's service capacity.*

Staff Comment:

The proposed facility can be accommodated by existing public services and will pose no unique burden on the City's service capacities. If anything, improved cell coverage will be important for emergency responders in the area, so services may improve. **Criteria met.**

5. *Traffic generation by the proposed use is within capabilities of streets serving the property.*

Staff Comment:

As the use will not generate more than a few trips per year, there is no concern about traffic in the area being impacted by the requested CUP. **Criteria met.**

**Additional Information:** ▪ Verizon's plan sets and submitted information follow this report.

**Engineering Report:** ▪ City Engineer review of the plans and technical requirements are provided in the attached memo to the city dated October 11, 2017.

**Public Comment:** ▪ None that staff is aware of at this time.

### Conclusion:

The following is a summary of the requested conditional use permit request along with staff's recommendations.

- **Request for a conditional use permit** to authorize a "wireless telecommunications service antennae and support structure" on the unaddressed property to the SW of Hill and Dale Drive & Variolite St. NW.
- **Recommendation: APPROVAL with conditions**, based on the fact that the provided plans with proposed conditions are in conformity to City standards required for telecommunications service antennae and support facilities. Recommendation for approval is subject to the applicant's obtaining a variance or an interim use permit for the proposed height above the 75 foot limitation.

**Commission Options:** The Planning Commission has the following options:

- A) RECOMMEND APPROVAL OF THE REQUEST based on the applicant's submittals and findings of fact.
- B) RECOMMEND DENIAL OF THE REQUEST based on the applicant's submittals and findings of fact.
- C) TABLE THE ITEM and request additional information.
- Based on an application date of 09/18/2017, the 60-day review period for this application expires on 11/17/2017. This deadline will be extended an additional 60 days to allow for review of the IUP in November. Once extended, the final deadline for a decision will be 1/16/18.

|                                                            |                                                                                                                                                                                                                                                                                                            |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Template Denial Motion:</b><br><i>(not recommended)</i> | <ul style="list-style-type: none"> <li>▪ “I move that we recommend the City Council deny the requested conditional use permit based on the following findings of fact:”               <ul style="list-style-type: none"> <li>○ <i>(provide findings to support your conclusion)</i></li> </ul> </li> </ul> |
|------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Template Approval Motion:</b><br><b>RECOMMENDED</b> | <ul style="list-style-type: none"> <li>▪ “I move we recommend the City Council approve the requested conditional use permit based on the findings of fact listed on page 11 of the report, and subject to the conditions listed on pages 11 through 13 as may have been amended here tonight.”</li> </ul> |
|--------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

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|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Suggested Findings of Fact:</b> | <ol style="list-style-type: none"> <li>1. The proposal is consistent with the Agricultural designation in the city’s Comprehensive Plan as telecommunication uses are a conditional use in the city’s agricultural zoning districts.</li> <li>2. The city acknowledges the need for telecommunications facilities in the community to provide service to residents and businesses.</li> <li>3. The Verizon proposal is necessary for continued adequate service for area users and that the need for the facility cannot be met through colocation on other existing towers or facilities in the immediate area.</li> <li>4. The proposed monopole tower and antennae are designed to minimize the visual impact to the area.</li> <li>5. The proposed tower, appurtenant equipment and enclosure design when modified consistent with conditions recommended by the city’s Planning Commission, will not have a significant detrimental impact on the surrounding neighborhood.</li> <li>6. With the recommended conditions of approval, the site will maintain safe and healthful conditions.</li> </ol> |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

|                                |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <b>Recommended Conditions:</b> | <ol style="list-style-type: none"> <li>1. All obsolete and unused antennas shall be removed by the property owner within twelve (12) months of cessation of operation at the site.</li> <li>2. All antennas shall be in compliance with all City building and electrical code requirements and as applicable shall require related permits.</li> <li>3. Structural design, mounting and installation of the antenna shall be in compliance with manufacturer's specifications, and as may be necessary as determined by the Zoning Administrator and Building Official, shall be verified and approved by a structural engineer.</li> </ol> |
|--------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|

- (cont.)
4. Written authorization for antenna erection shall be provided by the property owner.
  5. No advertising message shall be affixed to the antenna structure or tower, nor shall the tower or antennas be artificially illuminated unless required by law or by a governmental agency to protect the public's health and safety.
  6. Tower shall be painted a non-contrasting color consistent with the surrounding area such as: blue, gray, brown, or silver, or have a galvanized or oxidized finish to reduce visual impact.
  7. All application materials plans and specifications are incorporated by reference and made part of the conditional use permit.
  8. Transmitting, receiving and switching equipment shall be housed within a new equipment building. Architectural design to be approved by the city prior to receiving a building permit.
  9. The proposed security enclosure will be constructed with an eight foot chain link fence and gate equipped with tubular vinyl slats. Final design to be approved by city staff prior to building permitting.
  10. The proposed landscape plan will include a 20 foot buffer zone between the installation and the property to the south. In addition, the plan will include red maple trees, with a minimum size of 2-1/2 inch, balled and burlap stock, with consideration given to screening from all sides.
  11. No lighting will be allowed on the proposed pole unless required by another governmental agency. No advertising will be allowed on the pole or any on any of the related site improvements.
  12. The applicant to satisfy the city engineer's requirements for an acceptable grading and storm water pollution prevention plan.
  13. Adequate erosion control shall be in place throughout the duration of the project.
  14. Ground cover shall be established with final landscaping as quickly as possible following final grades and completion of construction activities.
  15. Damage to adjacent roadways caused by construction activities or deliveries related to this project shall be repaired at the applicant's expense.
  16. The applicant and property owner both agree to enter into a development agreement with the city and to be equally responsible for decommissioning the site and removing all improvements when the lease expires and/or the facility becomes abandoned.

- (cont.)
17. The applicant and property owner will enter into a development agreement which specifies and incorporates the terms and conditions of the conditional use permit and variance approvals.
  18. A financial security (or securities), will be provided to the city to ensure the installation of enhancements including; proposed equipment building, landscaping, grading and stormwater management improvements, the screening fence enclosure and for the final decommissioning of the site.

*cc: Applicant-Verizon Agent; Eddie Buell, Buell Consulting*

## MEMORANDUM

**TO:** Ben Gozola, City Planner

**FROM:** Shane Nelson, Assistant City Engineer

**CC:** Craig Jochum, City Engineer  
Joe Kohlmann, City Administrator  
Kate Thunstrom, Community Development Director  
Paul Teicher, Public Works Director  
Eddie Buell, Applicant's Representative

**DATE:** October 11, 2017

**RE:** Engineering Review of Verizon – Minc Spring Hill

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We have received and reviewed the plans for the above-referenced project, 11-01-16 revision, prepared by Design 1, and would offer the following engineering comments:

1. The plans depict a new driveway onto Variolite Street NW, which is a city street. The applicant shall obtain a Driveway Permit from the city for the construction of this connection.
2. The driveway shall be in accordance with City Standard Detail 1-501 (attached), which requires 8" minimum thickness aggregate and 15" minimum diameter driveway culvert (10-19-4.B.5). Revise plans in accordance with city standard detail.
3. It is recommended that the portion of the driveway within the city right-of-way be paved to prevent runoff of gravel into the city street. Revise plans to depict paving within right-of-way.
4. Given the proximity of the driveway within the 20' wide easement, it is recommended that the driveway is sloped to the north and provisions for drainage along said north side of driveway be incorporated into the plans to prevent runoff of gravel into the city street. Revise plans to depict shallow swale on north side of the driveway, extending a minimum of 100' west from the right-of-way.
5. During construction, silt fence and a rock construction entrance will be required. Depict locations of silt fence and rock construction entrance on the plans.



**Buell Consulting, Inc.**

1360 Energy Park Drive, Suite 210  
Saint Paul, Minnesota 55108  
(651) 361-8110  
[www.buellconsulting.com](http://www.buellconsulting.com)

*Site Acquisition  
Permitting  
Established 1991*

July 20, 2017

City of St. Francis  
23340 Cree Street NW  
St. Francis, MN 55070  
Attn: Planning and Zoning

**RE: CUP Application for Proposed Verizon Wireless Telecommunication Tower  
(VZW ref. MIN Spring Hill)**

This tower is being proposed to help strengthen the coverage and capacity for Verizon customers in the City of St. Francis and surrounding area. The proposed tower is a 100' monopole tower with a 9' lightning rod. The tower is designed to accommodate a total of 3 carriers, so future collocators can utilize the tower for their equipment.

I have contacted with Anoka County to confirm that no other governmental agencies have authority over the property in questions.

Enclosed you will find the following items:

- Check for \$2,350 (\$350 for CUP fee and \$2,000 for escrow).
- Completed CUP Application and questionnaire answers
- Zoning drawings showing a scaled and dimensioned site plan including survey
- Map showing the lands within 350' of the boundaries of the property

If you have any questions regarding this application, please feel free to contact me at 651-361-8113.

Regards,

Eddie Buell  
Buell Consulting Inc., *on behalf of Verizon Wireless*  
1360 Energy Park Dr, Suite 210  
St. Paul, MN 55108  
651-361-8113  
[ebuell@buellconsulting.com](mailto:ebuell@buellconsulting.com)

|                   |                |
|-------------------|----------------|
| Application Date: |                |
| Fee: \$350        | Escrow: \$2000 |

## PERMIT APPLICATION

PERMIT YOU ARE REQUESTING:



CONDITIONAL USE



INTERIM USE

|                                                                                             |                                                                                                                                                                                                                                                  |            |                                       |  |
|---------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------|---------------------------------------|--|
| PROPERTY<br>INFORMATION<br><small>If multiple properties,<br/>attach separate sheet</small> | PARCEL ID #: 33-34-25-21-0001                                                                                                                                                                                                                    |            | COMP PLAN FUTURE LAND USE:            |  |
|                                                                                             | LEGAL DESCRIPTION:<br>Attached as separate sheet                                                                                                                                                                                                 |            | ZONING DISTRICT: A2 - Rural Estate Ag |  |
|                                                                                             |                                                                                                                                                                                                                                                  |            | LOT SIZE: 26.71 acres                 |  |
|                                                                                             | PROJECT ADDRESS: No assigned address. Variolite Street NW, St. Francis, MN                                                                                                                                                                       |            |                                       |  |
| OWNER<br>INFORMATION                                                                        | NAME: Raymond Jones                                                                                                                                                                                                                              |            |                                       |  |
|                                                                                             | ADDRESS: 23725 Nacre Street NW                                                                                                                                                                                                                   |            |                                       |  |
|                                                                                             | CITY: Elk River                                                                                                                                                                                                                                  | STATE: MN  | ZIP: 55330                            |  |
|                                                                                             | PHONE: 763-441-2437                                                                                                                                                                                                                              | EMAIL: N/A |                                       |  |
| APPLICANT<br><small>If different than owner</small>                                         | NAME: Eddie Buell                                                                                                                                                                                                                                |            | PHONE: 651-361-8113                   |  |
| DESCRIPTION<br>OF REQUEST                                                                   | Verizon Wireless is proposing a 100' tall monopole tower with a 9' lightning rod. This tower is designed to accommodate a total of 3 carriers.                                                                                                   |            |                                       |  |
| REASON FOR<br>REQUEST                                                                       | Verizon is seeking to improve coverage and capacity for Verizon customers in the City of St. Francis and surrounding area. More people are using cell phones as their only phone line and the demand for increased capacity has been recognized. |            |                                       |  |
| ORDINANCE<br>REQUIREMENT                                                                    | This tower meets all requirements listed in Chapter 22 of the City Code.                                                                                                                                                                         |            |                                       |  |

### Submittal Materials

The following materials must be submitted with your application in order to be considered complete. A complete application must be made by the application deadline for the Planning Commission meeting for which you wish to be heard. If you have any questions or concerns regarding the necessary materials, please contact the Community Development Department.

