



NORTHWEST ASSOCIATED CONSULTANTS, INC.

4800 Olson Memorial Highway, Suite 202, Golden Valley, MN 55422
Telephone: 763.231.2555 Facsimile: 763.231.2561 planners@nacplanning.com

12/2/14 CC Mtg.

**Agenda
Item
6a**

MEMORANDUM

TO: Sunfish Lake Mayor and City Council
Sunfish Lake Planning Commission

FROM: Michelle Barness

DATE: November 12, 2014

RE: Sunfish Lake – Crown Castle/T-Mobile; CUP for a Personal Wireless Service Antenna Located at St. Anne's Episcopal Church

FILE: 211.01 – 14.13

Application Received: October 20, 2014
Planning Commission Date: November 19, 2014
Tentative City Council Review: December 2, 2014
60-day Review: December 19, 2014

BACKGROUND

Crown Castle, on behalf of T-Mobile is requesting City approval of a Conditional Use Permit (CUP) for new personal wireless service antenna on an existing wireless service tower located on the St. Anne's Episcopal Church property at 2035 Charlton Road. The property is zoned INS, Institutional District and personal wireless service towers and antennas not located on a public structure are allowed in the district by CUP.

T-Mobile currently has nine antenna structures mounted on the wireless service tower at 75 feet, the top of the tower. The proposed project consists of adding three new antennas and RRU signal amplifiers to the existing tower at the same height. The second component of the project is the addition of a small piece of equipment within the existing T-Mobile shelter at the base of the antenna.

APPROVALS REQUIRED	
Conditional Use Permit	To permit co-location of a personal wireless antenna on an existing wireless service tower

Attached for reference:

Exhibit A: Site Location and Site Plan
Exhibit B: Antenna Elevation and Equipment Plan
Exhibit C: Antenna Plans
Exhibit D: Structural Analysis Letter
Exhibit E: Coverage/Capacity Letter

ISSUES AND ANALYSIS

Federal Telecommunications Act. Under the Federal Communications Act of 1996, the City has the right to make traditional land use decisions regarding the location, height and design of telecommunication structures and facilities. However, the City cannot regulate telecommunication facilities in a way that prohibits the provision of such services. The City also cannot discriminate among telecommunications providers, meaning that the City must consider applications and reasonably accommodate telecommunication facilities from all companies proposing to be located in the City.

Comprehensive Plan and Zoning. The City's Comprehensive Plan guides the subject site for Institutional Use (IN), consistent with the existing INS District zoning. Personal wireless service antennas and towers, including their necessary equipment buildings, are conditional uses in the INS District. The purpose of the INS District is to provide a district for facilities devoted to serving the general public.

Need for Additional Antennas. The applicant has submitted a letter from a licensed professional engineer with SSC certifying that the proposed antennas, their location on the tower, and the related equipment housed in the existing shelter are necessary to meet the needs of the wireless communication system and provide adequate coverage for the area. The City strongly encourages new personal wireless service antennas to be located on existing towers or support structures. Because the applicant is proposing to co-locate on an existing antenna, they are not required to submit information on alternative sites and reasons as to why those additional sites may not be acceptable.

Setbacks. The applicant is proposing to co-locate the antenna on an existing monopole located within a fenced-off area on the St. Anne's Episcopal Church property. Because the applicant is proposing to locate its antenna within the existing cellular antenna lease area, it will be compliant with required setbacks.

Transmitting, Receiving and Switching Equipment. The existing T-Mobile accessory storage structure at the base of the tower will be employed in housing new equipment for the proposed antennas. No structural modifications are proposed on the building which will continue to meet design standards, and existing screening around the base of the tower and the equipment shelter is not proposed to change.

Height. The applicant is proposing to place the new antenna at 75 feet in height at the top of the existing personal wireless service tower. The tower will remain unchanged with regards to height and setbacks, and will continue to meet the City's requirements

for such structures as outlined in Section 1226 of the Zoning Ordinance. The antennas will not be than 15 ft. above the structural height of the structure to which they are attached.

