

REVISED

#2015-47 Central States Tower/ Verizon Wireless— Special Use Permit & Zoning Variation Project Review for Planning and Zoning Commission

Meeting Date: October 21, 2015

Request: A Special Use Permit for a wireless communication tower and a

variation from Article 2-400 to allow the monopole tower to be setback less than 110% of the height of the tower, 143 feet, from

all property lines.

Location: 6521 Commercial Road

Acreage: 43,750 square feet

Existing Zoning: M (Manufacturing)

Surrounding Properties: North: B-2 (General Commercial)

South: M (Manufacturing)
East: M (Manufacturing)

West: B-2 (General Commercial)

Staff Contact: Kathryn Cowlin (815.356.3798)

Background:

- Existing Use: The property is currently improved with an industrial building that is occupied by Le Walt Glass.
- <u>Background</u>: The petitioner explored locating the wireless communication facilities on existing private towers and public utilities. According to the petitioner, there are currently no existing structures that could accommodate the communications facility within the petitioner's targeted area.
- After feedback from the City Council, the petitioner is proposing a new design. The "slick stick" pole is more aesthetically pleasing compared to the previously requested pole.
- <u>UDO Requirements</u>: A special use permit is required for wireless communication towers. Wireless communication facilities are required to be setback 110% of the height of the tower from all property lines.

Development Analysis:

General

- Request: The petitioner is requesting a special use permit for a wireless communications tower and a zoning variation from Article 2-400 to allow the monopole tower to be setback less than 110% of the height of the tower, 143 feet, from all property lines. The closest that the tower would be to the property lines would be approximately 58 feet.
- <u>Land Use</u>: The land use map shows the area as Industry. This land use designation is appropriate for this use.
- Zoning: The site is zoned M (Manufacturing).



Proposed Development Description

- The height of the tower is 130 feet.
- The proposed tower design is a "slick stick" stealth tower, meaning it has no visible antennas.
- The proposed utility shelter is pictured below. The utility shelter is a prefabricated structure that houses various support equipment for the tower.
- The communication facility will be enclosed by an 8-foot chain link fence with a barbwire crown.





PROPOSED 5' LIGHTNING ROD AERIAL ROPOSED ANTENNAS MOUNTED CENTERLINE OF FUTUR PROPOSED ANTENNA CANISTERS NEW STEALTH TOWER TO MAINTAIN A GALVANIZED STEEL FINISH. NEW GALVANIZED STEEL "SLICK STICK" STEALTH TOWER FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR. TOWER FOUNDATION (DESIGNED BY STRUCTURAL NOTES IN LINK FENCE WITH WIRE EXTENSION D & INSTALLED BY HEFT D=3 FOR DETAILS TOP OF TOWER FOUNDATION ELEV.: 897.25

2030 Comprehensive Land Use Plan Review:

FRONT VIEW OF THE SHELTER

The Comprehensive Plan designates the subject property as Industry, which allows for existing and future manufacturing uses.

This project meets the following goal:

Land Use - Industry

Goal: Support manufacturing uses within the community which contribute to the regional and local economy and Crystal Lake's live, work, play philosophy.

This can be accomplished with the following supporting action:

Supporting Action: Expand and attract manufacturing users which provide jobs, services, and products strengthening the City's economy.

Findings of Fact:

SPECIAL USE PERMIT

Special Uses require a separate review because of their potential to impact surrounding properties and the orderly development of the City. Section 2-400 of the Unified Development Ordinance establishes standard for all Special Uses in Crystal Lake. The criteria are as follows:

1.	That the proposed use is necessary or desirable, at the location involved, to provide a service or facility which will further the public convenience and contribute to the general welfare of the neighborhood or community.
	☐ Meets ☐ Does not meet
2.	That the proposed use will not be detrimental to the value of other properties or improvements in the vicinity.
	☐ Meets ☐ Does not meet
3.	That the proposed use will comply with the regulations of the zoning district in which it is located and this Ordinance generally, including, but not limited to, all applicable yard and bulk regulations, parking and loading regulations, sign control regulations, watershed, wetlands, and flood plain regulations, Building and Fire Codes and all other applicable City Ordinances.
	☐ Meets ☐ Does not meet
4.	That the proposed use will not negatively impact the existing off-site traffic circulation; will adequately address on-site traffic circulation; will provide adequate on-site parking facilities; and, if required, will contribute financially, in proportion to its impact, to upgrading roadway and parking systems.
	☐ Meets ☐ Does not meet
5.	That the proposed use will not negatively impact existing public utilities and municipal service delivery systems and, if required, will contribute financially, in proportion to its impact, to the upgrading of public utility systems and municipal service delivery systems. Meets Does not meet
6.	That the proposed use will not impact negatively on the environment by creating air,
•	noise, or water pollution; ground contamination; or unsightly views.
	☐ Meets ☐ Does not meet
7.	That the proposed use will maintain, where possible, existing mature vegetation; provide adequate screening to residential properties; provide landscaping in forms of ground covers, trees and shrubs; and provide architecture, which is aesthetically appealing,

		lementary to surrounding properties and acceptable by community letailed in Article 4, Development and Design Standards.
	Meets	Does not meet
8.	other than the City su	se will meet standards and requirements established by jurisdictions ch as Federal, State or County statutes requiring licensing procedures ctions, and submit written evidence thereof.
	Meets	Does not meet
9.	That the proposed use Special Use Permit is	e shall conform to any stipulations or conditions approved as part of a sued for such use.
	Meets	Does not meet
10.	That the proposed us as provided in this se	e shall conform to the standards established for specific special uses ction.
	Meets	Does not meet
		vireless communication facilities. All radio transmission towers and lities must comply with the following standards:
1.		signed to meet the wind loading requirements specified in the tandards Institute TIA-222-F Report, as amended.
	☐ Meets	Does not meet
	Meets standard per v	erification letter from Mr. Tindall of Sabre Industries.
2.	structural integrity of federal standards, loc by the American Nat is determined a towe persons or property, to into compliance. Fa	shall provide documentation to the City demonstrating that the f the towers and antenna will continue to comply with state and al building codes, and the applicable standards for towers published ional Standards Institute (ANSI), as amended. If, upon inspection, it er fails to comply with such standards and constitutes a danger to the owner shall be notified that he/she has 30 days to bring the tower illure to bring the tower into compliance within 30 days shall reference to the owner's expense.
	☐ Meets	Does not meet
	Meets standard per v	erification letter from Mr. Tindall of Sabre Industries.
3.		s communication or radio transmission towers shall not exceed 200 sured from the tower base to the highest point of the tower and any transmitting device.
	☐ Meets	Does not meet
	Meets standard, the t	ower is 130 feet in height.

4.	Franchises and licenses: The operator shall provide documentation to the City to demonstrate that all franchises and licenses required by law for the construction and/or operation of a tower or antenna have been obtained.
	☐ Meets ☐ Does not meet
	The petitioner submitted a reference FCC license.
5.	Towers shall either maintain a galvanized steel finish or, subject to any applicable standards of the FAA, be painted a neutral color (i.e., light grey) to reduce visual obtrusiveness or painted in a sky-tone above the top of surrounding trees and in an earth-tone below the treetop level.
	☐ Meets ☐ Does not meet
	Meets standard, the proposed tower is a galvanized steel finish.
6.	At a tower site, the design of buildings and related structures shall, to the maximum extent practicable, use materials, colors and architectural styles, that blend into the natural setting and surrounding buildings.
	☐ Meets ☐ Does not meet
	Meets standard, the proposed utility shelter is neutral in color.
7.	Storage: No outside storage shall be allowed on any facility site.
	☐ Meets ☐ Does not meet
	No outside storage is proposed.
8.	Lighting: Towers shall not be artificially lighted, unless required by the FAA or other applicable authority.
	☐ Meets ☐ Does not meet
	No lighting is proposed.
9.	A single sign measuring no more than two square feet in size shall be located on or near the tower, and shall identify the tower owner, the street address of the tower, the owner's identification code for the tower, and a twenty-four-hour emergency contact telephone number.
	☐ Meets ☐ Does not meet
	The petitioner's application does not provide signage details, as there is a possibility that they may not plan to include signage.
10.	No commercial advertising shall be allowed on the tower or its related facilities.
	☐ Meets ☐ Does not meet
	No signage is proposed.

	guy anchors, equipment buildings, and any other appurtenances hall be considered as being located on one zoning lot.			
☐ Meets	Does not meet			
The petitioner submi single zoning lot.	tted a site plan demonstrating that all equipment will be located on a			
standards. Self suppo	communications facilities shall comply with the following setback orting and monopole towers shall be setback from all property lines of the height of the tower.			
☐ Meets	Does not meet			
The petitioner is requ	uesting a zoning variation for this criteria.			
1 1	s associated with a wireless communication facility shall meet the quirements for the zoning district where located.			
Meets	Does not meet			
	equipment is greater than the 15-foot minimum interior yard setback yard setback requirements.			
Separation: If an applicant proposes a new wireless communications tower or radio transmission tower within 1,200 feet of an existing tower, the applicant shall submit a statement indicating the reasons why the existing tower(s) was inadequate or unavailable. The Zoning Administrator shall allow the owner of such existing tower an opportunity to comment prior to making a decision.				
☐ Meets	Does not meet			
The petitioner submi foot radius.	tted an affidavit that there are no existing structures within the 1200-			
evidence that the toy and provide a writte user(s) to attach com not interfere with the for at least one equip A tower which is additional antenna a monopole is determined	rireless communication or radio transmission towers shall provide wer is structurally designed to support at least three additional users, on statement that the owner of the tower is willing to permit other amunication facilities, on a commercially reasonable basis, which do a primary purpose of the tower. The site plan shall indicate a location oment building in addition to that proposed for use by the applicant. In modified or reconstructed to accommodate the collocation of an shall be of the same tower type as the existing tower, unless a med more appropriate at the specific location. If an existing tower is a reconstructed to accommodate the collocation of additional antenna the restrictions outlined within this section of the Ordinance.			
=	nitted plans demonstrating that co-location is possible for four			
additional users on t	ne proposea tower.			