**MATERIALS**

Survey, site plan, and development plans. Three (3) sets of large scale drawings; one **legible** set of 8 1/2" x 11" or 11" x 17" reductions. Additional sizes and copies may be requested and required by the City for application completion. The following information must be included:

- ☐ Map or plat showing the lands proposed for the conditional use permit and all land within 350 feet of the boundaries of the property.
- ☐ Survey of the property showing all property lines, topography, existing and proposed structures (including dimensions and distances to property lines and other buildings), existing streets, alley, private roads, and fire lanes and easements.
- ☐ Access points, driveways, and parking areas including striping and number of spaces.
- ☐ Landscaping and ground cover including existing to be retained, existing to be removed, and proposed – all identified by size, type species, and quantity.
- ☐ Grading, drainage, and stormwater plans with existing and proposed topography prepared by a professional civil engineer registered in the state and adopted.
- ☐ Utility plans prescribing locations for city water, sewer, fire hydrants, manholes, power, telephone, and cable lines, natural gas mains, and other service facilities prepared by a professional civil engineer registered in the state and adopted.
- ☐ General floor plans and elevations for all existing and proposed structures.
- ☐ Proposed signage.
- ☐ Site lighting.
- ☐ A legend identifying the legal description, size of parcel, use(s) and square footage, number of units and density of residential, building height, floor area ratio, ground floor area ratio, impervious surface ratio, setbacks on all sides, graphic scale, north point, and usable open space.

Statement acknowledging that you have contacted the other governmental agencies such as Watershed Districts, County Departments, State Agencies, or others that may have authority over your property for approvals and necessary permits.

Names, addresses, and signatures of all owner(s), and any other person having legal interest, of the property.

Permit application form completed, including questionnaire answers.

Permit Request Supplement

Paid application fee \$350 and escrow \$650

**MATERIALS THAT MAY BE REQUIRED UPON THE REQUEST OF THE CITY**

**Survey of the property:** An official survey, by a licensed surveyor, must be submitted with the application. The survey shall be scalable and in an 11" x 17" or 8 1/2" x 11" format.

Electronic copy of all submittal documents

Any other materials as deemed necessary to help in the review of the application

I, the undersigned, hereby apply for the considerations described above and declare that the information and materials submitted in support of this application are in compliance with adopted City policy and ordinance requirements are complete to the best of my knowledge. I further understand that the IUP application will be processed in accordance with the established City review procedures and Minnesota Statutes 15.99 as amended, at such times as it is determined to be complete. Pursuant to Minnesota Statutes 15.99, the City will notify the applicant within fifteen (15) business days from the filing date of any incomplete or other information necessary to complete the application. Failure on my part to supply all necessary information as required by the City may be cause for denying this application.

This application must be signed by all owners of the subject property or an explanation given why this is not the case.

*We, the undersigned, have read and understand the above.*



Signature of Applicant

7/20/17

Date

Signature of Applicant

Date

**Office Use Only:**

Signature of Owner (if different than Applicant)

Date

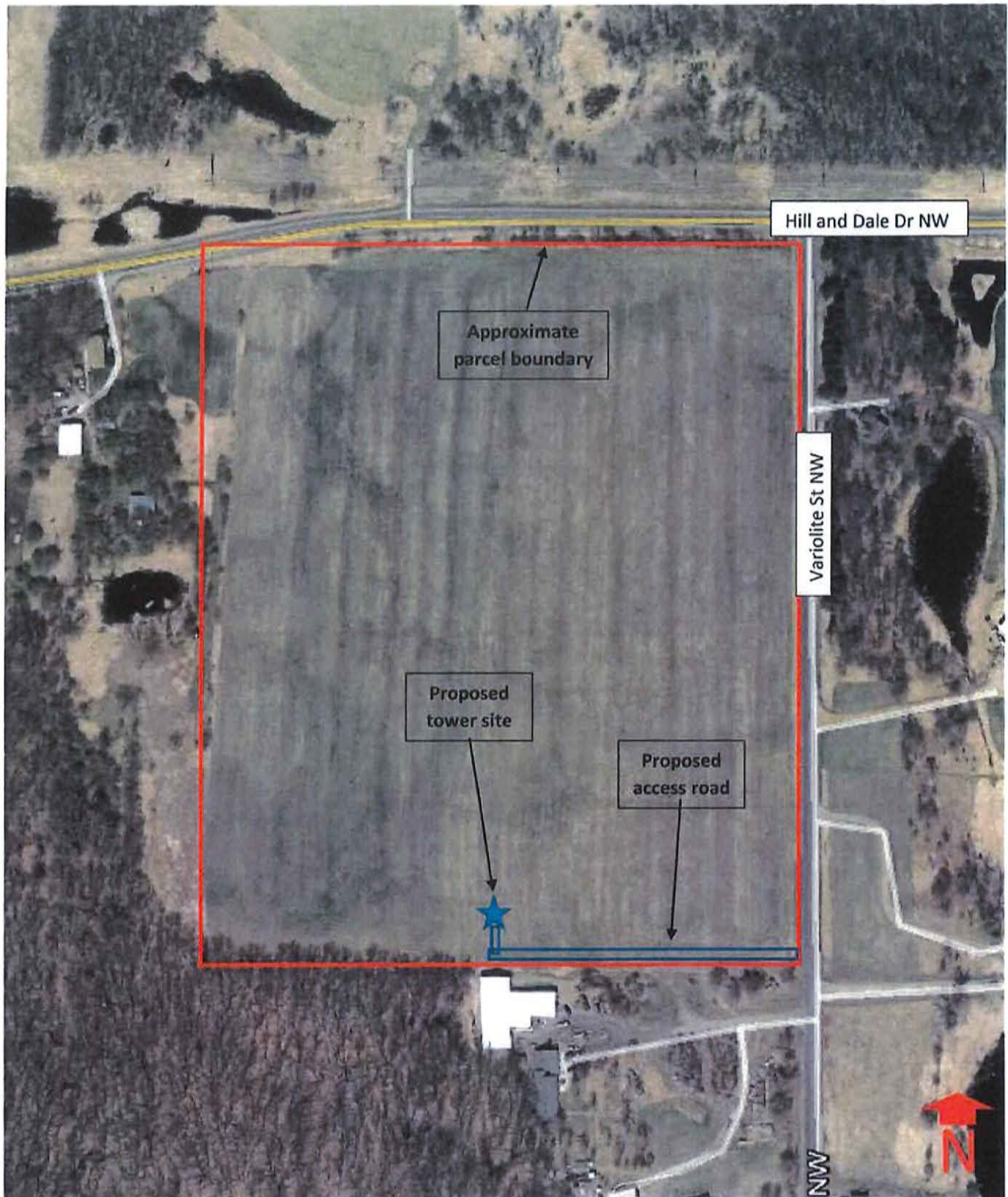
Planning/Zoning Meeting Date: \_\_\_\_\_

Council Meeting Date: \_\_\_\_\_

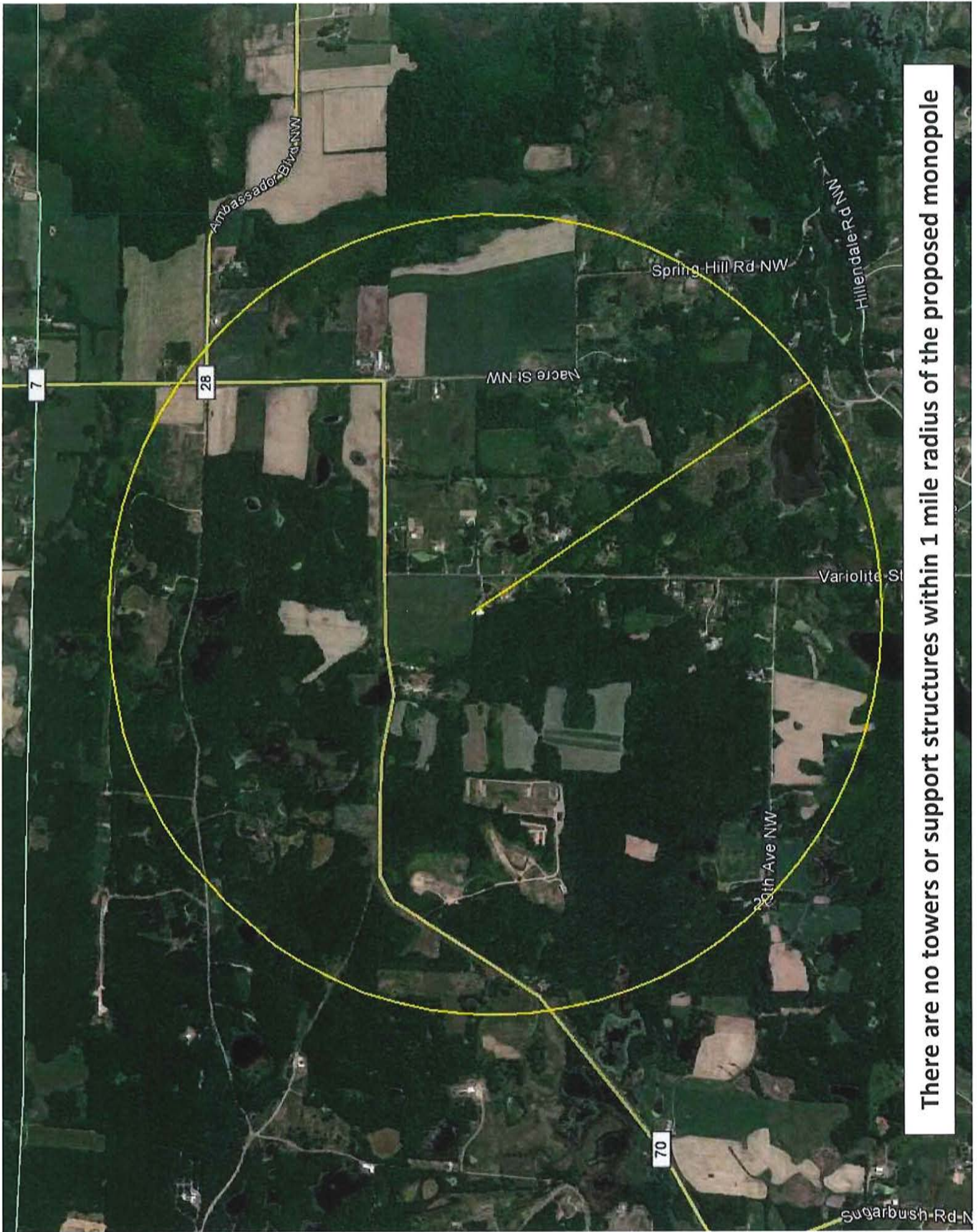
## QUESTIONNAIRE

1. Existing use of the property? – **agriculture, empty lot**
2. Description of proposed use of the property that requires the application for a CUP or IUP? **Location of a new telecommunications tower**
  - a. The situation on the site which necessitates the request for the CUP or IUP – **All towers require CUP in A2 district**
  - b. Hours of operation, including dates, times (if applicable) – **N/A tower will not be manned**
  - c. Duration of the proposed use – **lease with landowner is for 25 years with options to extend**
  - d. Date or event that will terminate the use – **After 25 years the landowner can terminate the lease if they don't wish to extend**
3. Type of Conditional or Interim use permit requested? – **CUP for new tower**
4. Describe how you believe the requested CUP or IUP Use fits the City's Comprehensive Plan. – **this CUP will allow Verizon to construct a new telecommunications tower that will increase coverage and capacity in the City of St. Francis and surrounding area. The tower is designed to accommodate a total of 3 carriers.**
5. Describe any physical or hydraulic impacts this project will have on water resources. Will the project involve the alteration of any surface water? – **this project should not affect any water resources.**
6. Provide an estimate of the acreage to be graded or excavated and the amount of soil to be moved. – **the proposed 12' wide gravel access road will run approx. 550' to the tower location where a 26' x 38' lease area will be prepared for the tower and base station equipment. Total area of road and tower site is 7,588 SF or 0.17 acres.**  
Describe any steep slopes or highly erodible soils and what measures will be used to minimize erosion. – **there are no steep slopes within the project area.**
7. Is this project in proximity to designated parks, trails recreation areas, wildlife preserves or other unique resources? – **No, this location was selected due to its proximity to the I3 district and other more rural properties while still being close enough to improve service in the City of St. Francis.**
8. Provide any additional information that would be helpful for the Planning Commission when reviewing this application. – **More people are abandoning their land lines and using cell phones as their solitary phone line. This has created the need for additional towers closer to residential areas. These towers are often shorter and are designed to improve capacity and allow more users the ability to utilize internet accessibility and other smart phone features.**
9. Does the request meet the criteria necessary to grant approval? (refer to the City Code) – **Yes, this application meets all the setbacks and collocation requirements listed in Chapter 22 of the City Code.**

## Map of property and surrounding area



**Legal Description:** The Northeast Quarter of the Northwest Quarter of Section 33, Township, 34, Range 25, Anoka County, Minnesota, EXCEPT the West 334.60 feet thereof.