Conditional Use Permit. The Planning Commission and City Council are to consider possible adverse effects of the proposed conditional use. The Planning Commission's recommendation to the City Council and the City Council's final decision shall be based upon, but not limited to, the following criteria:

1. The proposed action in relation to the specific policies and provisions of the City's Comprehensive Plan.

Comment: An additional antenna on an existing wireless service tower within the INS District is consistent with the City's Comprehensive Plan since the INS District allows for uses that will serve the public.

2. The proposed use's compatibility with present and future land uses of the area.

Comment: The site is bounded by Highway 110 to the north and Charlton Road to the east, Bethel Baptist Church to the west and residential properties to the south. These existing transportation corridors, as well as the large lot sizes within the City, provide separation between the proposed cellular antenna and adjacent residential areas. The proposed antenna will be placed on an existing cellular tower that sits approximately 300 feet away from the single family home on church property and about 500 feet from the next closest home.

3. The proposed use's conformity with all performance standards contained herein.

Comment: The proposed antenna is in conformance with performance standards, provided that all conditions of approval are met.

4. The proposed use's effect on the area in which it is proposed.

Comment: The proposed antenna will not be detrimental to the public health, safety or welfare. Telecommunication antennas do not emit hazardous radio waves, nor do they create noise, glare or vibrations.

5. The proposed use's impact upon property values in the area.

Comment: Although no study has been conducted, the proposed antenna is not anticipated to have a negative effect on property values in the area.

6. The traffic generated by the proposed use is in relation to the capabilities of streets serving the property.

Comment: The proposed antenna will require routine, but infrequent, site visits for maintenance purposes. It is not anticipated that this will create much

additional traffic and vehicles will be able to access the antenna and related equipment via an existing access drive off the church parking lot.

7. The proposed use's impact upon existing public services and facilities including parks, schools, streets and utilities and the City's service capacity.

Comment: The proposed antenna is accessible to emergency vehicles in the unlikely event that the site became subject to a fire or other emergency. No service personnel will be permanently stationed at the facility and no water, sewage, drainage or other utilities are necessary for its operation.

City Engineer Comments. The City Engineer has reviewed the request and has recommended approval with no additional conditions or recommendations.

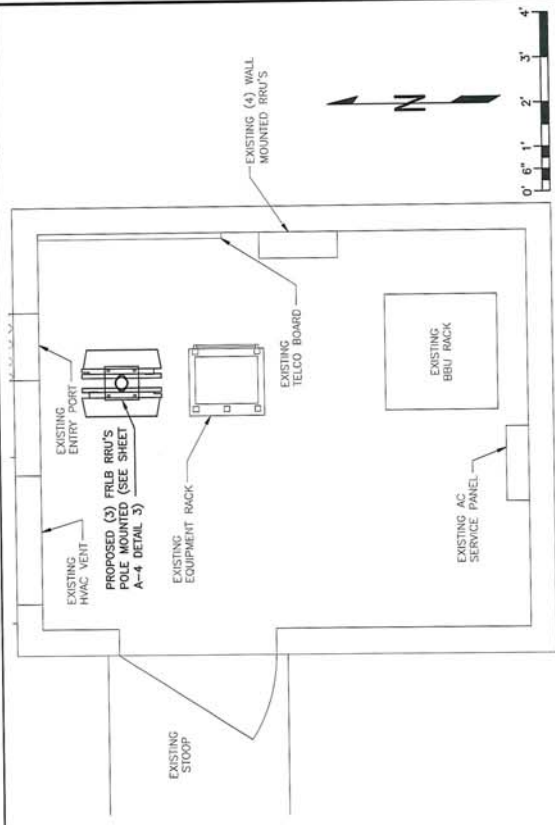
CONCLUSION/RECOMMENDATION

Based on the Telecommunications Act of 1996, review of the Comprehensive Plan and applicable Zoning Ordinance requirements, planning staff recommends approval of the CUP for co-location of a personal wireless service antenna by Crown Castle/T-Mobile as described on the submitted site plans.