- 16. Landscaping: Unless existing vegetation provides a buffer strip, all property lines along roadways or visible to existing abutting or nearby buildings (within 1/4 mile radius), for all facilities shall be landscaped as follows:
 - a. With six-foot to eight-foot evergreen shrubs planted in an alternate pattern, five feet on center and within 15 feet of the site boundary; or
 - b. With at least one row of deciduous trees, not less than 2 1/2 inch to three inches caliper measured three feet above grade, and spaced not more than 30 feet apart and within 25 feet of the site boundary; or
 - c. With at least one row of evergreen trees at least four to five feet in height when planted, and spaced not more than 15 feet apart within 40 feet of the site boundary.
 - d. In lieu of the foregoing, the Planning and Zoning Commission may determine that the existing vegetation must be supplemented to meet an equivalent means of achieving the desired goal of minimizing the visual impact.

	means	of achieving the desired goal of minimizing the visual impact.
	☐ Meets	Does not meet
	-	ls for 6-foot tall Arborvitae screening planted in an alternate pattern at r. The requirement states the evergreen shrubs shall be planted five feet
17.	shall be enclosed	Towers, guy anchor supports, and ground-based equipment buildings by security fencing not less than eight feet in height and equipped with ti-climbing device.
	Meets	Does not meet
	Meets standard, wire crown.	the proposed security fencing is 8 feet in height with a one foot barb
18.		ing: It shall be demonstrated that the proposed tower, antenna, and oment complies with FCC nonionizing radiation requirements for mbined facilities.
	☐ Meets	Does not meet
	Meets standard, have been met.	the petitioner submitted documentation that the FCC requirements
19.		wireless communications tower, antenna, or supporting equipment shall ipment operated by the City of Crystal Lake.
	☐ Meets	Does not meet
	Meets standard, have been met.	the petitioner submitted documentation that the FCC requirements

Recommended Conditions:

If a motion to recommend approval of the petitioner's request is made, it should be with the following conditions:

- 1. Approved plans, reflecting staff and advisory board recommendations, as approved by the City Council:
 - A. Application (received 07/30/15)
 - B. Existing Tower Analysis (received 07/30/15)
 - C. REVISED Plan Set (received 10/20/15, dated 10/20/15)
 - D. REVISED Page A-1 for Plan Set (received 10/23/15, dated 10/20/15)
 - E. Plat of Survey (received 07/30/15, dated 05/12/15
 - F. Affidavit (received 09/24/15, dated 09/17/15)
 - G. Site-Safe Non-Interference Letter (received 10/30/15, dated 06/05/15)
 - H. Verizon RF Compliance Letter (received 10/30/15, dated 10/30/15)
- 2. The design of buildings and related structures shall, to the maximum extent practicable, use materials, colors and architectural styles, which blend into the natural setting and surrounding buildings.
- 3. No outside storage shall be allowed on any facility site.
- 4. Towers shall not be artificially lighted, unless required by the FAA or other applicable authority.
- 5. A single sign measuring no more than two square feet in size can be located on or near the tower, and shall identify the tower owner, the street address of the tower, the owner's identification code for the tower, and a twenty-four-hour emergency contact telephone number.
- 6. No commercial advertising shall be allowed on the tower or its related facilities.
- 7. The petitioner shall work with staff to enhance the landscaping buffer along the property lines.
- 8. The driveway leading to the new cell tower will need to be paved per City standards.
- 9. The tower shall contain an American flag at all times.
- 10. The petitioner shall address all of the review comments and requirements of the Community Development, Public Works, Fire and Police Departments.

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2015 47

City of Crystal Lake BY: Development Application

PIN Number(s): <u>/9-08-276-607</u>

Office Use Only
File #

Project Title: IL-00-8777 Crystal Lake South - CST/Verigon Wireless Action Requested **Preliminary PUD** Annexation Preliminary Plat of Subdivision Comprehensive Plan Amendment Conceptual PUD Review Rezoning **Final PUD Special Use Permit** Final PUD Amendment Variation **Final Plat of Subdivision** Other Petitioner Information Owner Information (if different) Central States Tower Name: Home State BANK NA; LAND Trust #4439 Name: % TNG Wireless Address: 6521 Commercial Roas Address: 1829 Foether DRIVE Crystal Lake, IL 60014 Indianapolis, IN 46231 Phone: 317-979-1212 Phone: 815-459-5252 Fax: 317-203-0940 E-mail: Darrey @ THGENterprises 1/c. com E-mail: feddersenc @001. com Property Information Project Description: Installation of a 180' Tall Monopole Wireless Structure and associates ground shelter & Eggipment without an enclosed, fences compound Project Address/Location: 6521 Commercial RD. Crystal Lake, IL 60014

Development Team	Please include address, phone, fax and e-mail
Developer: Central States Lower 323 Sour 6080-201-8500 / Devant @ Ce	7+ HALE St. #100 Wheaton II 10187
Architect: Chysolidates Land Surveyous BO 309-649-3484 / John & Clstano	OW. Commerce De # 700 Peopla, I'L 61615
r = f	
Engineer: Austidales Lans Fievezores	
Landscape Architect: N/H	
Planner: NA	
Surveyor: Ansoludate Land Sarveyors	S
Other:	
Signatures PETTIONER: Print and Sign name (if different	nodgrass 7/39/3015 From owner) Date
As owner of the property in question, I hereby au CHRIS VICE PRESIDE	thorize the seeking of the above requested action. L. JOHNSON NT & SR. TRUST OFFICER 7/29/15
OWNER: Print and Sign name	Date 1

NOTE: If the property is held in trust, the trust officer must sign this petition as owner. In addition, the trust officer must provide a letter that names all beneficiaries of the trust.

This instrument is executed by Home State Bank/National Association, Crystal Lake, IL., not personally but solely as Trustee as aforesaid. All the covenants and conditions to be performed hereunder by Home State Bank/National Association are undertaken by it solely as Trustee as aforesaid and not individuely, and no personal liability shall be asserted or be enforceable against Home State Bank/National Association by reason of any of the covenants, statements, representations or warranties contained in this instrument.

Development Team	Please include address, phone, fax and e-mail
Developer: Central States lower 323 South A 630-221-8500 / Brianm@Centra	The St. #100 Wheaton, IL 60187
Architect: Cousdidates Land Surveyors 1300 W 309-692-3484) John & Clistano, con	1. Commerce De #700 Peoria, IL 6161
Attorney: N/A	
Engineer: Consolidated Land Sieverores	
Landscape Architect: N/A	
Planner: NA	
Surveyor: Ansolidate Lans Sarveyons	
Other:	
· 	
PETITIONER: Print and Sign name (if different from	gass 7/29/2015 Date
As owner of the property in question, I hereby authori	
OWNER: Print and Sign name	Date

NOTE: If the property is held in trust, the trust officer must sign this petition as owner. In addition, the

trust officer must provide a letter that names all beneficiaries of the trust.

Please include address, phone, fax and e-mail



TRUST DEPARTMENT

CERTIFICATION OF TRUSTEE

I, Chris L. Johnson, Vice President & Sr. Trust Officer for Home State Bank/National Association, Crystal Lake, Illinois, do hereby certify that Home State Bank/NA is the trustee of the following trust:

Land Trust # 4439

and, as trustee, do further certify that the beneficial ownership of said trust as indicated by its records is as follows:

Beneficial Owner(s)

Douglas Fedderson

Collateral Assignee(s)

Home State Bank, N.A.

Home State Bank does not by this certification make any warranties, representations or certifications as to the holdings of the trust, the state of title of any real property held therein, or any assignment of beneficial interest not acknowledged by it as trustee.

Home State Bank/NA as Trustee Under Trust 4439

Dy T

Chris L. Johnson

Vice President & Sr. Trust Officer

Subscribed and Sworn to before me this 29th day of July, 2015.