There are no towers or support structures within 1 mile radius of the proposed monopole

# MIN SPRING HILL RF DOCUMENTATION

Jordan Alstad

RF Engineer – Verizon Wireless

9-18-2017

This document will supply the requested documentation to justify the need for and the proposed design of a new Verizon Wireless cell site in St. Francis – Project name MIN SPRING HILL. It will provide three different items. The first item is a set of comparative coverage maps utilizing the RF measurement of Reference Signal Received Power (RSRP), measured in dBm. RSRP is used to determine the strength of the RF signal that a cellular device will receive from nearby cell sites, compared to a reference level. Various RSRP levels signify different capabilities for the device to establish and maintain a reliable connection, so simulating areas where RSRP is insufficient allows us to determine where to put new cell sites.

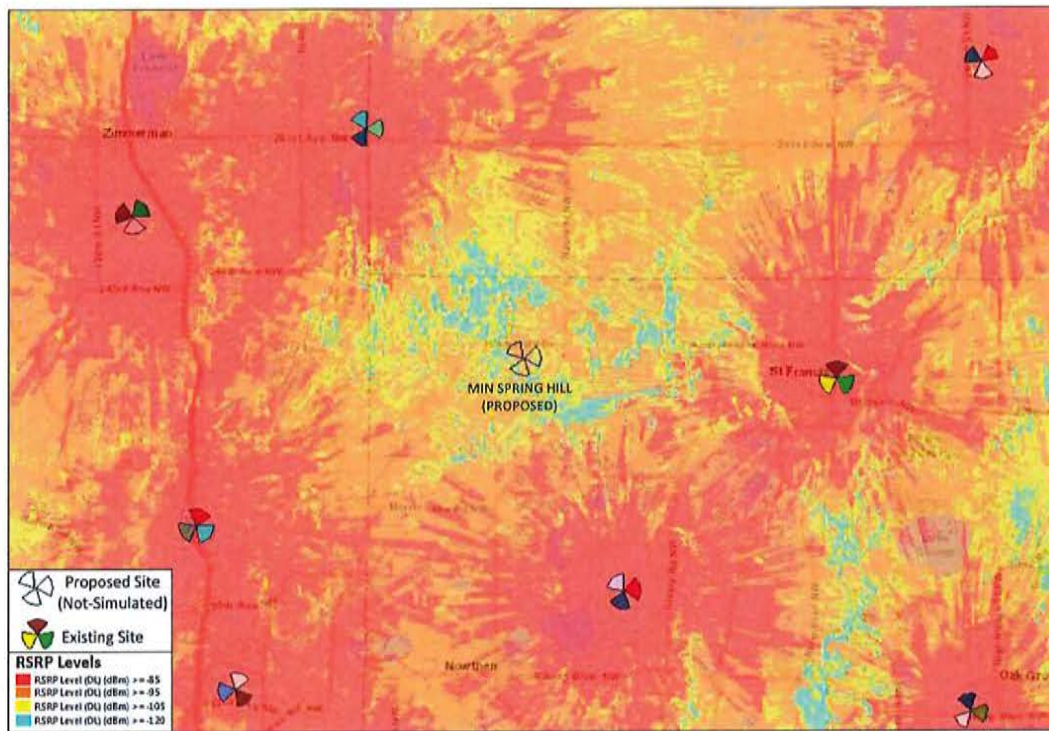
The second item this document will provide is to show why the proposed centerline of 96' is necessary for the antennas. Centerline is a critical design component of cell site design, as higher centerlines allow for line of sight to a larger area. Comparative maps of the proposed design will demonstrate that as the centerline is simulated to be lower, the proposed coverage degrades.

The third and final item will explain how this location was chosen. An excerpt from the coverage maps will highlight the area where RSRP coverage is insufficient, and this area generally overlaps with the search ring that was submitted when the project was started.

## **Item 1: Comparative Coverage Maps**

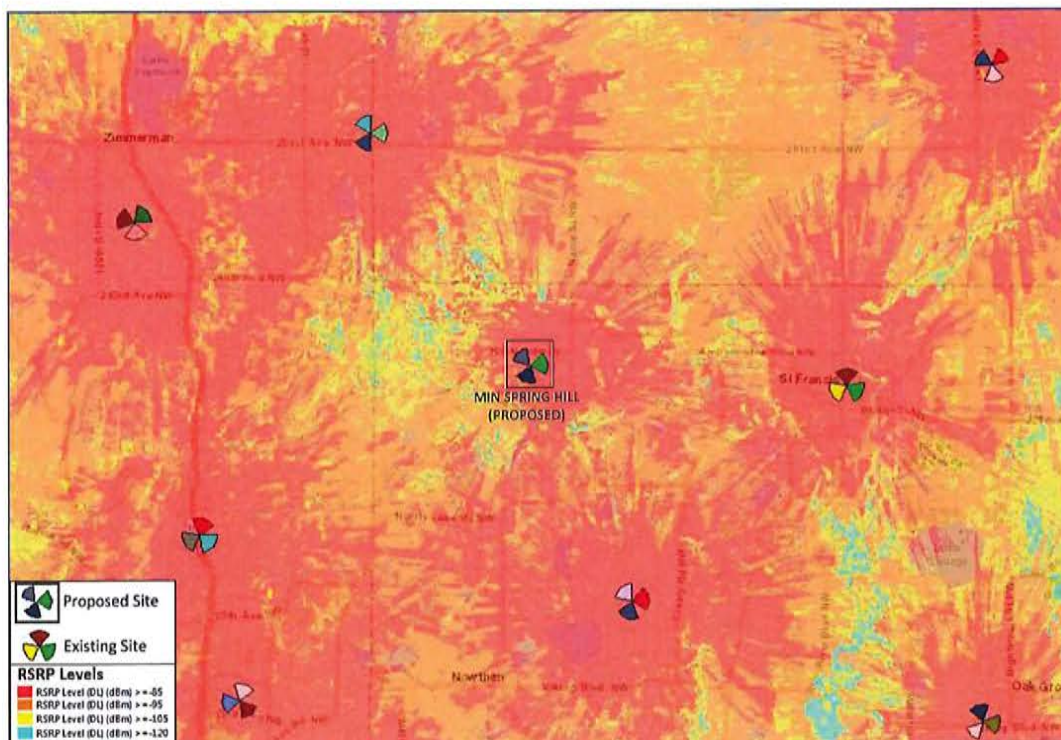
The map on the following page shows the existing RSRP coverage in the St. Francis and surrounding area. For this map, the proposed site is not simulated. The different levels of RSRP of concern are shown on the legend. Red areas (RSRP  $\geq$  -85 dBm) show where the signal will be more than sufficient to establish and maintain connections between the device and the network, in almost all surrounding environments. Orange areas (RSRP between -85 and -95 dBm) show where the signal will typically be sufficient to establish and maintain connections to the network, though in certain environments (lower floors of buildings or uneven terrain, etc.) some connections may be degraded. Yellow areas (RSRP between -95 and -105 dBm) show where signal will be sufficient in many cases, but is very dependent on the surrounding environment. Blue areas (RSRP  $<$  -105 dBm) show where signal may be sufficient in a few cases, but establishing and maintaining a connection will be very unreliable. As part of maintaining a reliable network, it is these areas in particular that we need to avoid as much as possible. As will be seen on the map, the location of the new cell site is surrounded by several yellow and blue areas that need to be addressed.

## Existing RSRP Coverage in St. Francis and Surrounding Area



As previously stated, the blue areas on the map are areas where a reliable connection is very difficult to achieve. While a device may still operate in these areas, the connection may be slow and inconsistent, and moving through one of these areas may lead to dropped calls or connections. The next map shows how the new site will address many of these areas. As can be seen, there are still some blue areas near the proposed site, but they are much smaller and will have a significantly decreased negative impact on users in the area. This will be discussed further as part of item 2.