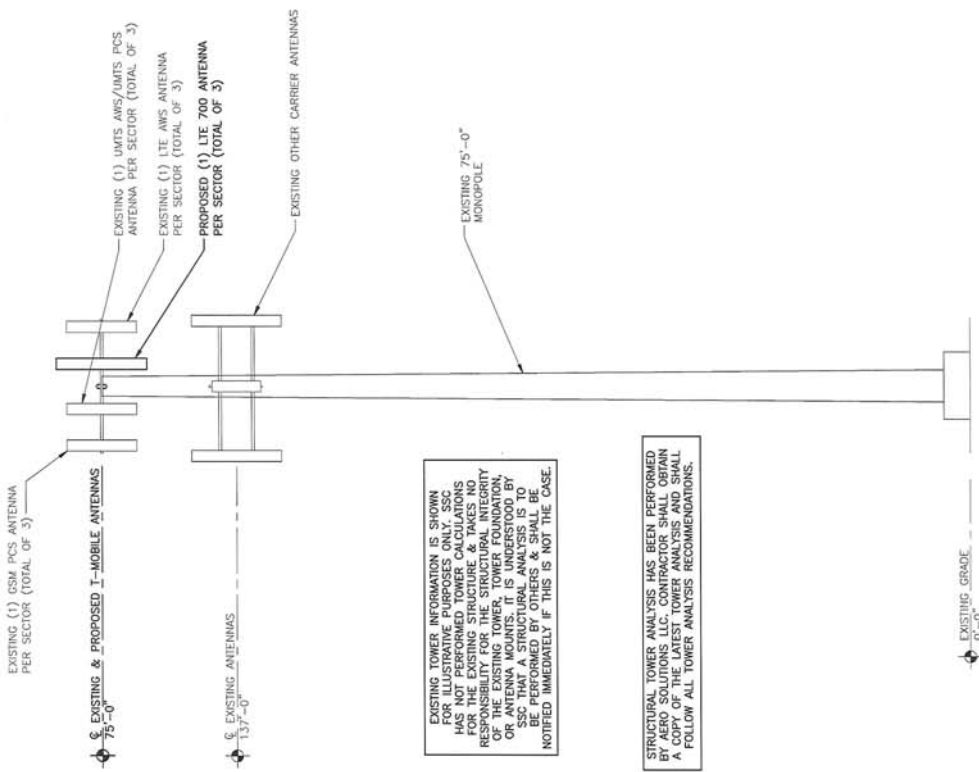
- c. Cathy Iago
Tim Kuntz
Mike Andrejka
Don Sterna/Tom Voll
Jim Naves
Selena Beaver, Crown Castle (email)



EXISTING TOWER PHOTO



EQUIPMENT PLAN

[illegible]

EXISTING TOWER INFORMATION IS SHOWN FOR ILLUSTRATIVE PURPOSES ONLY. SSC HAS NOT PERFORMED TOWER CALCULATIONS FOR THE EXISTING STRUCTURE & TAKES NO RESPONSIBILITY FOR THE STRUCTURAL INTEGRITY OF THE EXISTING TOWER, TOWER FOUNDATION, OR ANTENNA MOUNTS. IT IS UNDERSTOOD BY SSC THAT A STRUCTURAL ANALYSIS IS TO BE PERFORMED BY OTHERS & SHALL BE NOTIFIED IMMEDIATELY IF THIS IS NOT THE CASE.

STRUCTURAL TOWER ANALYSIS HAS BEEN PERFORMED BY AERO SOLUTIONS LLC. CONTRACTOR SHALL OBTAIN A COPY OF THE LATEST TOWER ANALYSIS AND SHALL FOLLOW ALL TOWER ANALYSIS RECOMMENDATIONS.

APPLICANT:

T-Mobile
USA, INC.