Notary Public

"OFFICIAL SEAL"

JILL HEFFRON

NOTARY PUBLIC, STATE OF ILLINOIS
My Commission Expires 12/29/2017

BEFORE THE PLANNING AND ZONING COMMISSION OF THE CITY OF CRYSTAL LAKE, MCHEN-RY COUNTY, ILLINOIS

IN THE MATTER OF THE APPLICA-TION OF Central Sales Tower c/o TNG Wire-

<u>LEGAL NOTICE</u>

Notice is hereby given in compliance with the Unified Development Ordinance (UDO) of the City of Crystal Lake, Illinois, that a public hearing will be held before the Planning and Zoning Commission of the City of Crystal Lake upon the application of Central States Tower of TMS Wireless seeking a Special Use Permit and variation to allow a wireless communication tower at 6521 Commercial Road, Crystal Lake, Illinois, PIN: 19-08-276-007

This application is filed for the purpose of seeking a Special Use Permit pursuant to Article 2-400 to allow a wireless communications tower and a variation from Article 2-400(C)(48)(ix) to allow the monopole tower to be selback less than 110% of the height of the tower from all properly lines, as well as any other variations as necessary to complete the project as proposed. Plans for this project can be viewed at the Crystal Lake Community Development Department at City Hall.

A public hearing before the Planning and Zoning Commission for this request will be held at 7:30 p.m. on Wednesday August 19, 2015, at the Crystal Lake City Hall, 100 West Woodstock Street, at which time and place any person determining to be heard may be present.

determining to 2-present.
Tom Hayden, Chairperson Planning and Zoning Commission City of Crystal Lake

(Published in the Northwest Herald August 4^{th} , 2015.) NW 7121

Erystal Lake Illinois





Crystal Lake

August 20, 2015

The Honorable Mayor and City Council

RE: 2015-47 Verizon Tower

Council Members:

The Planning and Zoning Commission considered the above referenced petition at their August 19, 2015 meeting at which a quorum consisting of members Batastini, Esposito, Goss, Jouron, Skluzacek, and Greenman were present. Mr. Hayden was absent.

Mr. Goss moved to approve a Special Use Permit for a wireless communication tower and a variation from Article 2-400 to allow the monopole tower to be setback less than 110% of the height of the tower, 143 feet, from all property lines for Verizon Tower at 6521 Commercial Road with the following conditions:

- 1. Approved plans, reflecting staff and advisory board recommendations, as approved by the City Council:
 - A. Application (received 07/30/15)
 - B. Existing Tower Analysis (received 07/30/15)
 - C. Plan Set (received 07/30/15, dated 07/28/15)
 - D. Plat of Survey (received 07/30/15, dated 05/12/15
- 2. Towers shall either maintain a galvanized steel finish or, subject to any applicable standards of the FAA, be painted a neutral color (i.e., light grey) to reduce visual obtrusiveness or painted in a sky-tone above the top of surrounding trees and in an earth-tone below the treetop level.
- 3. The design of buildings and related structures shall, to the maximum extent practicable, use materials, colors and architectural styles, which blend into the natural setting and surrounding buildings.
- 4. The operator shall provide documentation to the City to demonstrate that all franchises and licenses required by law for the construction and/or operation of a tower or antenna have been obtained.
- 5. No outside storage shall be allowed on any facility site.
- 6. Towers shall not be artificially lighted, unless required by the FAA or other applicable authority.
- 7. A single sign measuring no more than two square feet in size can be located on or near the tower, and shall identify the tower owner, the street address of the tower, the owner's identification code for the tower, and a twenty-four-hour emergency contact telephone number.
- 8. No commercial advertising shall be allowed on the tower or its related facilities.

- 9. The petitioner shall work with staff to enhance the landscaping buffer along the property lines.
- 10. The security fencing shall measure 8 feet in height.
- 11. The driveway leading to the new cell tower will need to be paved per City standards.
- 12. It shall be demonstrated that the proposed tower, antenna, and supporting equipment complies with FCC nonionizing radiation requirements for individual and combined facilities.
- 13. The petitioner shall address all of the review comments and requirements of the Community Development, Public Works, Fire and Police Departments.
- 14. The petitioner agrees to meet all of the Special Use Permit criteria listed in the Staff Report, with the exception of the required setback.
- 15. Any additional carriers are required to go through the Building permit process.

Mr. Skluzacek seconded the motion. On roll call, members Esposito, Goss, Jouron, Skluzacek, and Greenman voted aye. Mr. Batastini voted no. Motion passed.

CRYSTAL LAKE PLANNING AND ZONING COMMISSION

Jeff Greenman

Seen moer Jad

Vice Chairman

JG/shd



CRYSTAL LAKE PLANNING AND ZONING COMMISSION WEDNESDAY, AUGUST 19, 2015 HELD AT THE CRYSTAL LAKE CITY COUNCIL CHAMBERS

The meeting was called to order by Vice Chairman Greenman at 7:30 p.m. On roll call, members Batastini, Esposito, Goss, Jouron, Skluzacek, and Greenman were present. Mr. Hayden was absent.

James Richter II, Planning and Economic Development Manager, and Kathryn Cowlin, Planner, were present from Staff.

Mr. Greenman asked those in attendance to rise to say the Pledge of Allegiance. He led those in attendance in the Pledge.

Mr. Greenman stated that this meeting was being televised now as well as recorded for future playback on the City's cable station.

2015-47 VERIZON TOWER - 6521 Commercial Rd - PUBLIC HEARING

Special Use Permit for wireless communication tower and a variation from Article 2-400 to allow the monopole tower to be setback less than 110% of the height of the tower, 143 feet, from all property lines.

Mr. Greenman stated that the sign had been posted. He said the surrounding property owners were notified and the Certificate of Publication was in the file. Mr. Greenman waived the reading of the legal notice without objection.

Mr. Greenman read a statement regarding cell towers.

Darren Snodgrass with Central States Tower, was present to represent the petition. Mr. Snodgrass appreciates the time the staff and Commission have put into this request. They have been searching for existing structures that could be utilized to attach a cell tower to and none could be found. Mr. Snodgrass said he provided staff with a collapse letter and the tower is designed to collapse upon itself and within the property. He said he reviewed the conditions in the report and doesn't have any issues with them. He also provided staff with a water tower analysis. Mr. Snodgrass handed out maps showing the existing sites and where coverage is lacking. There is a capacity situation which is causing dropped calls. With all of the I-Pads, cell phones, etc., these devices are taking up data capacity. They looked at what they could do and matched as best as they could to the City's codes.

There was no one in the public who wished to comment on this petition. The public portion was closed at this time.

Mr. Jouron asked if this tower could be a flag pole style like the one at the waste water treatment plant. Mr. Snodgrass said the issue is capacity with the flag pole style. Inside the flag pole units gets too hot. They

PLANNING AND ZONING COMMISSION AUGUST 19, 2015 PAGE 2

worked well for about 5 years and now some carries are having problems with that style.

Mr. Goss reviewed the criteria listed in the report. Additional information will need to be provided to staff including pole information, building structures, etc. He added that the building that accompanies the towers will need to be landscaped. Mr. Snodgrass agreed. Mr. Goss said he can support the request. Mr. Skluzacek and Mr. Esposito agreed.

Mr. Greenman asked what the height of the pole would be to meet the City's requirements. Mr. Goss said it would be about 50% shorter. Mr. Snodgrass added that this is the reason the poles collapse onto itself to meet City requirements the pole would be approximately 50 feet tall. Mr. Greenman said he can support the request.

Mr. Goss added that any additional users who co-locate equipment must go through the building permit process. Mr. Snodgrass agreed.

Mr. Jouron asked how many other users will be on the tower. Mr. Snodgrass said this pole is designed to accommodate two other carriers.

Mr. Goss moved to approve a Special Use Permit for a wireless communication tower and a variation from Article 2-400 to allow the monopole tower to be setback less than 110% of the height of the tower, 143 feet, from all property lines for Verizon Tower at 6521 Commercial Road with the following conditions:

- 1. Approved plans, reflecting staff and advisory board recommendations, as approved by the City Council:
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- 7. A single sign measuring no more than two square feet in size can be located on or near the tower, and shall identify the tower owner, the street address of the tower, the owner's identification code for the tower, and a twenty-four-hour emergency contact telephone number.
- 8. No commercial advertising shall be allowed on the tower or its related facilities.
- 9. The petitioner shall work with staff to enhance the landscaping buffer along the property lines.
- 10. The security fencing shall measure 8 feet in height.
- 11. The driveway leading to the new cell tower will need to be paved per City standards.
- 12. It shall be demonstrated that the proposed tower, antenna, and supporting equipment complies with FCC nonionizing radiation requirements for individual and combined facilities.
- 13. The petitioner shall address all of the review comments and requirements of the Community Development, Public Works, Fire and Police Departments.

14. The petitioner agrees to meet all of the Special Use Permit criteria listed in the Staff Report, with the exception of the required setback.

15. Any additional carriers are required to go through the Building permit process.

Mr. Skluzacek seconded the motion. On roll call, members Esposito, Goss, Jouron, Skluzacek, and Greenman voted ave. Mr. Batastini voted no. Motion passed.

Proceedings of the City Council October 6, 2015 Page 5

course which has too many turns and is run in a very compressed area. He stated that he was a very big fan and advocate of this type of healthy activity for the community, but the proximity of Route 14 and other busy roads did not make for a great venue, except for the swimming portion at Three Oaks. He stated that he would be willing to give the event one more opportunity with no waivers and strict controls, including that if the event did not have enough volunteers on the day of the race, the race could not occur. He stated that he wanted the event to succeed, but he agreed with Councilman Dawson that the Council's principal responsibility was to the residents of Crystal Lake, and he hoped that the requested date of September 18 would not conflict with anything.