## Proposed RSRP Coverage in St. Francis and Surrounding Area

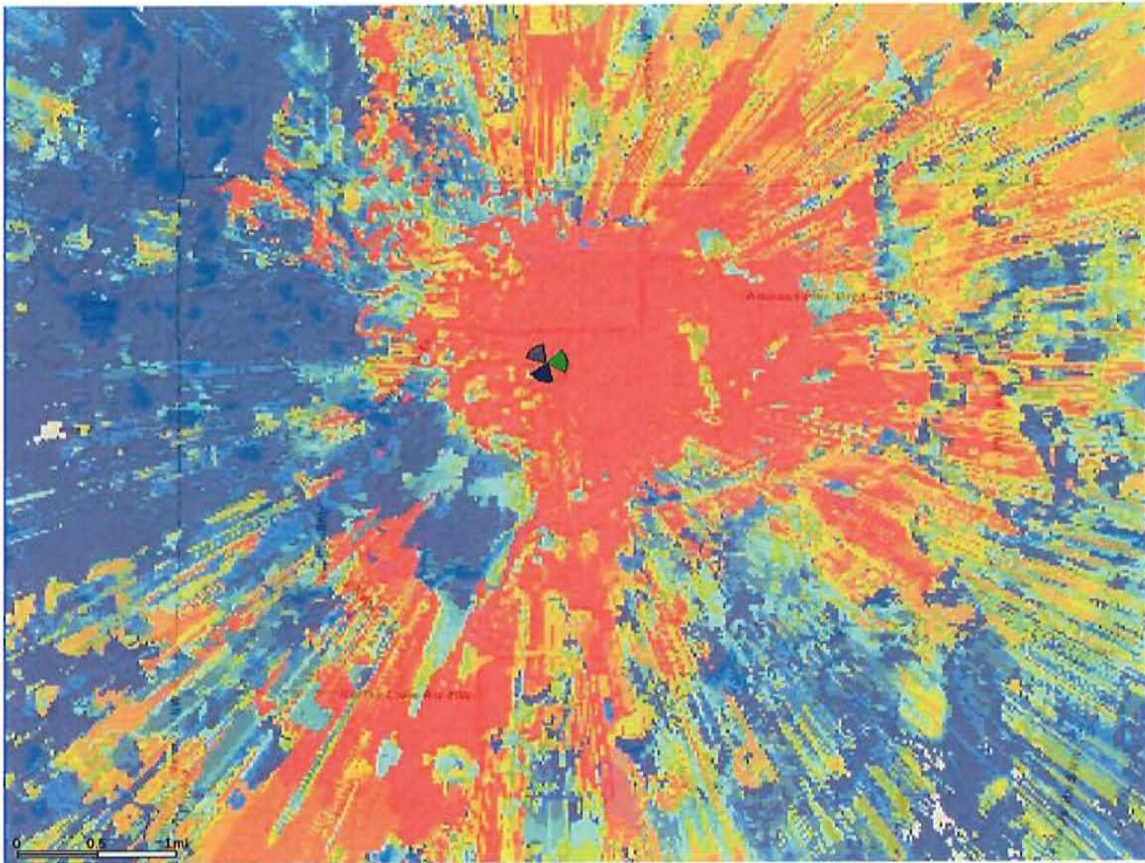


## Item 2: Needed Centerline

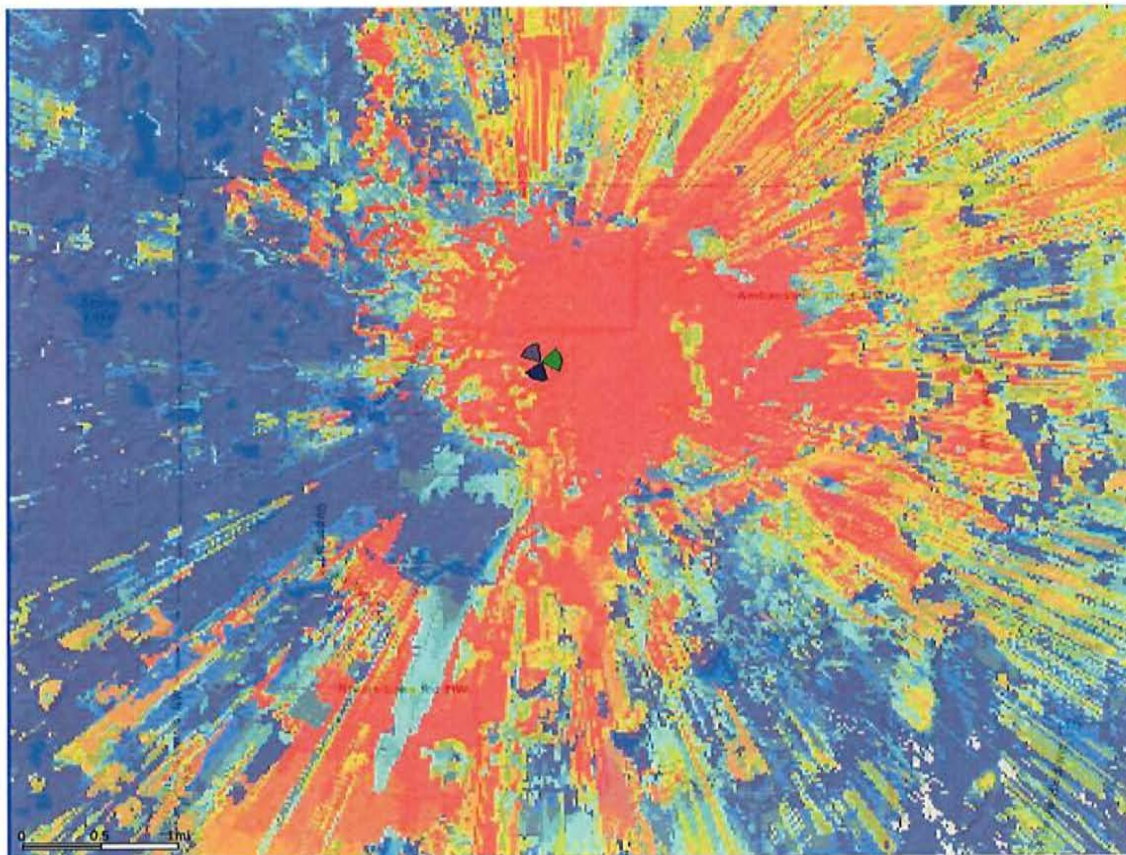
The next item will show why the proposed centerline of 96' is necessary. The biggest challenge with this area is that there is a large (several square miles) area with poor coverage (yellow or blue areas on the map). Typical tower height for new towers in similar situations is between 120 and 150 feet tall. Due to zoning restrictions in the area, 96' centerline, which results in a 100' antenna tip height, was what we were able to achieve with this candidate. As the previous maps have shown, this centerline will greatly improve the coverage, though as with most new towers, there will remain small areas of poor coverage. These areas could be served better with a higher centerline, but at the very least, the proposed centerline of 96' is needed.

The two maps on the following page show a zoomed in version of the previous maps, showing just the RSRP contribution of the proposed site, at 2 different centerline levels, 96' and 86'. The RSRP from the proposed site at 96' extends farther to the west and southwest than the proposed site at 86', and while the difference doesn't seem too significant at a glance, it is for three main reasons: First, the modeling doesn't completely account for the variations in terrain in the area, as it can only approximate the effects of trees, hills, foliage, and buildings, etc. Hence, minor differences in the modeling can often mean significant differences in the real user experience. Secondly, in addition to providing improved coverage in areas where the existing coverage is poor, the proposed site is also intended to take on traffic currently served by surrounding cell sites, which are currently overloaded. So any area that is not served well by the proposed site will remain as a contributor to traffic for the surrounding sites which in many cases means that new solutions will need to be developed quicker to provide additional offload. And third, as designed, this site will be capable of collocating other carriers at lower centerlines in the future. However, with a typical separation between carriers on towers being between 10-15', lowering the top centerline with Verizon's antennas to even 10' lower could result in a second or third carrier being 20-30' lower than the top centerline, which will make the tower much less usable for those carriers, and cause them to seek building new towers elsewhere.

RSRP Contribution of Proposed Site at 96' Centerline



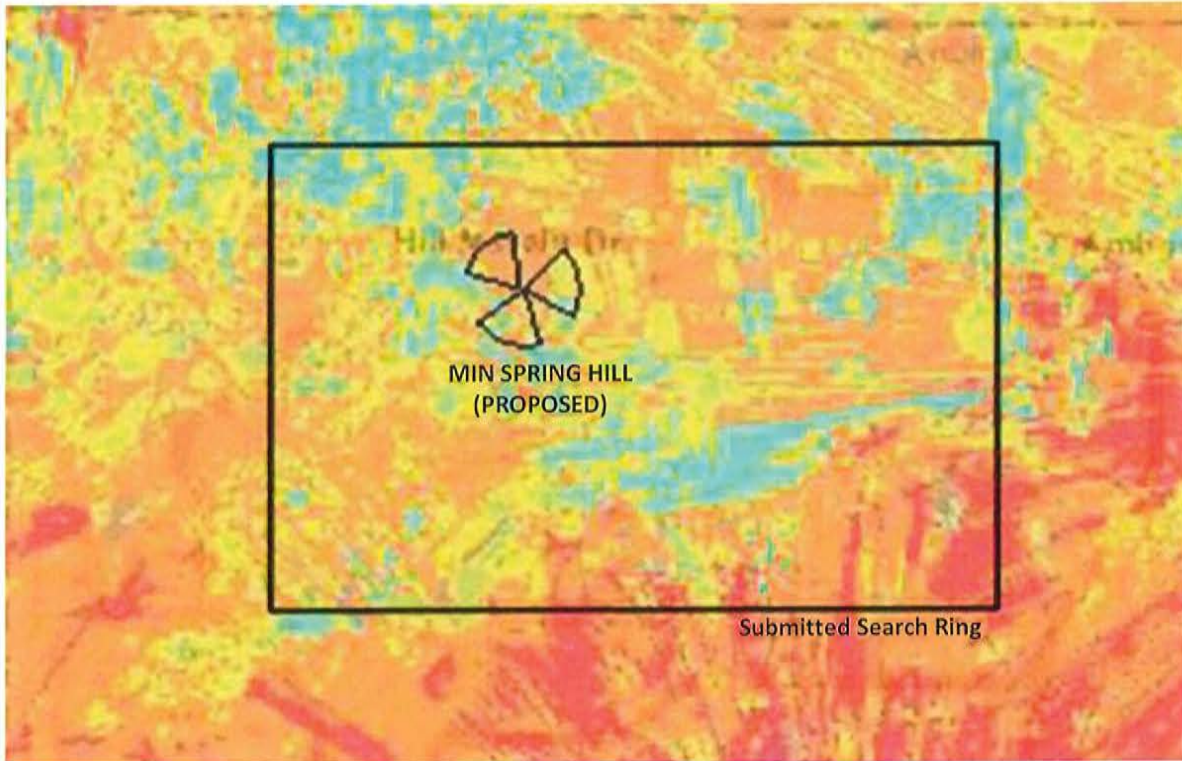
RSRP Contribution of Proposed Site at 86' Centerline



### Item 3: Location Selection

The search ring map was developed in response to the noticeable coverage hole surrounding the proposed site, as shown in the first map of item 1. The map below is an excerpt from that map, showing the search ring that was submitted:

Location of Search Ring Map Imposed on Excerpt of RSRP Map



Analysis determined that any location within that ring would have satisfied the requirements of the site, with more central locations being preferred, so as to better serve the whole area. Of the 3 candidates presented to Verizon based on the search ring, the proposed location was best able to serve the area in question.



**September 11, 2017**

City of St. Francis  
23340 Cree St NW  
St. Francis, MN 55070  
Attn: Planning and Zoning

**RE: Proposed Wireless Communications Facility**  
**Site Address: Variolite St NW, St. Francis, MN**  
**(VZW Ref. "MIN Spring Hill")**

Dear Mr. Gozola:

Pursuant to the Code of Ordinances of the City of St. Francis, Minnesota, Section 10-22-2(L)(1)  
– Additional Submittal Requirements, I acknowledge the following statement to be true:

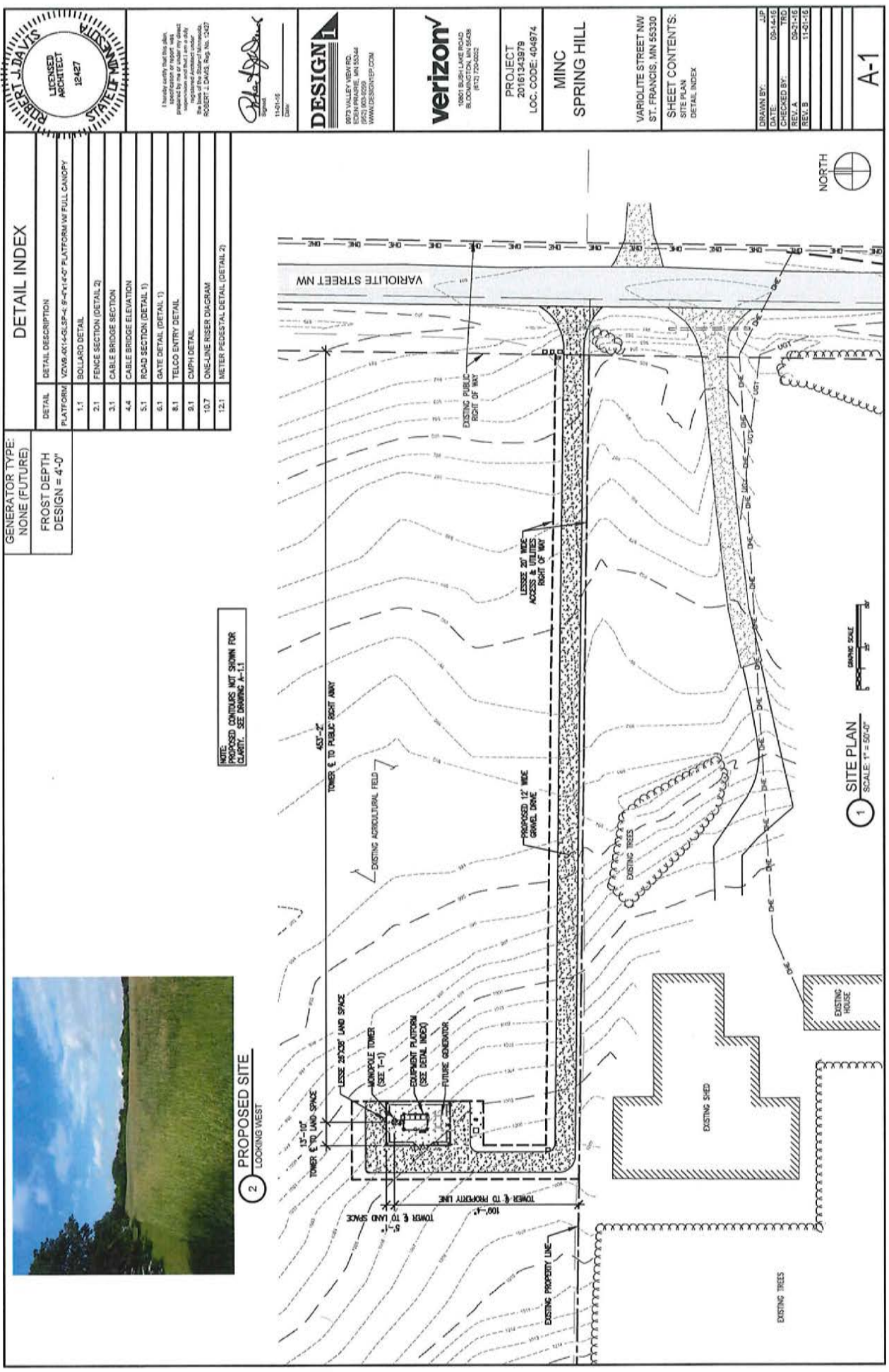
Verizon Wireless and its successors will allow the shared use of the wireless communications tower that is to be located along Variolite St NW in St. Francis, Minnesota, if an additional user agrees in writing to meet reasonable terms and conditions for shared use.