PLANS PREPARED FOR:

**CROWN
CASTLE**

PLANS PREPARED BY:
8800 West 109th Street, Suite 300
Overland Park, Kansas 66210
Phone: 913-438-7700
Fax: 913-438-7777



ENGINEERING LICENSE:

IN HERETOFOR SET FORTH IN THIS PLAN SPECIFICATION, OR REPORT
WAS PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND
I AM A LICENSED PROFESSIONAL ENGINEER UNDER THE
LAWS OF THE STATE OF MINNESOTA.

MICHAEL L. OWENS
Type of Printed Name
44002
Reg. No.

10/6/14
Date

PLANS OR SPECIFICATIONS COVERED BY THIS CERTIFICATION:
DESIGN OF STRUCTURAL, MECHANICAL, ELECTRICAL, AND
PLUMBING SYSTEMS FOR THE PROPOSED T-MOBILE
ANTENNA SYSTEM.

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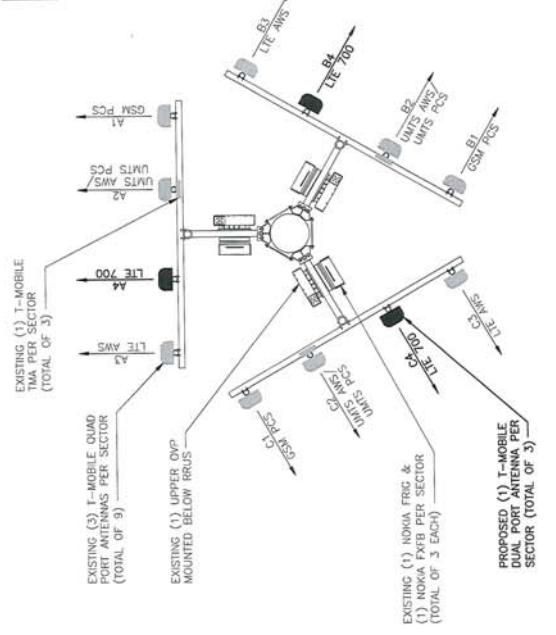
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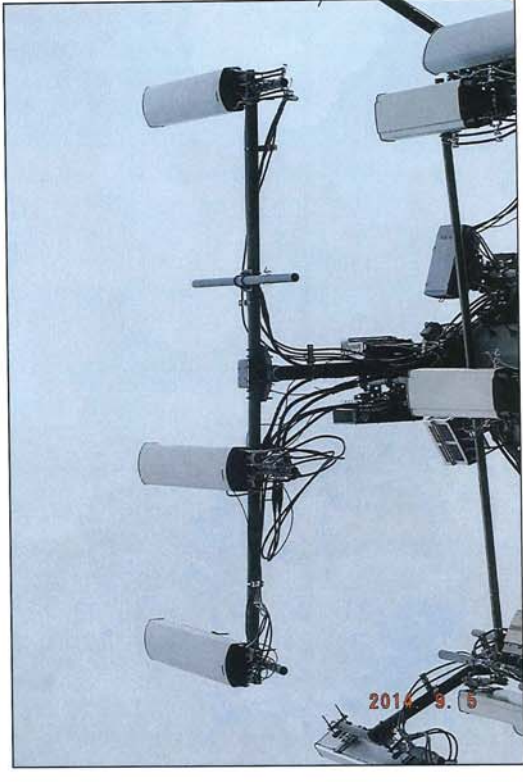
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THE T-MOBILE DATED
07/25/14