Councilwoman Brady noted that one of the conditions for approval recommended by staff was that the petitioner provides proof of all of the required volunteers by August 18. Councilman Thorsen questioned if those volunteers did not show up on the day of the event. Mayor Shepley stated that the staff could evaluate the minimum number to make the event safe without the assistance of City staff, and if there were not enough volunteers, the race could not go forward. Councilman Hopkins stated that if 4,000 people show up for the event, it would be pretty hard to turn them away, suggesting that there could be a pool of City staff to fill in with their salary paid by the event organizers. Assistant to the City Manager Brad Mitchell advised that at that time of year, there would only be about 6 or so available staff to act as lifeguards. Councilman Hubbard asked what would happen if the cable park could not operate that day. Councilman Dawson noted that the fishing and the marina were also open on weekends in September. Councilman Thorsen suggested that these issues be ironed out before the Council votes on the matter. Councilwoman Brady asked how many people normally attend the annual Willow Creek baptism ceremony at Three Oaks and Mr. Mitchell advised about 500.

Mayor Shepley suggested continuing this to the next meeting to work out all of the details, including advising the cable park business for their input. He noted that the City has a lease with the cable park that should also be reviewed. Councilwoman Brady stated that she would not be able to attend the next City Council meeting and Mayor Shepley stated that if the request began to look like it would not have enough support for approval without Councilwoman Brady, it could be continued again to the next City Council meeting.

Councilwoman Brady moved to continue the matter to the next regular City Council meeting on October 20, 2015. Councilwoman Ferguson seconded the motion. On roll call, all voted yes. Motion passed.

17. 6251 Commercial Road, Central States Towers/Verizon-Special Use Permit for a wireless communications tower and Variation to allow the monopole tower to be setback less than 110% of the height of the tower from all property lines.

Attorney Richard Riley and Darren Snodgrass, Site Acquisition Manager, were present.

Planning and Economic Development Manager James Richter II presented an overview of the request, focusing on required information under the City's Unified Development Ordinance (UDO) that is still outstanding from the petitioner.

Proceedings of the City Council October 6, 2015 Page 6

Mayor Shepley stated that if the petitioner had not submitted information to the Planning and Zoning Commission sufficient to meet the UDO then the petitioner needed to go back to the Planning and Zoning Commission and present that information, not to the City Council because that was not how the process worked. Councilwoman Brady surmised that the Planning and Zoning Commission had approved it knowing that the tower could not be built without the required information. Mayor Shepley stated that it was not in the Planning and Zoning Commission's purview to go forward with a substandard application. He stated that he greatly respected the Planning and Zoning Commission, but they should not have considered this matter without the required information.

Mr. Riley stated that some information, such as radiation, could only be provided after the site is designed. In response to one piece of missing information, he stated that the color would be gray galvanized metal. He argued that these were not big issues and he did not wish to have to go back to the Planning and Zoning Commission. He stated that they would meet whatever the Unified Development Ordinance requires and the Verizon was in agreement with the staff on all issues, but they were concerned about the time factor as they wished to get the tower built before winter.

Councilman Dawson stated that the Planning and Zoning Commission meeting was the next evening and then the matter could come back before the City Council in two weeks. Mr. Riley stated that he was not certain he could provide the required information by the next day because some of the information is not normally provided until later in the process when the building permit is issued.

Mayor Shepley stated that the City's Unified Development has standards for what is to be submitted with the application and what Verizon normally does is not relevant. Mr. Richter advised in that all other cell tower applications, the information has been provided as required. Councilman Dawson suggested that if Verizon cannot provide the information, they could document why. Councilman Thorsen asked what it was that made this petition different. Director of Community Development Michelle Rentzsch advised that the main issue is that the information submitted to the Planning and Zoning Commission's recommendation is based on faulty information. Staff is requesting correct information for review..

Councilwoman Ferguson asked if since the Planning and Zoning Commission had already recommended approval, the Council could send it back to them and say that it would not be considered further until the information is provided? Councilman Dawson stated that he felt the petitioner should go through the process again and correct their mistakes.

Councilwoman Brady stated that she would be comfortable proceeding with the Planning and Zoning Commission's recommendation, but felt that it was in the petitioner's best interest to make sure that their application was complete and accurate, and she suggest that they go back to the Planning and Zoning Commission the next evening and then come back to the City Council

Proceedings of the City Council October 6, 2015 Page 7

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in two weeks. Councilman Thorsen stated that the matter should be referred back to the Planning and Zoning Commission with information as to exactly what the City Council wants them to do. Councilwoman Brady agreed, and added that they would not need to secure a radon certificate by tomorrow evening.

Mr. Riley attempted to list what they could do before the next evening, which did not include all of the items needed. Mayor Shepley reiterated that those items are all required by the City's application process, and the City Council could not approve an incomplete application. Mr. Riley asked how they could comply with landscaping requirements by the next evening and Councilwoman Ferguson stated that was not the City Council's issue and they would have to solve that problem. Councilman Dawson advised Mr. Riley to please take the opportunity being provided by the City Council, otherwise the Council would be forced to take a vote that evening and the petition would be denied. Mr. Riley agreed and thanked the Council for their time.

Councilman Hopkins added that there had been a recommendation from the Planning and Zoning Commission that Verizon consider a flagpole design rather than what had been presented, but Verizon had said they were not reliable. Director of Finance George Koczwara advised that Verizon is currently one of the carriers on the flagpole at Wastewater Treatment Plant No. 2. Councilman Hopkins stated that because of the proximity to Three Oaks Recreation and that the tower will be seen directly from the beach, the current design was not acceptable to him and he would prefer a flagpole design. Mr. Riley stated that they had been pleased to find the location in an industrial area which they had thought would be appropriate for this design. He stated that a flagpole limits the number of co-locators, which most municipalities want to encourage, and then stated that when Verizon and other carriers have to use a flagpole, they do not have the same capacity and the type of antennas they can use. Councilman Hopkins stated that he was not in favor of blighting the whole area, particularly the view from the beach at Three Oaks which this proposed tower was in direct sight of, for a cell tower. Other Councilmembers agreed.

Councilwoman Brady moved to send the matter back to the Planning and Zoning Commission for their meeting on October 7, 2015 or a later date if the petitioner so chose. Councilman Thorsen seconded the motion.

Mayor Shepley read the Unified Development Ordinance Standard #48 in full, specifically "Encourage users of towers and antennas to configure them in a way that minimizes the adverse impact of the towers and antennas through careful design, siting, landscape screening and innovative camouflaging techniques", which specified the requirements to be complied with. He added that they may wish to consider reconfiguring their design to address the Council's concerns.

On roll call, all voted yes. Motion passed.

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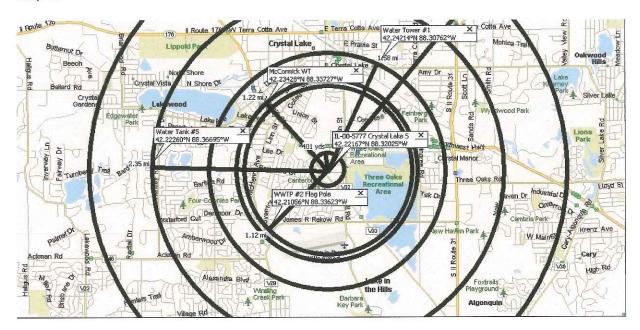
Existing Water Tank and Existing Tower Analysis - City of Crystal Lake

The existing Water Tank and existing tower coordinates were provided by the City of Crystal Lake.

We took those coordinates and entered them into a mapping software. The subject property is indicated at the center of all of these maps. IL-00-577 Crystal Lake S. We then used the software to show radial distances from the subject property.

The first ring is the 1200' separation distance required under the ordinance.

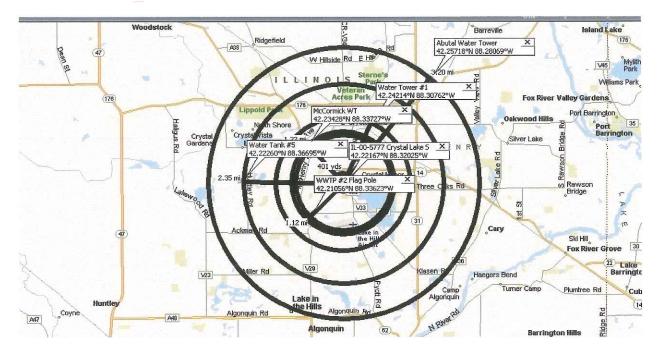
Map #1



Map #1 shows the closest exiting tower, WTTP #2 Flag Pole is located 1.12 miles southwest of the subject property. The next closest structure is the McCormick WT which is 1.22 miles to the Northwest. Third closest is Water Tank #1 which is located 1.58 miles to the northeast. Last site indicated on this map is the Water Tank #5 and that site is 2.35 miles to the West of the subject property.