Sincerely,

A handwritten signature in black ink, appearing to read "Katie Poser", with a long horizontal flourish extending to the right.

Katie Poser, Verizon Wireless  
Great Plains Real Estate Manager





| GENERATOR TYPE:<br>NONE (FUTURE) |                                                      |
|----------------------------------|------------------------------------------------------|
| FROST DEPTH<br>DESIGN = 4'-0"    |                                                      |
| DETAIL INDEX                     |                                                      |
| DETAIL                           | DETAIL DESCRIPTION                                   |
| PLATFORM                         | 1206.4X14-GL-SP-4, 8'-FT-4-0" PLATFORM W FULL CANOPY |
| 1.1                              | BOLLARD DETAIL                                       |
| 2.1                              | FENCE SECTION (DETAIL 2)                             |
| 3.1                              | CABLE BRIDGE SECTION                                 |
| 4.4                              | CABLE BRIDGE ELEVATION                               |
| 5.1                              | ROAD SECTION (DETAIL 1)                              |
| 6.1                              | GATE DETAIL (DETAIL 1)                               |
| 8.1                              | TELCO ENTRY DETAIL                                   |
| 9.1                              | CMFH DETAIL                                          |
| 10.7                             | ONE-LINE WIRING DIAGRAM                              |
| 12.1                             | METER PEDESTAL DETAIL (DETAIL 2)                     |

ROBERT J. DAVIS  
LICENSED ARCHITECT  
12427  
STATE OF MINNESOTA

I hereby certify that this plan, specification or report was prepared by me or under my direct supervision and that I am a duly Licensed Architect under the laws of the State of Minnesota.  
ROBERT J. DAVIS, Reg. No. 12427

DESIGN 1  
9073 VALLEY VIEW RD.  
MINNETONKA, MN 55344  
952.190.9090  
WWW.DESIGN1EP.COM

verizon  
10801 BUSH LAKE ROAD  
BLOOMINGTON, MN 55425  
(612) 726-6022

PROJECT  
20161343979  
LOC. CODE: 404874

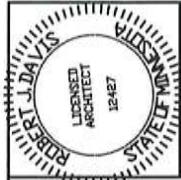
MINC  
SPRING HILL

VAROLIUTE STREET NW  
ST. FRANCIS, MN 55330

SHEET CONTENTS:  
SITE PLAN  
DETAIL INDEX

|             |          |
|-------------|----------|
| DRAWN BY:   | JLP      |
| CHECKED BY: | DB-LMS   |
| REV. A      | 08-21-10 |
| REV. B      | 11-21-10 |

A-1



I hereby certify that this plan, specification and report were prepared by me or under my direct supervision and that I am a duly licensed and active member of the State of Minnesota.  
ROBERT J. DAVIS, No. 12427

*Robert J. Davis*  
Signature  
11-01-15  
Date

**DESIGN**  
8673 VALLEY VIEW RD.  
EDEL PRUISE, MN 55344  
WWW.DESIGN187.COM

**verizon**  
1001 BUSH LAKE ROAD  
BLOOMINGTON, MN 55408  
(612) 755-9252

PROJECT  
20161343979  
LOC. CODE: 404874

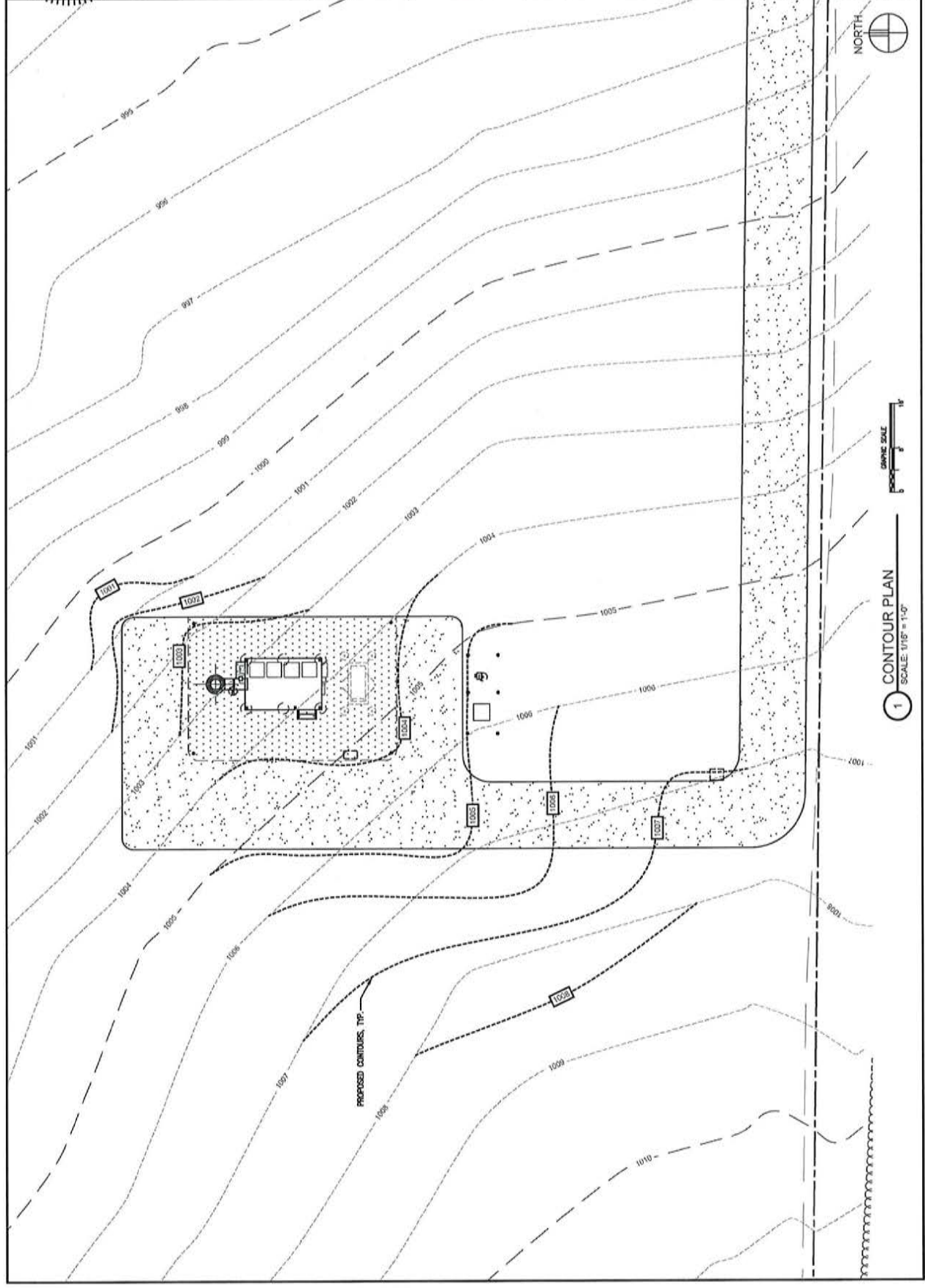
MINC  
SPRING HILL

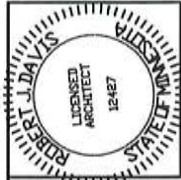
VARIOLITE STREET NW  
ST. FRANCIS, MN 55330

SHEET CONTENTS:  
CONTOUR PLAN

|             |          |
|-------------|----------|
| DRAWN BY:   | J.P.     |
| DATE:       | 08-14-15 |
| CHECKED BY: | J.P.     |
| REV. A:     | 08-21-15 |
| REV. B:     | 11-01-15 |

A-1.1





I hereby certify that this plan, specification and contract documents presented by me or under my direct supervision and seal are true and correct to the best of my knowledge and belief, and that I am a duly licensed and active member of the State of Minnesota.