PROPOSED ANTENNA PLAN

NO SCALE

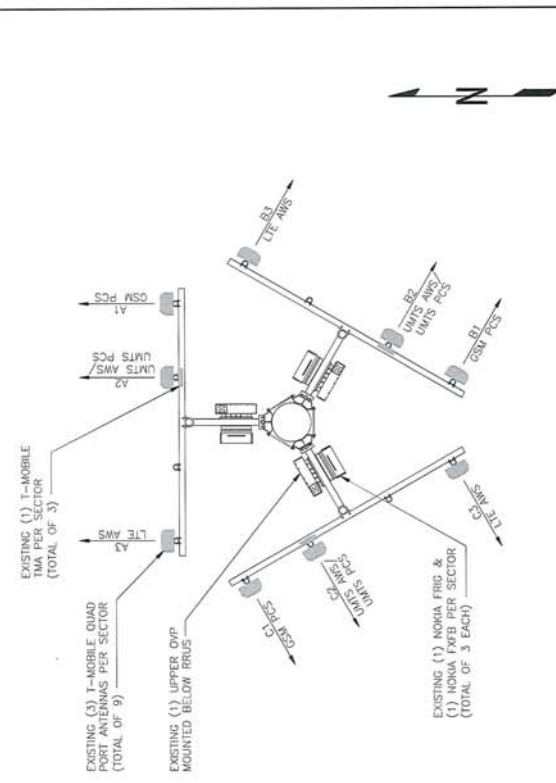
1



T-MOBILE ANTENNA CENTERLINE PHOTO

NO SCALE

2



EXISTING ANTENNA PLAN

NO SCALE

3

STATUS	ANTENNA	SECTOR	MODEL	AZIMUTH	HEIGHT	RRU MODEL#	TECHNOLOGY	CABLE
EXISTING	A-3		TMBXX-6517-A2M		75'		LTE AWS	(E) 1 HYBRID CABLE
PROPOSED	A-4	APLHA	LUX-651505-A1M	0°	75'	PER RRU CONFIGURATION	LTE 700 UMTS AWS UMTS PCS	(E) 2 COAX CABLES
EXISTING	A-2		TMBXX-6517-A2M		75'		UMTS PCS	(E) 2 COAX CABLES
EXISTING	A-1		TMBXX-6517-A2M		75'		GSM PCS	SHARED WITH HYBRID CABLE
EXISTING	B-3		TMBXX-6517-A2M		75'		LTE AWS	SHARED WITH HYBRID CABLE
PROPOSED	B-4	BETA	LUX-651505-A1M	120°	75'	PER RRU CONFIGURATION	LTE 700 UMTS AWS UMTS PCS	(E) 2 COAX CABLES
EXISTING	B-2		TMBXX-6517-A2M		75'		UMTS PCS	(E) 2 COAX CABLES
EXISTING	B-1		TMBXX-6517-A2M		75'		GSM PCS	SHARED WITH HYBRID CABLE
EXISTING	C-3		TMBXX-6517-A2M		75'		LTE AWS	SHARED WITH HYBRID CABLE
PROPOSED	C-4	GAMMA	LUX-651505-A1M	240°	75'	PER RRU CONFIGURATION	LTE 700 UMTS AWS UMTS PCS	(E) 2 COAX CABLES
EXISTING	C-2		TMBXX-6517-A2M		75'		UMTS PCS	SHARED WITH HYBRID CABLE
EXISTING	C-1		TMBXX-6517-A2M		75'		GSM PCS	SHARED WITH HYBRID CABLE
							LMU	(E) 6 COAX CABLES

ANTENNA KEY

NO SCALE

4

Date: **October 01, 2014**

Randy Wofford
Crown Castle
1500 Corporate Drive
Canonsburg, PA 15317



Aero Solutions LLC
5500 Flatiron Parkway, Suite 100
Boulder, CO 80301
(720) 304-6882

Subject: Structural Analysis Report

Carrier Designation:	T-Mobile Co-Locate	
	Carrier Site Number:	A1Q0507C
	Carrier Site Name:	Sunfish Lake A1Q0507C
Crown Castle Designation:	Crown Castle BU Number:	828175
	Crown Castle Site Name:	St. Annes Episcopal
	Crown Castle JDE Job Number:	305644
	Crown Castle Work Order Number:	925527
	Crown Castle Application Number:	261731 Rev. 4
Engineering Firm Designation:	Aero Solutions LLC Project Number:	003-14-1030
Site Data:	2035 Charlton Rd., Sunfish Lake, Dakota County, MN	
	Latitude 44° 52' 58.1", Longitude -93° 6' 8.2"	
	75 Foot - Monopole Tower	

Dear Randy Wofford,

Aero Solutions LLC is pleased to submit this "**Structural Analysis Report**" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 710592, in accordance with application 261731, revision 4.