Map #2 continued on Next Page:



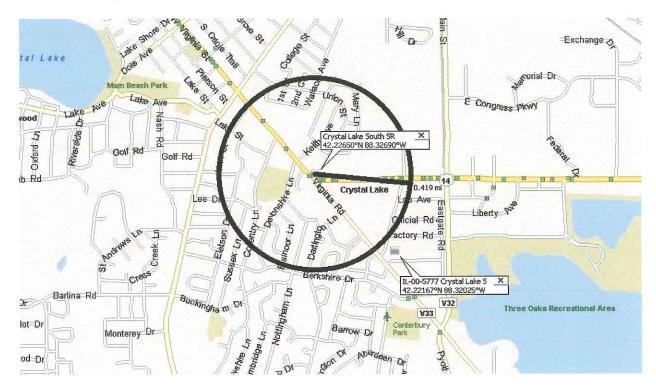


Map # 2 shows the remaining existing structures provided by the City of Crystal Lake, Abutal Water Tower. That Tank is located 3.20 Miles to the northeast of the subject property.

The original target coordinates for our search were 42.2265 / -088.3269 and we were given a search ring of approximately 4/10's of a mile. To find a willing landowner in the area that had a property that was allowable under a special exception we need to go outside our search area a small amount. Even that distance required RF Engineering approval.

Search Area map on next page:

Search Area Map:



All of the existing structures are too far away from the target area and would create service issues within the target area and also cause interference issues with existing sites. Each of the closest exiting sites are approximately 7/10's of a mile beyond the acceptable search parameters.

STATE OF INDIANA		
)	
COUNTY OF HENDRICKS)	

AFFIDAVIT

Darren S. Snodgrass, after being first duly sworn, states upon his oath that:

As the President of TNG Wireless and working on behalf of our client, Verizon Wireless and their tower development company, Central States Tower, I made all diligent efforts to locate and identify existing structures of height that would meet the needs of my client having given me a target coordinate of 42.2265 / -088.3269 and a search radius of one half mile. Further I made all diligent efforts to locate any existing structures of height within the 1200 foot radius of the selected candidate with coordinates of 42.22167 / -088.32025 as required under the wireless ordinance for the City of Crystal Lake. Having performed said effort I swear under oath that no structure of height currently exists that meets my client's criteria.

Darren S. Snodgrass

President

TNG Wireless

A Division of TNG Enterprises LLC

Email: Darren@TNGEnterprisesllc.com

Subscribed and sworn to before me this

__ day of

- Man

Notary Public

OFFISIAL SEAL
RICKEY J. DODSON, JR.
NOTARY PUBLIC – INDIANA
HENDRICKS COUNTY
My Comm. Expires May 11, 2016



Sole Tenancy Illinois .ory			
MAIL TO:		ENTIFY THIS TO BE	ATRUE
Maksymonko & Slater	1.0	COPY OF THE OW	UNAL.
109 North Main Street	A CAN	L NATIONAL TITLE	ORK, INC.
Algonquin, Illinois 60102 .	Procession	L NATIONAL TITLE	
NAME & ADDRESS OF TAXPAYER:			
Douglas Feddersen			
6521 Commercial Drive			
Crystal Lake, Illinois 60014	REC	CORDER'S STAI	MP
Nacional de la companya del companya de la companya del companya de la companya d			
THE GRANTOR Raymond E. and Susan L.	Ramos, a married couple		
of the Village of Cary Cou			Illinois
	Ten (10)		DOLLARS
and other good and valuable considerations in han	d paid,		And the state of t
CONVEY and WARRANT to Home State	Bank NA; Trust Numbe	r 4439, Dated Ju	ıne 13, 1996
(GRANTEE'S ADDRESS) 40 Grant St	reet		
of the <u>City</u> of <u>Crystal Lake</u> Cou as Sole Tenant, all interest in the following describe to wit:	nty of <u>McHenry</u> d Real Estate situated in the	State of _ County of McHe	Illinois arry, State of Illinois,
THE EAST 175 FEET OF LOT LAKE INDUSTRIAL CENTER 8, TOWNSHIP 43 NORTH, RAI MERIDIAN, ACCORDING TO 1955 AS DOCUMENT NO. 292 MCHENRY COUNTY, ILLINO	, A SUBDIVISION OF F NGE 8 EAST OF THE T THE PLAT THEREOF R 393, IN BOOK 12 OF P	PART OF SECT THIRD PRINCI ECORDED MA	ION PAL Y 10,
hereby releasing and waiving all rights under and by TO HAVE AND TO HOLD said premises Sole To Permanent Index Number(s)	enant.		the State of Illinois.
DATED this day of	May	2000	
Jagma Hagne	(Seal)	on Ha	'MD (Seal)
Raymond E. Ramos	Susan L	. Ramos	
	(Seal)		(Seal)

WARRANIY DELD

NOTE: PLEASE TYPE OR PRINT NAME BELOW ALL SIGNATURES



	STATE OF ILLINOIS) County of McHenry) ss	
	I, the undersigned, a Notary Public in and for sa Raymond E. Ramos and Susan L. Ran	id County, in the State aforesaid, DO HEREBY CERTIFY THAT
	delivered the said instrument as their therein set forth, including the release and waive	free and voluntary act for the uses and purposes
	Given under my hand and notarial seal, this	1st day of May 20 00
	My commission expires on MULL	(Clly France Notary Public
		OFFICIAL SEAL KELLY PHINNEY NOTARY PUBLIC, STATE OF ILLINOIS MY COMMISSION EXPIRES: 06/21/03
		McHENRY COUNTY - ILLINOIS TRANSFER STAMP
7	IMPRESS SEAL HERE NAME and ADDRESS OF PREPARER:	EXEMPT UNDER PROVISIONS OF PARAGRAPH SECTION 4, REAL ESTATE TRANSFER ACT.
	R. Winston Slater 109 N. Main Street Algonquin, Illinois 60102 847-658-1400	DATE: Buyer, Seller or Representative

**This conveyance must contain the name and address of the Grantee for tax billing purposes: (Chap. 55 ILCS 5/3-5020) and name and address of the person preparing the instrument: (Chap. 55 ILCS 5/3-5022).



July 29, 2015

Mr. Yuri Dobrowolsky Central States Tower 323 South Hale Street, Suite 100 Wheaton, IL 60187

RE: Proposed 125 ft Sabre Monopole for #IL-00-5777, Crystal Lake South, IL

Dear Mr. Dobrowolsky,

Upon receipt of order, we propose to design and supply the above referenced Sabre monopole for a Basic Wind Speed of 90 mph with no ice and 40 mph with 3/4" ice, Structure Class II, Exposure Category C, and Topographic Category 1, in accordance with the Telecommunications Industry Association Standard ANSI/TIA-222-G, "Structural Standard for Antenna Supporting Structures and Antennas".

When designed according to this standard, the wind pressures and steel strength capacities include several safety factors, resulting in an overall minimum safety factor of 25%. Therefore, it is highly unlikely that the monopole will fail structurally in a wind event where the design wind speed is exceeded within the range of the built-in safety factors.

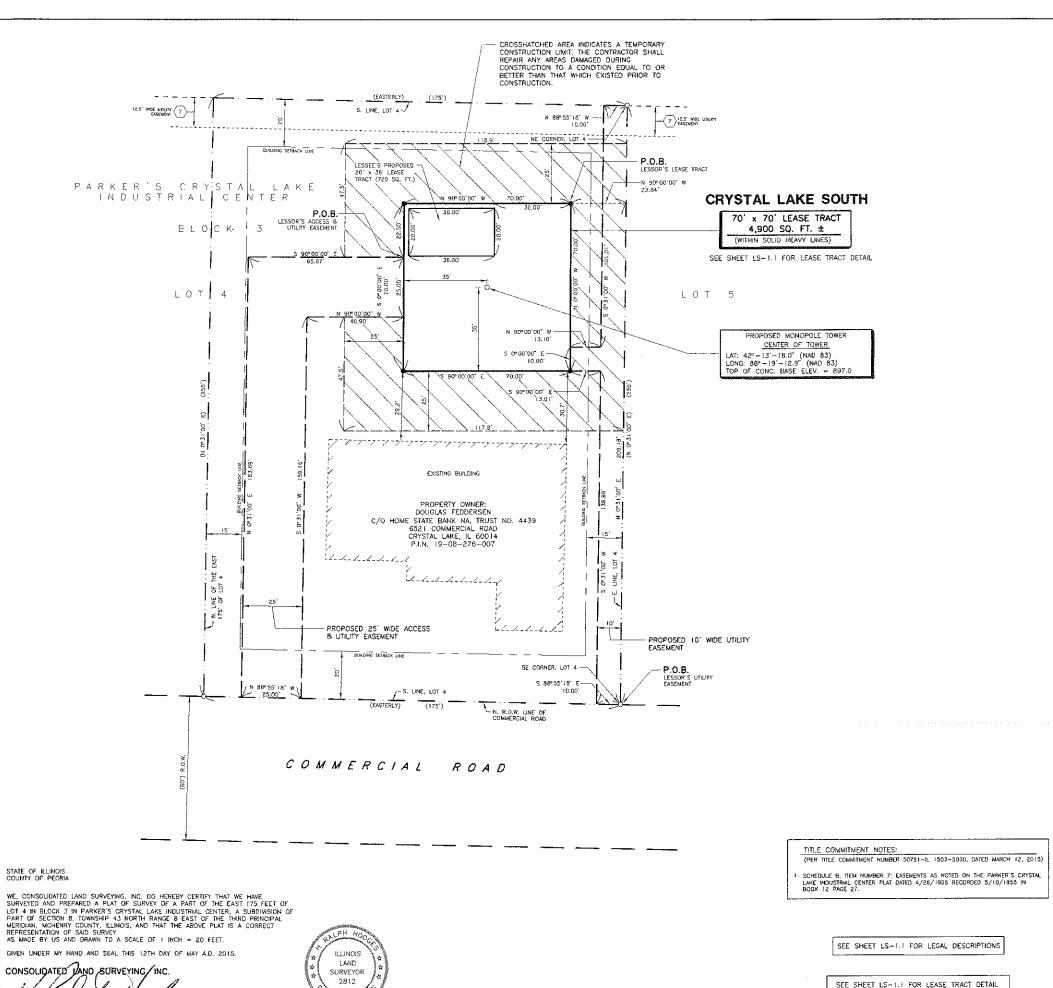
Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within one of the monopole shaft sections. This would result in a buckling failure mode, where the steel shaft would bend beyond its elastic limit (beyond the point where the shaft would return to its original shape upon removal of the wind load).