ROBERT J. DAVIS, No. 12427

*Robert J. Davis*  
Signature  
11-01-18  
Date

**DESIGN**  
8033 VALLEY VIEW RD.  
EDEN PRAIRIE, MN 55344  
TEL: 952.935.1234  
WWW.DESIGNSTUDIO.COM

**verizon**  
10621 BUSH LAKE ROAD  
BLOOMINGTON, MN 55438  
(612) 735-5552

PROJECT  
20181343979  
LOC. CODE: 404974

MINC  
SPRING HILL

VARIOLITE STREET NW  
ST. FRANCIS, MN 55330

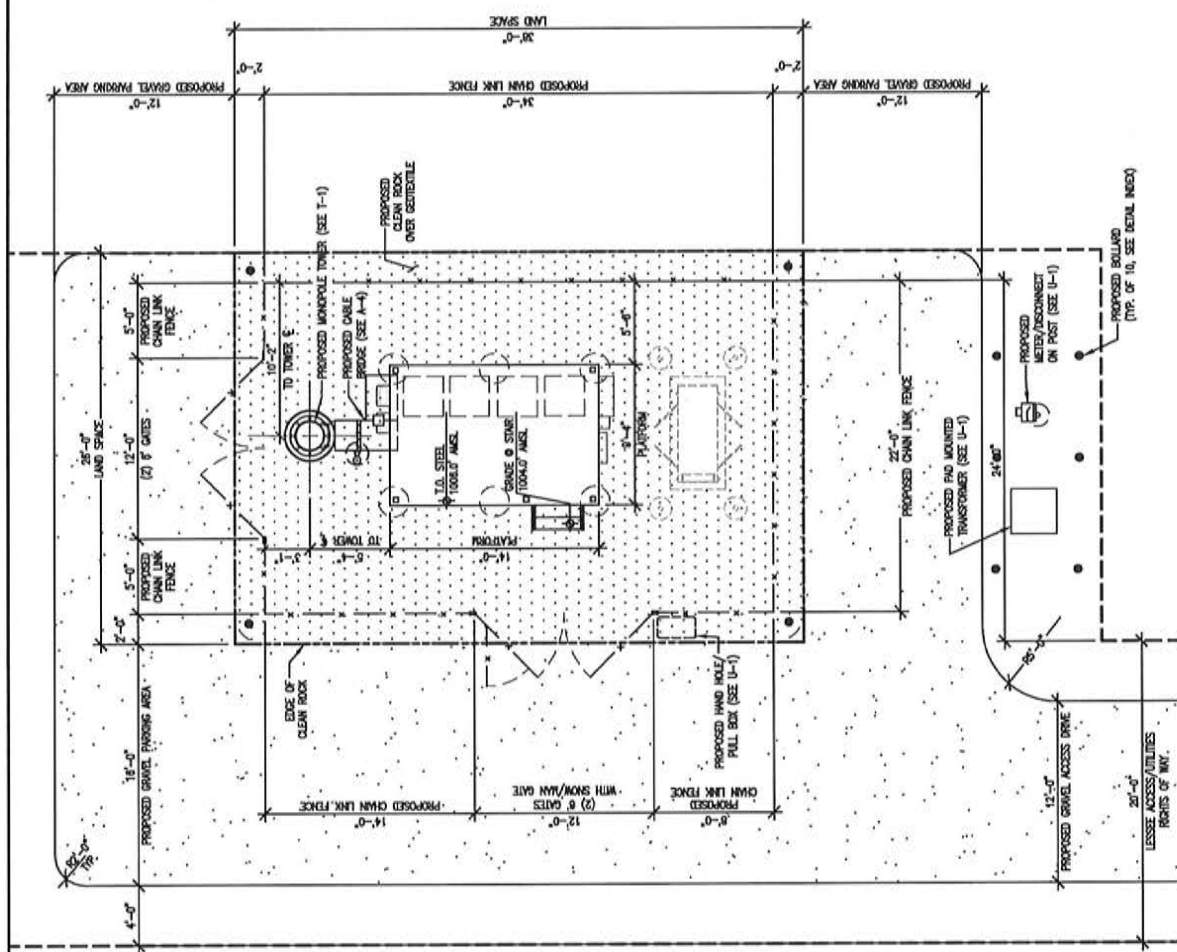
SHEET CONTENTS:  
ENLARGED SITE PLAN

DRAWN BY: JLP  
DATE: 08-14-18  
CHECKED BY: JLP  
REV. A: 08-21-18  
REV. B: 11-01-18

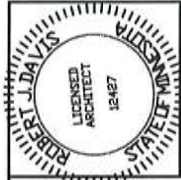
A-2

NOTE:  
CONTRACTOR TO COORDINATE PUBLIC AND PRIVATE UTILITY LOCATES PRIOR TO CONSTRUCTION. NOTIFY THE ARCHITECT IMMEDIATELY OF ANY UTILITY LINE ISSUES.

NOTE:  
SEE DRAWING A-1 FOR PROPOSED CONTOURS



1 ENLARGED SITE PLAN  
SCALE: 1/8" = 1'-0"



I hereby certify that this plan, prepared by me or under my direct supervision, and that I am a duly Licensed Architect in the State of Minnesota.  
ROBERT J. DAVIS, Reg. No. 12487  
11-21-18  
Date



PROJECT  
2018143979  
LOC. CODE: 404874

MINC  
SPRING HILL

VARIOLITE STREET NW  
ST. FRANCIS, MN 55330

SHEET CONTENTS:  
COAX & ANTENNA KEY

|             |          |
|-------------|----------|
| DRAWN BY:   | JSP      |
| DATE:       | 08-14-18 |
| CHECKED BY: | TRD      |
| REV. A      | 08-27-18 |
| REV. B      | 11-27-18 |

A-3

| ANTENNA KEY |          |          |     |              |                  |          |                |            |                | EQUIPMENT/COAX KEY |             |           |              |          |                                                         |                 |             |  |  |
|-------------|----------|----------|-----|--------------|------------------|----------|----------------|------------|----------------|--------------------|-------------|-----------|--------------|----------|---------------------------------------------------------|-----------------|-------------|--|--|
| ANTENNA     | POSITION | FUNCTION | QTY | MANUFACTURER | MODEL            | MOD TYPE | ANTENNA LENGTH | ANTENNA TP | ANTENNA CENTER | ELEC DOWNELL       | MCH DOWNELL | COAX TYPE | MANUFACTURER | MODEL    | ELECTRIC                                                | DIAMETER (INCH) | RAIN (FEET) |  |  |
| 1           | 1.1      | SPARE    | 1   | CSS          | XTCAP-88-885-180 | SPARE    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 1.2      | SPARE    | 1   | CSS          | XTCAP-88-885-180 | SPARE    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 1.3      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 1.4      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 1.5      | SPARE    | 1   | CSS          | XTCAP-88-885-180 | SPARE    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 1.6      | SPARE    | 1   | CSS          | XTCAP-88-885-180 | SPARE    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 2.1      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 2.2      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 2.3      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 2.4      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
| 2           | 2.1      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 2.2      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 2.3      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 2.4      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 2.5      | SPARE    | 1   | CSS          | XTCAP-88-885-180 | SPARE    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 2.6      | SPARE    | 1   | CSS          | XTCAP-88-885-180 | SPARE    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 3.1      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 3.2      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 3.3      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
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| 3           | 3.1      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
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|             | 3.3      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 3.4      | TX/RX    | 1   | CSS          | XTCAP-88-885-180 | TX/RX    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 3.5      | SPARE    | 1   | CSS          | XTCAP-88-885-180 | SPARE    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 3.6      | SPARE    | 1   | CSS          | XTCAP-88-885-180 | SPARE    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 4.1      | SPARE    | 1   | CSS          | XTCAP-88-885-180 | SPARE    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 4.2      | SPARE    | 1   | CSS          | XTCAP-88-885-180 | SPARE    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
|             | 4.3      | SPARE    | 1   | CSS          | XTCAP-88-885-180 | SPARE    | 88"            | 100.0'     | 94.0'          | 0'                 | 0'          | RRU       | EROSION      | RR85-813 | (1) ROSENBERGER HL-712015 HYBRID JUMPER DST. BOX TO RRU | 1/2"            | 10'         |  |  |
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COAX KEY  
1 SCALE: NONE

ANTENNA KEY  
2 SCALE: NONE

|                    |      |
|--------------------|------|
| ANT. CL.           | 95'  |
| COAX BRIDGE        | 4'   |
| DOWNELL LENGTH     | 4'   |
| DOWNELL TOTAL      | 10'  |
| TOTAL (ROUNDED UP) | 130' |

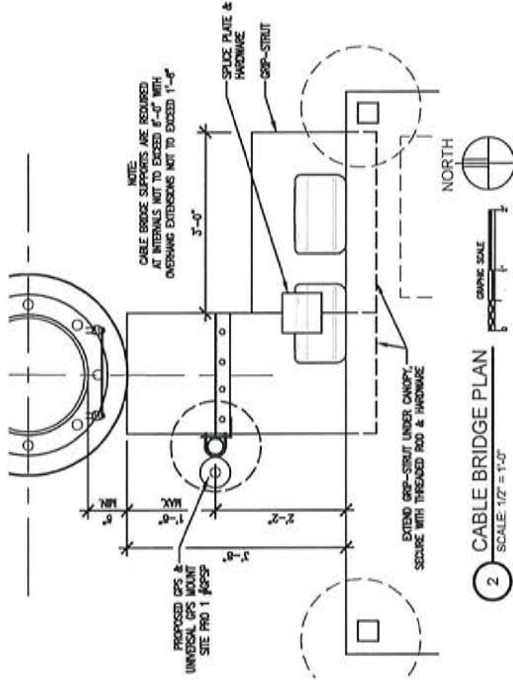
EXPOSED ADDITIONAL  
(1) RRU HYBRID CHAS. ROSENBERGER MODEL HL-712015  
(48) EROSION RET/ASD JUMPER BETWEEN RRUS AND ANTENNAS, 16 (SECTORS)  
(24) 500 TERMINATIONS FOR SPARE PORTS (8/SECTOR)



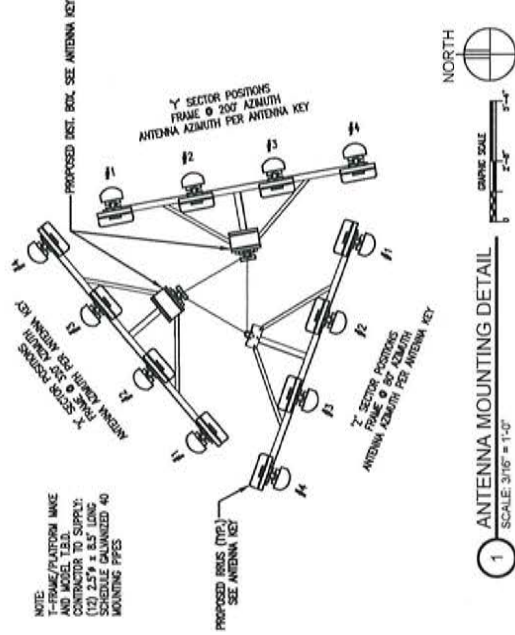
3 EXISTING SITE - COMPOUND LOCATION  
SCALE: LOOKING NORTHEAST



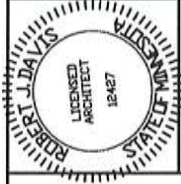
4 EXISTING SITE - VIEW FROM EXISTING SHED  
SCALE: LOOKING EAST



2 CABLE BRIDGE PLAN  
SCALE: 1/2" = 1'-0"



1 ANTENNA MOUNTING DETAIL  
SCALE: 3/16" = 1'-0"



I hereby certify that this plan, specification and detail were prepared by me or under my direct supervision and that I am a duly Licensed Architect in the State of Minnesota.  
ROBERT J. DAVIS, Reg. No. 12427

Signature  
Date: 11-04-15



PROJECT  
20101343979  
LOC. CODE: 404974

MINC  
SPRING HILL

VARIOLITE STREET NW  
ST. FRANCIS, MN 55330

SHEET CONTENTS:  
CABLE BRIDGE PLAN  
ANTENNA MOUNTING DETAIL  
PHOTOS

DRAWN BY: JJP  
DATE: 08-14-15  
CHECKED BY: JPD  
REV. A: 08-27-15  
REV. B: 11-04-15

A-4



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Lead 1 shall be #2 solid bare lin-elad (SBC) copper wire buried at local frost depth. Lead 1 bends shall be minimum 24" radius. "Whip" lead bends may be of 12" radius.

When ground rods are not specified to be backfilled w/ Bentonite Slurry: If boulders, bedrock, or other obstructions prevent driving of ground rods, the Contractor will need to have drilling equipment bore a hole for ground rod placement. Hole to be backfilled w/ Bentonite Slurry.

Above-grade connections shall be by lugs w/ two-hole tongues unless noted otherwise, joined to solid leads by welding (T&B 54B56GE "BROWN", self-threading (RECOGNIZED, EM 2522DH.75.312), or 10,000psi crimping (BURNDY YAL3C 2TC 14EZ). Surfaces that

Ground bars exposed to weather shall be tin-clad copper, and shall be clean of any oxidation prior to lag bolting.

Ground Bar leads

and equipment shelters by their standoff mounts. Leads from each ground bar to the ground ring shall be a pair of #2 SBTC, each connected to Lead 1 bi-directionally with #2 SBTC "jumpers". Pairs of #2 SBTC may be required between ground bars. Leads shall be routed to ground bars as follows:

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- Note:** Contractor to provide #2 solid bare tin-clad (SBTC) copper wire lead from #1 ground ring to air conditioner & ice shield if provided by VZWL.