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

LC7: Existing + Reserved + Proposed Equipment

Sufficient Capacity

Note: See Table I and Table II for the proposed and existing/reserved loading, respectively.

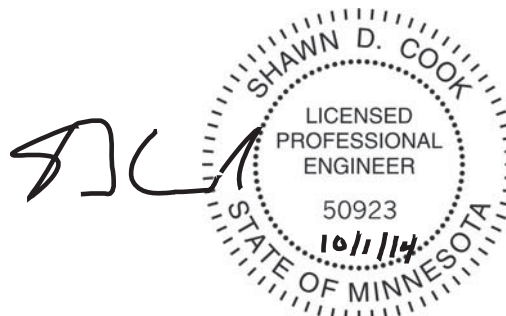
This analysis has been performed in accordance with the 2012 International Building Code based upon an ultimate 3-second gust wind speed of 115 mph converted to a nominal 3-second gust wind speed of 89 mph per section 1609.3.1 as required for use in the TIA-222-G Standard per Exception #5 of Section 1609.1.1. Exposure Category C with topographic category 1 and crest height of 0 feet and Risk Category II were used in this analysis.

We at Aero Solutions LLC appreciate the opportunity of providing our continuing professional services to you and Crown Castle. If you have any questions or need further assistance on this or any other projects please give us a call.

Structural analysis prepared by: Sina Erturk

Respectfully submitted by:

Shawn Cook, P.E.
Structural Engineer
MN PE#: 50923
Expires: 06/30/2016





16 October 2014

Planning and Zoning Department
Sunfish Lake, Minnesota

RE: T-Mobile Antenna Upgrade
Crown Castle Site # 828175
St. Anne's Episcopal Church
2035 Charlton Road
Sunfish Lake, Minnesota 55118

To Whom It May Concern;

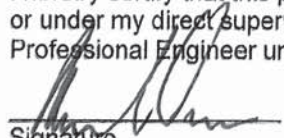
Please be advised that the proposed antennas, their location on the tower, and the related equipment housed in the existing shelter are necessary to meet the needs of the wireless communication system and provide adequate coverage for the area. It is our opinion that the proposed antennas and related equipment are in compliance with Section 1226.04.B.1 of the currently adopted Zoning Ordinance.

Any future updates to the required radios will be made within the existing shelter. Any required modifications to the antennas to insure adequate coverage will be made on the tower.

Sincerely,

Michael L. Owens, P.E.

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 under the laws of the state of Minnesota.


Signature

Michael L. Owens
Typed or Printed name

10/16/14
Date

44052
Reg. NO.

CITY OF Sunfish Lake MINNESOTA

Planning Commission Findings of Fact & Recommendation (Approval)

Applicant's Name: Crown Castle / T-Mobile

Request: The applicants request City approval of a conditional use permit to allow antenna updates on the existing wireless communication tower located on the St. Anne's Church property at 2035 Charlton Road. According to Zoning Ordinance Section 1126.04.B. personal wireless service antennas not located upon a public structure shall require the processing of a conditional use permit.