Therefore, the overall effect of an extreme wind event would be localized buckling of the monopole shaft. Assuming that the wind pressure profile is similar to that used to design the monopole, the shaft will buckle at the location of the highest combined stress ratio in the upper portion of the monopole. This would result in the portion of the monopole above "folding over" onto the portion below, essentially collapsing upon itself. *Please note that this letter only applies to a monopole designed and manufactured by Sabre Towers & Poles*.

Sincerely,

Keith J. Tindall, S.E. Vice President of Engineering OS1-006014
SIOUX CITY
IOWA
OF ILLING
MARGINALISM

SICERCE CORPICES 11-30-16

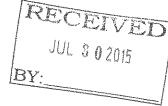


H. RALPH HODGES, JULINOIS PROFESSIONAL LAW SURVEYOR NO. 2812

EXPIRES: 11-30-16

Arbeit Cymritatifram.g. Magwegy, mae NORTHWEST HWY JAMES R. RAKOW ROAD

LOCATION MAP



LEGEND

BOUNDARY, LINE . OF. LEASE . SITE .. PARENT PARCEL RIGHT OF WAY LINE BUILDING SETBACK LINE EXISTING PROPERTY LINE PROPOSED EASEMENT LINE 0 SURVEY PIPE OR ROD FOUND

(250')

SHEET NUMBER

JOB NUMBER

SEE SHEET LS-LJ FOR LEASE TRACT DETAIL



----- FXISTING FASEMENT LINE

IRON ROD SET

INFORMATION OF RECORD



CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A. VERIZON WIRELESS

REAL ESTATE MANAGER: OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG, IL 60173

OFFICE: (847) 619-4142 CONSTRUCTION MANAGER:

OFFICE: (636) 793-9278

1300 W. COMMERCE DR. STE. 700

LAND SURVEYORS AND PROFESSIONAL ENGINEERS PHONE: 309-692-3434 FAX: 309-692-3433

PROFESSIONAL DESIGN FIRM NO. 184-002758

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PREPARED BY: HRH 5-12-15

ALL RIGHTS RESERVED

RON FAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63304

IL 00-5777

SITE NAME:

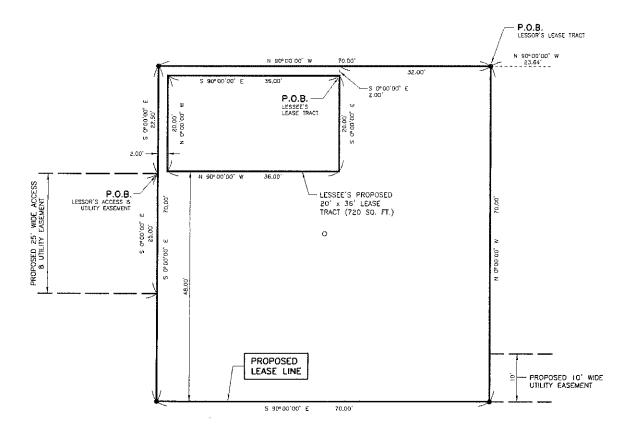
CRYSTAL LAKE SOUTH

SHEET NAME

LESSEE

PLAT OF SURVEY

9468-43-8-8B-03



PROPOSED LEASE TRACT DETAIL

SEE SHEET LS-I FOR PLAT OF SURVEY

LEGAL DESCRIPTION PROPOSED 20' x 36' LEASE TRACT 720 SO, FT, ±

A 20 FOOT BY 36 FOOT LEASE TRACT AND UTILITY EASEMENT BEING A PART OF LOT 4 IN BLOCK 3 IN PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER, A SUBDIVISION OF PART OF SECTION 8, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 4; THENCE NORTH 00°-31'-00" EAST (BEARINGS ASSUMED FOR THE PURPOSE OF DESCRIPTION ONLY) ALONG THE EAST LINE OF SAID LOT 4, A DISTANCE OF 209.18 FEET; THENCE NORTH 90° -00'-00'' WEST, A DISTANCE OF 23.64 FEET; THENCE CONTINUING NORTH $90^{\circ}-00'-00''$ WEST, A DISTANCE DISTANCE OF 23.84 FEET; THENCE COMINIONING MORTH 90°-00°-00 -00 WEST, A DISTANCE OF 2.00 FEET TO THE POINT OF BEGINNING OF THE TRACT TO BE DESCRIBED; THENCE CONTINUING SOUTH 00°-00'-00" EAST, A DISTANCE OF 2.00 FEET; THENCE NORTH 90°-00'-00" WEST, A DISTANCE OF 20.00 FEET; THENCE NORTH 90°-00'-00" WEST, A DISTANCE OF 20.00 FEET; THENCE NORTH 90°-00'-00" WEST, A DISTANCE OF 20.00 FEET; THENCE SOUTH 90°-00'-00" EAST, A DISTANCE OF 36.00 FEET TO THE POINT OF BEGINNING, CONTAINING 720 SOUARE FEET, MORE OR LESS, SITUATED IN THE COUNTY OF MICHIGAN AND STATE OF MILITIANIES. MCHENRY AND STATE OF ILLINOIS.

LEGAL DESCRIPTION PROPOSED 70' x 70' LEASE TRACT 4,900 sq. ft. ±

A 70 FOOT BY 70 FOOT LEASE TRACT AND UTILITY EASEMENT BEING A PART OF LOT 4 IN BLOCK 3 IN PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER, A SUBDIVISION OF PART OF SECTION 8, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 4: THENCE NORTH OO" -31'-00" COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 4; THENCE NORTH 00°-31'-00" EAST (BEARINGS ASSUMED FOR THE PURPOSE OF DESCRIPTION ONLY) ALONG THE EAST LINE OF SAID LOT 4, A DISTANCE OF 209.18 FEET; THENCE NORTH 90°-00'-00" WEST, A DISTANCE OF 23.64 FEET TO THE POINT OF BEGINNING OF THE TRACT TO 8E DESCRIBED: THENCE CONTINUING NORTH 90°-00'-00" WEST, A DISTANCE OF 70.00 FEET; THENCE SOUTH 00°-00'-00" EAST, A DISTANCE OF 70.00 FEET; THENCE SOUTH 90°-00'-00" EAST, A DISTANCE OF 70.00 FEET; THENCE NORTH 00°-00'-00" WEST, A DISTANCE OF 70.00 FEET TO THE POINT OF BEGINNING, CONTAINING 4,900 SQUARE FEET, MORE OR LESS, SITUATED IN THE COUNTY OF MCHENRY AND STATE OF ILLINOIS.

LEGAL DESCRIPTION PROPOSED 25' WIDE ACCESS & UTILITY EASEMENT

A 25 FOOT WIDE ACCESS AND UTILITY EASEMENT BEING A PART OF LOT 4 IN BLOCK 3 IN PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER, A SUBDIVISION OF PART OF SECTION 8, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 4; THENCE NORTH 00°-31'-00" EAST (BEARINGS ASSUMED FOR THE PURPOSE OF DESCRIPTION ONLY) ALONG THE EAST LINE OF SAID LOT 4, A DISTANCE OF 209.18 FEET; THENCE NORTH 90°-00'-00" WEST, A DISTANCE OF 23.64 FEET; THENCE CONTINUING NORTH 90°-00'-00" WEST, A DISTANCE DISTANCE OF 23.64 FEET; THENCE CONTINUING NORTH 90°-00'-00" WEST, A DISTANCE OF 70.00 FEET. THENCE SOUTH 00°-00'-00" EAST, A DISTANCE OF 22.50 FEET TO THE POINT OF BEGINNING OF THE EASEMENT TO BE DESCRIBED: THENCE CONTINUING SOUTH 00°-00'-00'-00' EAST, A DISTANCE OF 25.00 FEET; THENCE NORTH 90°-00'-00' WEST, A DISTANCE OF 40.90 FEET; THENCE SOUTH 00°-31'-00' WEST, PARALLEL WITH THE EAST LINE OF SAID LOT 4, A DISTANCE OF 159.16 FEET TO A POINT ON THE SOUTH LINE OF SAID LOT 4; THENCE NORTH 80°-55'-18" WEST ALONG THE SOUTH LINE OF SAID LOT 4, A DISTANCE OF 183.69 FEET; THENCE SOUTH 90°-00'-00' EAST, A DISTANCE OF 65.67 FEET TO THE POINT OF BEGINNING, SITUATED IN THE COUNTY OF MCHENRY AND STATE OF ILLINOIS.