⊗

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| Variable          | Mean  | Standard Deviation | Minimum | Maximum |
|-------------------|-------|--------------------|---------|---------|
| Age               | 34.5  | 10.2               | 22      | 55      |
| Gender            | 0.5   | 0.5                | 0       | 1       |
| Education         | 12.5  | 1.5                | 10      | 15      |
| Income            | 35000 | 15000              | 15000   | 70000   |
| Health            | 0.8   | 0.2                | 0       | 1       |
| Marital Status    | 0.6   | 0.5                | 0       | 1       |
| Occupation        | 1.5   | 1.5                | 0       | 3       |
| Religion          | 0.5   | 0.5                | 0       | 1       |
| Smoking           | 0.3   | 0.5                | 0       | 1       |
| Drinking          | 0.2   | 0.4                | 0       | 1       |
| Exercise          | 0.4   | 0.5                | 0       | 1       |
| Stress            | 0.6   | 0.5                | 0       | 1       |
| Depression        | 0.3   | 0.5                | 0       | 1       |
| Loneliness        | 0.4   | 0.5                | 0       | 1       |
| Life Satisfaction | 0.7   | 0.3                | 0       | 1       |
| Quality of Life   | 0.8   | 0.2                | 0       | 1       |
| Overall Health    | 0.9   | 0.1                | 0       | 1       |

NOTE: REMOVE GALVANIZING FROM NUT AND WASHERS. REMOVE NUTS AND WASHERS FROM POSTS IN AREAS LUGS WILL BE INSTALLED. LIGHTLY COAT THE

VIEW

2 COMPRESSION  
SCALE: NONE

1 EXOTHERM SCALE: NONE

---

RING TO NEAREST LIGHTNING ROD #2 SBTC  
 LIGHTING ROD SYS TO NEAREST MTL. NPPA 760  
 GRING TO TOWER RING (#2) 1/2 SBTC

BURUNDY  
YAC 2TC 14

CE POST  
BRAIDED  
STRAP

## CONNECTOR DETAILS

## C WELD DETAILS

---

|             |          |
|-------------|----------|
| DRAWN BY:   | J.P.     |
| DATE:       | 09-14-16 |
| CHECKED BY: | TRD      |
| REV. A      | 09-21-16 |
| REV. B      | 11-01-16 |
|             |          |
|             |          |
|             |          |

**NOTE:** REDUCE CALIBRATING FROM FENCE POSTS IN AREAS LUGS WILL BE INSTALLED. LIGHTLY COAT THE UNDERSIDE OF THE LUGS W/ ANTI-OX COMPOUND BEFORE ATTACHING TO POSTS.

**P VIEW**

**TWO-HOLE, 10,000 PSI COMPRESSOR FITTING UL 9498 LISTED**

**(2) TWO-GATE BONDED TO FENCE POST WITH 1/4" BRAZED INNED COPPER JUMPER STRAP**

**CRIMP LUG**

**BROWN LUG**

**1/2" Ø**

**BRONZE STRAP**

**HOT-UP CONNECTOR 10,000 COMPRESSION FITTING MUST BE UL487 LISTED ACCEPTABLE FOR DIRECT BURIAL**

**WELD: THOMAS & BETTS, S46558E "BROWNLIT" CRIMP, BURNIDY, YALCO ZTC 1462, 10,000 PSI SCREW: RECOGNIZED, EN 25222-RS,312**

**TYPE RJ**

**WELDED, CRIMPED**

**TYPE PT**

**TYPE GT**

**TYPE HS**

**TYPE VS FLAT SURFACE**

**TYPE VS ROUND SURFACE**

**TYPE GL LUG**

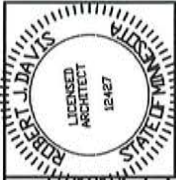
**SCALE NONE**

**COMPRESSION CONNECTOR DETAILS**

**EXOTHERMIC WELD DETAILS**

# GROUNDING DETAIL INDEX

| DETAIL   | DETAIL DESCRIPTION                                     |
|----------|--------------------------------------------------------|
| PLATFORM | 9'-4" X 14'-2" PLATFORM W/ CANOPY GROUNDING ELEVATIONS |
| 11.1     | TEST WELL DETAIL GROUND RING & ROD DETAIL              |
| 11.2     | REBAR GROUNDING DETAIL                                 |
| 11.3     | CONDUIT DETAIL                                         |
| 11.4     | TYPICAL GROUNDING CABLE BRIDGE DETAIL                  |
| 11.5     | TYPICAL TOWER GROUNDING DETAIL                         |



I hereby certify that this plan, specification, or report was prepared by me or under my direct supervision and that I am a duly Licensed Professional Engineer in the State of Minnesota.

ROBERT J. DAVIS, Reg. No. 12487

*Robert J. Davis*  
 Engineer  
 11-01-18  
 Date

**DESIGN**  
 9573 VALLEY VIEW RD.  
 EDEN PRAIRIE, MN 55344  
 (952) 935-1100  
 WWW.DESIGNED.COM

**verizon**  
 10801 BUSH LAKE ROAD  
 BLOOMINGTON, MN 55438  
 (612) 735-5522

PROJECT  
 20161343979  
 LOC. CODE: 404974

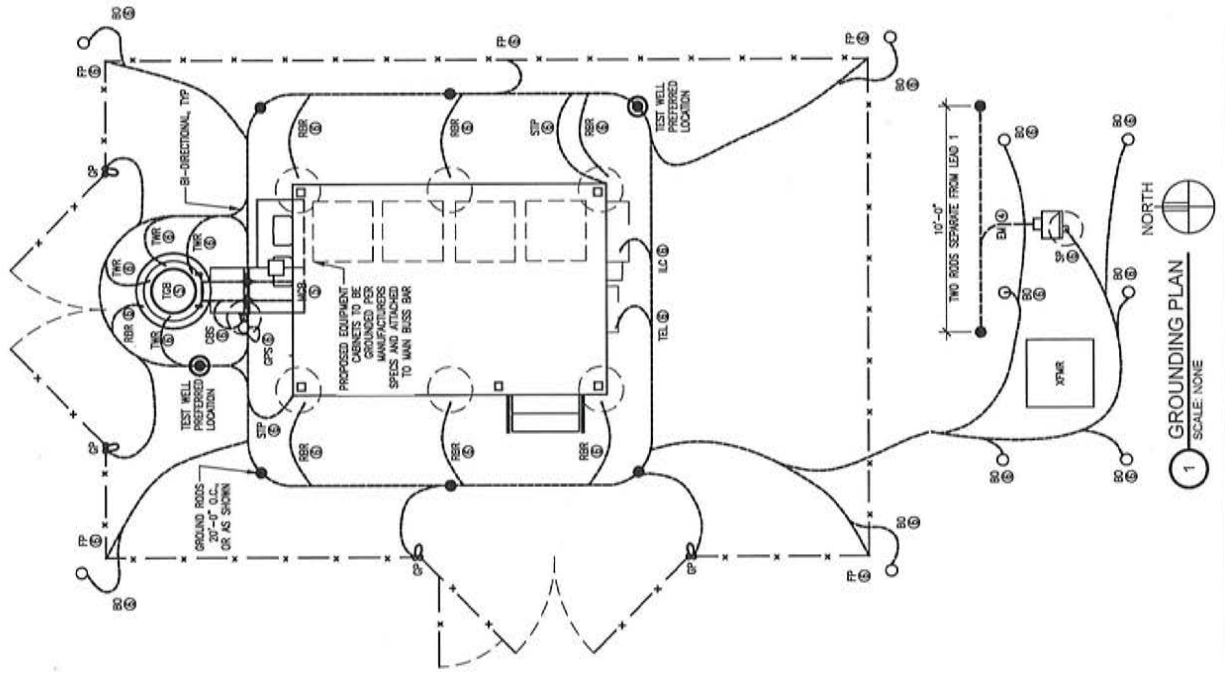
MINC  
 SPRING HILL

VARIOLITE STREET NW  
 ST. FRANCIS, MN 55330

SHEET CONTENTS:  
 GROUNDING PLAN  
 GROUNDING DETAIL INDEX

|             |          |
|-------------|----------|
| DRAWN BY:   | JJP      |
| DATE:       | 08-14-18 |
| CHECKED BY: | TND      |
| REV. A:     | 08-21-18 |
| REV. B:     | 11-01-18 |

G-2



[illegible]



St. Francis City Council Agenda Item  
Executive Summary

*Title of Item:* **Solar Garden Ordinance**

*Meeting Date:* **10-18-17**

*Staff Reporting:* **Kate Thunstrom, Economic Development Director**  
**Ben Gozola, City Planner**

*Summary:* The City adopted a solar ordinance in 2016 to address the request for a ground mounted system. At that time it was recognized that the ordinance was a start but lacked information to address the solar community as a whole. In March of 2017 the Council entered into an Option to Lease with Connexus for a proposed solar project at the Wastewater Treatment facility. Current City Code does not a large scale solar project beyond minor residential. Staff has prepared an update to the zoning ordinance to update regulations relating to solar energy systems, and the attached is staff's first attempt at addressing the stated goals of the update. This ordinance would eliminate the City's current solar energy systems language in favor of new language which takes into account recent changes in the solar industry.

*Recommendations:* **▪ The Planning Commission is asked to review this language, and recommend any needed changes/updates for consideration by the City Council.**

*List of Attachments:* **A) DRAFT Solar Garden Ordinance**

CITY OF ST. FRANCIS  
ST. FRANCIS MN  
ANOKA COUNTY

ORDINANCE \_\_\_\_, SECOND SERIES

AN ORDINANCE TO AMEND REGULATIONS  
ON SOLAR ENERGY SYSTEMS

**SUMMARY OF SECTIONS AMENDED, RENUMBERED, OR ADDED:**

- 10-18-11 Solar Energy Systems
- 10-18-12 Temporary Family Health Care Dwellings (renumbered)
- Section 29 Solar Energy Systems Added
- Section 30 marked as "Reserved"

**THE CITY OF SAINT FRANCIS ORDAINS:**

**Section 1. The City Council of the City of St. Francis hereby amends City Code Chapter 10 (Zoning), Section 18 (Accessory Buildings, Structures and Uses), as follows:**

Existing sections 10-18-1 through 10-18-10 are restated and incorporated herein unchanged.

Existing section 10-18-11 is hereby deleted in its entirety.

Existing section 10-18-12 is hereby renumbered to 10-18-11.

**Section 2. The City Council of the City of St. Francis hereby amends City Code Chapter 10 (Zoning) by adding a new Section 29 as follows:**

**SECTION 29**

**SOLAR ENERGY SYSTEMS**

- A. Purpose and Intent:** The City of St. Francis finds that it is in the public interest to encourage the use and development of renewable energy systems that enhance energy conservation efforts, but result in limited adverse impact on nearby properties. As such, the City supports the use of solar energy collection systems and the development of solar energy farms. The City resolves that the following standards shall be adopted to ensure that solar energy system and solar energy farms can be constructed within the City of St. Francis while also protecting public safety and natural resources.

30 **B. Applicability:** These requirements shall apply to all solar energy system and solar energy  
31 farms on properties and structures under the jurisdiction of the City of St. Francis Zoning.  
32 The City of St. Francis shall refer any application for a large electric power generating  
33 plant (LEPGP) to the Minnesota Public Utilities Commission (MN PUC) for approval. An  
34 LEPPG shall be defined as an energy system capable of producing more than 50 megawatts  
35 of power.

36 **C. Definitions:** The following words, terms and phrases , when used in this Section shall have  
37 the meaning provided herein, except where the context clearly indicates otherwise:

- 38 **1. Building or Other Architecturally-Integrated Solar Energy System:** An active  
39 solar energy system that is an integral part of a principal or accessory building, rather  
40 than a separate mechanical device, replacing or substituting for an architectural or  
41 structural component of the building. Building-integrated systems include, but are not  
42 limited to, photovoltaic or thermal solar systems that are contained within roofing  
43 materials, windows, skylights and awnings.
- 44 **2. CSES:** Community Solar Energy System
- 45 **3. CUP:** Conditional Use Permit
- 46 **4. Community Solar Energy System (also called a “solar garden”):** A solar-electric  
47 (photovoltaic array that provides retail electric power (or a financial proxy for retail  
48 power) to multiple community members or businesses residing or located off-site  
49 from the location of a solar energy system.
- 50 **5. Ground Mounted Panels:** Freestanding solar panels mounted to the ground by use  
51 of racks or poles or similar apparatus
- 52 **6. Ground Mounted Solar Energy System:** Systems which are accessory to and are  
53 designed to supply energy for a principal use.
- 54 **7. Large Energy Power Generating Plant (LEPGP):** Any Solar Energy System  
55 capable of producing 50 megawatts or more of power
- 56 **8. Large Energy Power Generating Plan (LEPGP):** Any Solar Energy System  
57 capable of producing 50 megawatts or more of power.
- 58 **9. MN PUC:** The Minnesota Public Utilities Commission
- 59 **10. Photovoltaic Systems:** An active solar energy system that converts solar energy  
60 directly into electricity.