Planning Commission Meeting Date: November 19, 2014

Findings of Fact: Based on review of the application and evidence received, the Sunfish Lake Planning Commission now makes the following findings of fact and recommendation:

1. The address of the subject property is as follows:

2035 CHARLTON ROAD, SUNFISH LAKE, MN 55118
2. The Planning Report dated November 12, 2014 prepared by Northwest Associated Consultants, Inc. is incorporated herein by reference.
3. The Sunfish Lake Planning Commission reviewed the applicant's request for conditional use permit approval on November 19, 2014. Upon review of staff reports and application information the Planning Commission found that the proposed conditional use permit request for antenna updates on the subject property meets Ordinance requirements. The following findings support the Planning Commission recommendation for approval:
 - a. Personal wireless service antennas and towers, including their necessary equipment buildings, are an allowed conditional use in the INS District.
 - b. The proposed antennas, their location on the existing tower, and the related equipment housed in the existing shelter are necessary to meet the needs of the wireless communication system and provide adequate coverage for the area.
 - c. The applicants are not requesting to raise the height of the existing tower above what was previously approved by the City, nor make structural

changes to the existing equipment shelter. Both structures will continue to meet the requirements of Zoning Ordinance Section 1226.04.

- d. The applicants have provided information demonstrating that the existing tower is structurally capable of handling the additional antenna.
- e. The project satisfies the criteria for a conditional use permit provided in Section 1204.02.F of the Zoning Ordinance.

Recommendation:

Based on the foregoing considerations and applicable ordinances, the Planning Commission recommends approval of the applicant's conditional use permit to allow antenna updates on the existing wireless communication tower on the St. Anne's Church property.

Adopted by the Sunfish Lake Planning Commission this 19th day of November 2014.

City of Sunfish Lake

By: _____
Andrea McCue
Planning Commission Chair

ATTEST

Catherine Iago, City Clerk

**CITY OF SUNFISH LAKE
DAKOTA COUNTY, MINNESOTA**

RESOLUTION NO. _____

**RESOLUTION APPROVING A CONDITIONAL USE PERMIT FOR ANTENNA
UPDATES ON THE EXISTING WIRELESS COMMUNICATION TOWER LOCATED
AT 2035 CHARLTON ROAD, DAKOTA COUNTY, MINNESOTA.**

WHEREAS, Crown Castle, on behalf of T-Mobile, has submitted an application for a conditional use permit to allow antenna updates on the existing wireless communication tower on the property located at 2035 Charlton Road; and

WHEREAS, City staff reviewed the application and judged it to be complete and outlined their review comments in a planning report dated November 12, 2014, prepared by Northwest Associated Consultants; and

WHEREAS, the Sunfish Lake Planning Commission held a public hearing at their November 19, 2014 meeting and reviewed the conditional use permit application, along with the planning report dated November 12, 2014; and

WHEREAS, upon hearing the staff presentations, applicant testimony, and public testimony, the Planning Commission closed the public hearing and recommend to the City Council approval of the conditional use permit to allow antenna updates on the existing wireless communication tower, whereby the following findings support the Planning Commission recommendation for approval:

1. Personal wireless service antennas and towers, including their necessary equipment buildings, are an allowed conditional use in the INS District.
2. The proposed antennas, their location on the existing tower, and the related equipment housed in the existing shelter are necessary to meet the needs of the wireless communication system and provide adequate coverage for the area.
3. The applicants are not requesting to raise the height of the existing tower above what was previously approved by the City, nor make structural changes to the existing equipment shelter. Both structures will continue to meet the requirements of Zoning Ordinance Section 1226.04.
4. The applicants have provided information demonstrating that the existing tower is structurally capable of handling the additional antenna.
5. The project satisfies the criteria for a conditional use permit provided in Section 1204.02.F of the Zoning Ordinance.

WHEREAS, the Sunfish Lake City Council considered the application for a conditional use permit at their meeting on December 2, 2014 and agrees with the findings of the Planning Commission.

NOW THEREFORE BE IT RESOLVED THAT the City Council of the City of Sunfish Lake hereby approves the conditional use permit request by Crown Castle/T-Mobile dated October 20, 2014 for antenna updates on the existing wireless communication tower, on the property located at 2035 Charlton Road, Dakota County, MN.

This resolution is adopted by the City Council of the City of Sunfish Lake this 2nd day of December 2014.

Molly Park, Mayor

Attest:

Catherine Iago, City Clerk