LEGAL DESCRIPTION PROPOSED 10' WIDE UTILITY EASEMENT

A 10 FOOT WIDE UTILITY EASEMENT BEING A PART OF LOT 4 IN BLOCK 3 IN PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER, A SUBDIVISION OF PART OF SECTION 8, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, BEING MORE PARTICULARLY DESCRIPTION AS COLLOWS. DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 4 AS THE POINT OF BEGINNING OF...
THE EASEMENT TO BE DESCRIBED; THENCE NORTH 00°—31'-00' EAST (BEARINGS
ASSUMED FOR THE PURPOSE OF DESCRIPTION ONLY) ALONG THE EAST LINE OF SAID LOT
4, A DISTANCE OF 250 FEET TO THE NORTHEAST CORNER OF SAID LOT 4; THENCE NORTH
88°—55'-18" WEST ALONG THE NORTH LINE OF SAID LOT 4, A DISTANCE OF 10,00 FEET; THENCE SOUTH 00° -31'-00" WEST, PARALLEL WITH THE EAST LINE OF SAID LOT 4, A DISTANCE OF 101.01 FEET; THENCE NORTH 90°-00'-00" WEST, A DISTANCE OF 13.10 DISTANCE OF 101.01 FEET; THENCE NORTH 90"-00"-00" WEST, A DISTANCE OF 10.00 FEET; THENCE SOUTH 90"-00"-00" EAST, A DISTANCE OF 13.01 FEET; THENCE SOUTH 90"-00"-00" EAST, A DISTANCE OF 13.01 FEET; THENCE SOUTH 00"-31"-00" WEST, PARALLEL WITH THE EAST LINE OF SAID LOT 4, A DISTANCE OF 138.99 FEET TO A POINT ON THE SOUTH LINE OF SAID LOT 4; THENCE SOUTH 88"-55"-18" EAST ALONG THE SOUTH LINE OF SAID LOT 4, A DISTANCE OF 10.00 FEET TO THE POINT OF BEGINNING, SITUATED IN THE COUNTY OF MCHENRY AND STATE OF ILLINOIS.

LEGAL DESCRIPTION EXISTING PARENT PARCEL

THE EAST 175 FEET OF LOT 4 IN BLOCK 3 IN PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER, A SUBDIVISION OF PART OF SECTION 8, TOWNSHIP 43 NORTH RANGE B EAST OF THE THIRD PRINCIPAL MERIDIAN, ACCORDING TO THE PLAT THEREOF RECORDED MAY 10, 1955 AS DOCUMENT NO, 292393, IN BOOK 12 OF PLATS, PAGE 27 IN MCHENRY COUNTY,

CHICAGO SMSA LIMITED PARTNERSHIP, 0.8.A. VERIZON WIRELESS

REAL ESTATE MANAGER: OCTAVIO HERRERA 1515 EAST WOODFIELD RO. SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142

CONSTRUCTION MANAGER: RON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63304 OFFICE: (636) 793-9278

CLS

1300 W. COMMERCE OR, STE. 700 PEORIA, ILLINOIS 61615

LAND SURVEYORS
AND PROFESSIONAL ENGINEERS

PHONE: 309-692-3434 FAX: 309-692-3433

PROFESSIONAL DESIGN FIRM NO. 184-002756

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IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME

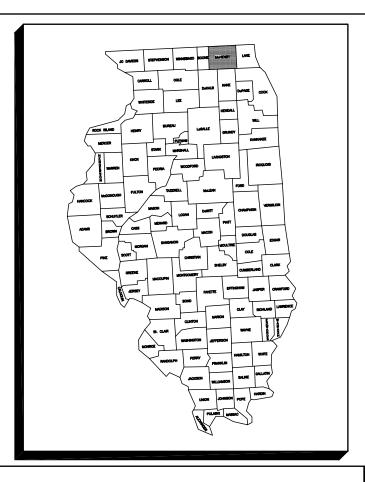
LESSEE

PLAT OF SURVEY LEGAL DESCRIPTIONS

SHEET NUMBER

JOB NUMBER

9468-43-8-88-03





SITE NAME: CRYSTAL LAKE SOUTH CST SITE #: IL 00-5777

CHICAGO SMSA LIMITED PARTNERSHIP

D.B.A. VERIZON WIRELESS

SITE NAME: CRYSTAL LAKE

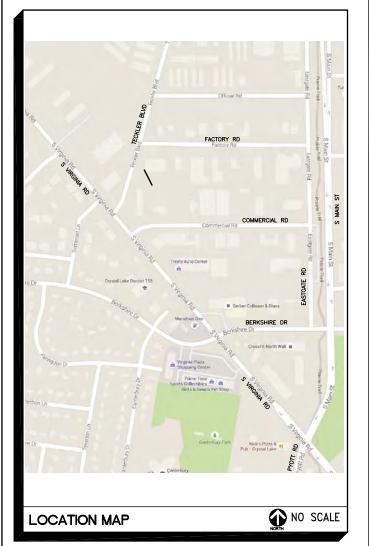
PROJECT NUMBER: 20130992166

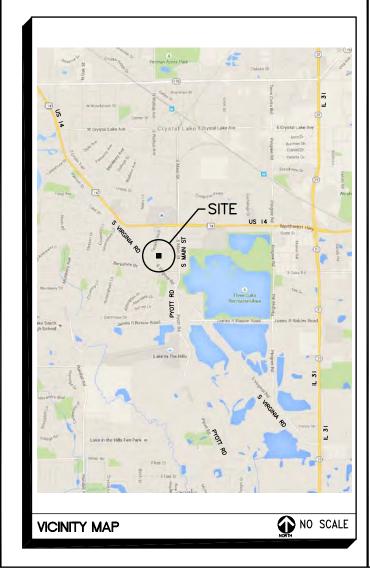
LOCATION CODE: 281875

SITE DATA:

- I. PROPOSED RAWLAND SITE
- 2. PROPOSED OVERALL HEIGHT OF THE "SLICK STICK" STEALTH TOWER STRUCTURE TO BE 130'-0" A.G.L. TO THE TOP OF THE LIGHTNING ROD
- 3. PROPOSED CENTERLINE OF ANTENNAS TO BE MOUNTED AT 120'-0" A.G.L.
- 4. PROPOSED RIGHT-HANDED PREFABRICATED UNMANNED EQUIPMENT SHELTER (11'-6" x 21'-9 1/2")
- 5. PROPOSED DIESEL GENERATOR (48KW MAX)
- 6. PROPOSED 70' x 70' LEASE TRACT







PROJECT SUMMARY

SITE NAME: CRYSTAL LAKE SOUTH

SITE ADDRESS: 6521 COMMERCIAL ROAD

CRYSTAL LAKE, IL 60014 MCHENRY COUNTY

PROPERTY OWNER: DOUGLAS FEDDERSEN

C/O HOME STATE BANK NA. TRUST NO. 4439 6521 COMMERCIAL ROAD CRYSTAL LAKE, IL 60014 815-459-5252

GEOGRAPHIC COORDINATES:

LATITUDE: 42°-13'-18.0" (NAD 83) (NAD 83) LONGITUDE: 088'-19'-12.9" ELEV. 897.0

CURRENT ZONING: M-MANUFACTURING

ZONING OFFICE & BUILDING PERMIT DATA: CRYSTAL LAKE PLANNING & ECONOMIC DEVELOPMENT

DEPARTMENT 100 W. WOODSTOCK STREET CRYSTAL LAKE, IL 60014 815-356-3615

COST OF BUILDING PERMIT: TO BE DETERMINED

DIRECTIONS TO SITE

FROM SCHAUMBURG, TURN RIGHT ONTO N MEACHAM RD. TURN LEFT ONTO IL-62 W/E ALGONQUIN RD. SLIGHT RIGHT ONTO ALGONQUIN RD. TURN RIGHT ONTO PYOTT RD. TURN LEFT ONTO S VIRGINIA RD. TURN RIGHT ONTO COMMERCIAL RD. SITE IS LOCATED ON THE LEFT (NORTH) SIDE OF THE ROAD BEHIND THE ATHENA GLASS COMPANY

CONSULTING TEAM

DIRECTOR OF CONSTRUCTION: YURI DOBROWOLSKY CENTRAL STATES TOWER III. LLC. A DELAWARE LIMITED LIABILITY COMPANY 323 SOUTH HALE STREET, SUITE 100 PHONE: (630) 221-8500 X104

ELECTRICAL COMPANY: COMMONWEALTH **EDISON**

123 ENERGY WAY ROCKFORD, IL 61109 MIKE PERRON (815) 477-5204 ACCT# 0899111070

FIRE DEPARTMENT: **CRYSTAL LAKE** FIRE STATION #1 100 W. WOODSTOCK STREET

CRYSTAL LAKE, IL 60014

TEL.: (815) 356-3640

FIBER PROVIDER:

HECTOR SUAREZ

(847) 888-6864

SHELTER MANUFACTURER:

FIRREROND CORPORATION

SHELTER FOUNDATION STRUCTURAL ENGINEER:

FIBREBOND CORPORATION



HANDICAP REQUIREMENTS: FACILITY IS UNMANNED AND NOT FOR HUMAN BITATION. HANDICAPPED ACCESS REQUIREMENTS DO NOT APPLY.