- 61 **11. Roof or Building Mounted Solar Energy Systems:** A solar energy system that is  
62 mounted to the roof or building using brackets, stands or other apparatus.
- 63 **12. SES:** Solar Energy System
- 64 **13. Solar Collector:** A device, structure or a part of a device or structure that the  
65 principal purpose is to transform solar radiant energy into thermal, mechanical,  
66 chemical or electrical energy
- 67 **14. Solar Energy:** Radiant energy received from the sun that can be collected in the form  
68 of heat or light by a solar collector
- 69 **15. Solar Energy System:** An active solar energy system that collects or stores solar  
70 energy and transforms solar energy into another form of energy or transfers heat from  
71 a collector to another medium using mechanical, electrical, thermal or chemical  
72 means.
- 73 **16. Solar Farm:** A commercial facility that converts sunlight into electricity, whether by  
74 photovoltaics (PV), concentrating solar thermal devices (CST) or other conversion  
75 technology, for the principal purpose of wholesale sales of generated electricity.
- 76 **17. Solar Garden:** A Community Solar Energy System
- 77 **18. Solar Hot Water System:** A system that includes a solar collector and a heat  
78 exchanger that heats or preheats water for building heating systems or other hot water  
79 needs.
- 80 **19. Solar Permit Supplement:** In addition to a Building permit, required for permit  
81 submission.

82 **D. Types of Energy Systems**

- 83 **1. Roof mounted or Architecturally-Integrated solar system:** Systems which are  
84 accessory to the principal land use, designed to supply energy for the principal use.  
85 Roof mounted or other architecturally-integrated systems shall be regulated as  
86 follows:
- 87 a) Rooftop or other architecturally-integrated systems are permitted accessory uses  
88 in all zoning districts in which buildings and structures are permitted.
- 89 b) The property owner or contractor shall complete a building permit and  
90 supplemental application and obtain approval prior to installation.

- c) Solar energy systems shall be harmonious with the architectural features of the structure in as much as possible.
- d) Commercial and industrial roof or other integrated systems: Shall be placed on the roof to limit visibility from the public right-of-way or to blend into the roof design in as much as possible while still allowing the owner to reasonably capture solar energy.
- e) Height: roof mounted Solar systems must not exceed the height maximum in the applicable zoning district for the structure on which it is mounted.
- f) Setbacks: roof mounted solar systems must comply with all structure setback requirements in the applicable zoning district, and must not extend behind the exterior perimeter of the structure on which the system is mounted.
- g) Roof mounted systems placed on the street facing front of any structure shall be flush-mounted systems.

**2. Ground mounted solar energy systems:** Ground Mounted systems shall be regulated as follows:

- a) Ground mounted systems are permitted accessory uses in all districts in which building and structures are permitted.
- b) The property owner or contractor shall complete a building permit and supplemental application and obtain approval prior to installation.
- c) Ground mounted systems are exempt from accessory structure number and area limitations except as provided herein.
- d) Heights: ground mounted solar energy systems must not exceed the height maximum in the applicable zoning district for an accessory structure for all possible orientations.
- e) Setbacks: ground mounted solar energy system must meet the setbacks required for an accessory structure in the applicable zoning district for all possible orientations.
- f) No ground mounted solar system shall cover or encompass more than ten percent (10%) of the gross lot size.

- 120           **3. Community Solar Energy Systems (Solar Gardens/CSES):** Roof or ground  
121 mounted CSES's designed to supply energy for off-site users on the distribution grid  
122 (but not for export to the wholesale market or connection to the electric transmission  
123 grid) shall be considered a conditional use in all districts unless otherwise regulated  
124 or prohibited in this section:
- 125           a) CSES's shall require a CUP.
- 126           b) CSES's shall be located on a contiguous or aggregate site area footprint of at least  
127 5 acres in size (whether commonly owner/controlled or not-so owned or  
128 operated). The site area footprint size shall be computed by a determination of the  
129 Zoning Administrator.
- 130           c) Prohibited Districts: The City prohibits CSES's within the following districts:
- 131                 1. Residential and Commercial Zoning Districts
- 132                 2. Floodplain Districts
- 133           d) All CSES components must meet the setback, height and impervious surface  
134 limitations for the district in which the systems is located.
- 135           e) CSES's shall require a building permit and are subject to the accessory use  
136 standards for the district in which they are located.
- 137           **4. Solar Farms:** Ground-mounted solar energy arrays which are the principal use on the  
138 property, that are designed for providing energy to off-site users or export to the  
139 wholesale market, shall be a permitted use in Agricultural districts, except as  
140 otherwise regulated or prohibited in this section. Solar farms shall be subject to the  
141 following:
- 142           a) Solar farms which have a generating capacity of 50 megawatts or more of power  
143 shall fall under the jurisdiction of the Minnesota Public Utilities Commission.
- 144           b) Solar Farm Energy Systems generating less than 50 megawatts shall require a  
145 Conditional Use Permit.
- 146           c) Solar farms shall be located on a contiguous or aggregate site area footprint of at  
147 least 5 acres in size (whether commonly owner/controlled or not-so owned or  
148 operated). The site area footprint size shall be computed by a determination of the  
149 Zoning Administrator.
- 150           d) Prohibitions: the City prohibits community solar farms within:
- 151                 1. Floodplain Districts

e) All Solar Farm components must meet the setback, height and impervious surface limitations for the district in which the system is located.

5. **Additional Standards:** In addition to the specific standards required for individual system types, the following standards shall apply to all Solar Energy Systems.
6. **Compliance with Building Code:** All SES's shall require a building permit, shall be subject to approval of the City Zoning Administrator and Building Official, and shall be consistent with the State of Minnesota Building Code
7. **Compliance with State Electric Code:** All photovoltaic systems shall comply with the Minnesota State Electrical Code
8. **Compliance with State Plumbing Code:** Solar thermal systems shall comply with applicable Minnesota State Plumbing Code requirements.
9. **Compliance with MN Energy Code:** All SES's shall comply with HVAC-related requirements of the Energy Code.
10. **Utility Notification:** No grid-intertied photovoltaic system shall be installed until the owner has submitted notification to the utility company of the customer's intent to install an interconnected customer-owned generator. Off-grid systems are exempt from this requirement.
11. **Permitting Deadlines:** Solar Energy Systems must complete work outlined within the Building Permit within six (6) months of the date the Building Permit was issued. All requests for an extension to this deadline must be made prior to the deadline, and must be made in writing to the City Building Official. The City Building Official shall issue an extension within seven (7) days of receiving the request if the party making the request provides good cause, which shall be broadly interpreted, for the request.
12. **Installation:** Installation of a solar systems shall not constitute a right to sunlight from any adjoining property, nor does the city assure access to sunlight.
13. **Security and Equipment buildings:** Security and equipment building(s) on the site of solar farms shall be permitted uses accessory to the solar farm.
14. **Landscaping:** Buffer screening from routine view of the public right-of-way and immediate adjacent residences shall be required in an attempt to minimize the visual impact of above grade site improvements and any extensive or imposing perimeter securing fencing that is proposed. Low lying screening, shrubbery or other native vegetation shall be required around site perimeter security fencing.

185       **15. Controlled Access:** The owner or operator shall contain all unenclosed electrical  
186       conducts located above ground within a structure (or structures) with controlled  
187       access.

188       **16. All CSES's and Solar Farm's – Power and communication lines:** All on-site  
189       power and communication lines running between banks of solar panels and buildings  
190       shall be buried underground on premise. The Zoning Administrator may grant  
191       exemptions to this requirement in instances where shallow bedrock, water courses, or  
192       other elements of the natural landscape interfere with the ability to bury lines.

193       **17. All CSES and Solar Farm - Decommissioning Plan:** A decommissioning plan with  
194       cost estimates shall be required to ensure that CSES's and Solar Farms are properly  
195       removed after their useful life. Decommissioning must occur within 180 days of  
196       abandonment, as defined in Section G. Five years after commencement of the use, the  
197       owner or operator shall post a bond, letter of credit, or establish an escrow account.  
198       This security shall be in an amount equal to the estimated decommissioning cost.

199       **18. Easements:** Solar energy systems shall not encroach on public drainage, utility,  
200       roadway, or trail easements.

201       **19. Glare:** No solar energy equipment or solar electric systems shall create or cause  
202       unreasonable glare on other property or public roadways. Unreasonable glare shall  
203       mean a public safety hazard as determined by the City Council or the appropriate  
204       roadway authority.

205       **E. Conditional Use Permit (CUP) Requirements:** In addition to the general requirements  
206       for a conditionally permitted use outlined in Zoning Code Chapter 6, the following  
207       requirements will also apply to solar energy system CUP applications.

208       **1. CUP's runs with the land:** A CUP may be terminated if the owner/operator violates  
209       the terms of the CUP; provided however that the Zoning Administrator send a written  
210       notice of violation to the owner/operator giving thirty (30) days to remedy the  
211       violation. In the event the owner/operator fails to remedy the violation, the  
212       Zoning Administrator may send written notice of CUP termination to the  
213       owner/operator.

214       **2. Conditional Use Permit Submittal Requirements:** A CUP application for Solar  
215       Energy System shall be accompanied by horizontal and vertical elevation drawings,  
216       drawn to scale. The drawings shall show the location of the system components on  
217       the property as well as other elements including but not limited to the following:

218               a) Existing features

219               b) Proposed features

- c) Property boundaries
- d) Property zoning designation(s) including district property line and roadway setbacks
- e) Solar arrays, connecting lines and all affiliated installations and structures
- f) Access points, drive aisles, security features and fencing
- g) Topography & surface water drainage patterns and treatment systems
- h) Wetlands, woodlands, grasslands and prairielands
- i) Existing and proposed/preserved/protected wildlife corridors (wetland/woodland/topography connectivity)
- j) Landscape plan, including required screening of site perimeter securing fencing
- k) Floodplains
- l) Soils
- m) Historical features
- n) Archeological features
- o) Wildlife and ecological habitat
- p) Environmental mitigation measures
- q) Description of project staging (if applicable)

**F. Permit Modifications:** Conditional Use Permits must be maintained consistent with the terms of their approval. Modification and amendments shall be processed and reviewed consistent with the terms of City Code

**Section 3. The City Council of the City of St. Francis hereby amends City Code Chapter 10 (Zoning) by adding a new Section 30 as follows:**

### **SECTION 30**

**(Reserved)**

245 **Section 4. Effective Date. This Ordinance shall take effect on the later of 30 days after its**  
246 **publication or \_\_\_\_\_.**

247 PASSED AND ADOPTED BY THE CITY COUNCIL OF THE CITY OF ST. FRANCIS  
248 THIS \_\_\_\_\_ DAY OF \_\_\_\_\_, 2017.

249  
250  
251 APPROVED:  
252  
253 \_\_\_\_\_  
254 Steven D. Feldman  
255 Mayor of St. Francis  
256

257  
258 ATTEST:  
259  
260 \_\_\_\_\_  
261 Barbara I. Held  
262 City Clerk  
263

264 XXXXXX-VX