SURVEYOR/ENGINEER:

CONSOLIDATED LAND SURVEYING, INC. 1300 W. COMMERCE DR. STE. 700 · PEORIA, ILLINOIS 61615 LAND SURVEYORS AND PROFESSIONAL ENGINEERS

309-692-3434

SHEET INDEX

				EXT INES.	
SHEET No.	DESCRIPTION	1	P	REPARED B	Y: HRH 5–12–15
T-1	TITLE SHEET		T	7-28-15	ADDED LANDSCAPING PER CITY COMMENTS
C-1 C-2	SITE PLAN ENLARGED SITE PLAN GENERAL NOTES, EROSION CONTROL		2	8-25-15	REVISED PER FIBER WALK
C-3			3	9-8-15	ADDED FIBER HH PER AT&T COMMENTS
C-4	FOUNDATION PLAN AND DETAILS		4	10-20-15	REVISED TO "SLICK STICK" STEALTH TOWER
LS-1 LS-1.1	LESSEE PLAT OF SURVEY LESSEE PLAT OF SURVEY LEGAL DESCRIPTIONS				
A-1	TOWER ELEVATION & NOTES		$\overline{}$		_
A-1.1	ANTENNA INFORMATION				188
A-2	ICE BRIDGE/COAX PROFILE WITH GROUNDING		1		CT III
A-3	SHELTER AND GROUNDING SCHEMATIC WITH LEGEND		(C	
A-4	GROUNDING DETAILS & NOTES				

UTILITY ROUTING PLAN & NOTES

UTILITY PLAN, DETAILS & NOTES

TRENCH DETAILS

GROUNDING DETAILS

FENCING DETAILS

SPECIFICATIONS

SPECIFICATIONS

SHELTER DETAILS

SHELTER DETAILS

SHELTER DETAILS

SHELTER DETAILS

SHELTER ITEM LIST

NOTICE TO CONTRACTORS

TOWER PLANS AND BUILDING PLANS ARE PROVIDED BY OTHERS AND HAVE BEEN COMBINED AND COMPILED INTO THESE CONSTRUCTION PLANS. SEE GENERAL NOTE 3 ON SHEET C2.

SITE PHOTOS

SITE DETAILS

D-2

D-3

SP-1

SP-2

B-1

NTC-1



SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME

TITLE SHEET

SHEET NUMBER

JOB NUMBER

CONSOLIDATED LAND SURVEYIN 1300 W. COMMERCE DR. STE. 700 PEORIA, ILLINOIS 61615

CHICAGO SMSA LIMITED

REAL ESTATE MANAGER:

OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142

CONSTRUCTION MANAGER:

RON PAULY

KON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63304 OFFICE: (636) 793-9278

LAND SURVEYORS AND PROFESSIONAL ENGINEERS PHONE: 309-692-3434 FAX: 309-692-3433

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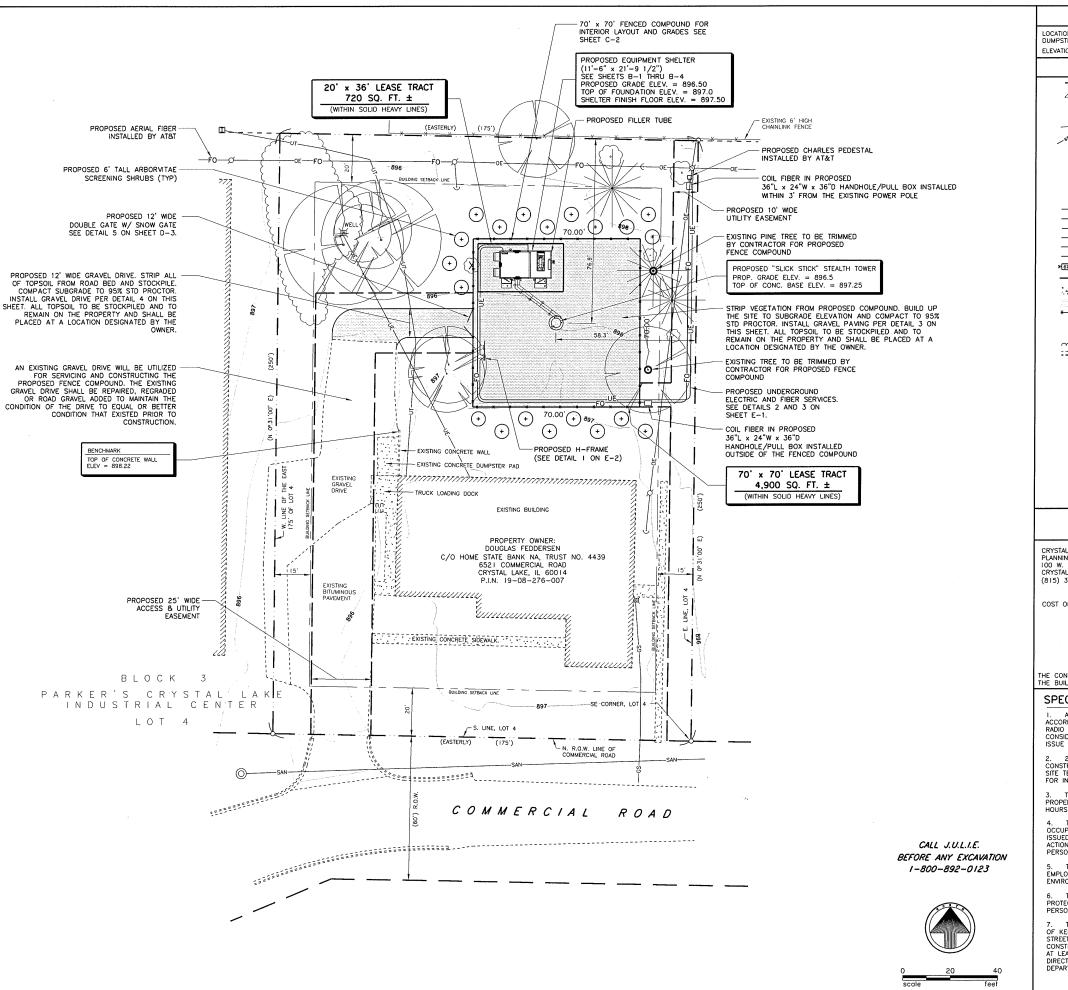
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IL 00-5777

9468-43-8-8B-03



BENCHMARK DATUM

LOCATION: TOP OF CONCRETE WALL ADJACENT TO DUMPSTER AREA ELEVATION: 898.22

LEGEND

BOUNDARY LINE OF PROPERT ///// EXISTING BUILDING LINE IRON ROD SET SURVEY PIPE OR ROD FOUND 752 --EXISTING SPOT ELEVATION M M EXISTING METER EXISTING VALVE 0 EXISTING MANHOLE UTILITY POLE Ø UTILITY POLE WITH TRANSFORME m TELEPHONE PEDESTAL SANITARY SEWER ----- SAN ---_____69____ GAS SERVICE ----- UE -----UNDERGROUND ELECTRIC OVERHEAD ELECTRIC ------ UT -----x 675.25 OR 675x25 755 PROPOSED CONTOUR ELEVATION CONCRETE SURFACE GRAVEL SURFACE FENCE LINE 0 TREE (0) OO BRUSH LINE EXISTING CURB AND GUTTER INFORMATION OF RECORD

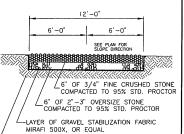
GRAVEL SECTION SHOWN SHALL EXTEND TO THE PROPOSED LEASE LINE UNLESS OTHERWISE SHOWN ON THIS PLAN. MATCH EXISTING GRADE.

SEE PLAN SEE PLAN FOR \ 48.91B

6" OF 3/4" FINE CRUSHED STONE COMPACTED TO 95% STD. PROCTO 6" OF 2"-3" OVERSIZE STONE COMPACTED TO 95% STD. PROCTOR - LAYER OF GRAVEL STABILIZATION FABRIC MIRAFI 500X, OR EQUAL -COMPACTED SUBGRADE OR FILL TO 95% STD PROCTOR DENSITIES OR PROOF ROLL

GRAVEL COMPOUND PAVING DETAIL

NOT TO SCALE



-COMPACTED SUBGRADE OR FILL TO 95% STD PROCTOR DENSITIES OR PROOF ROLL

GRAVEL ACCESS DRIVE DETAIL NOT TO SCALE

CONSTRUCTION NOTES

BUILDING PERMIT DATA CRYSTAL LAKE
PLANNING & ECONOMIC DEVELOPMENT DEPARTMENT 100 W. WOODSTOCK STREET CRYSTAL LAKE, IL 60014 (815) 356-3614

COST OF BUILDING PERMIT: UNKNOWN

THE CONTRACTOR IS RESPONSIBLE FOR PICKING UP THE BUILDING PERMIT AND FOR PAYING PERMIT FEES

ZONING OFFICE &

SPECIAL CONSTRUCTION NOTES

- I. ALL CONSTRUCTION SHALL BE IN ACCORDANCE WITH THE LATEST CELL SITE AND RADIO STATION PROTECTION ENGINEERING CONSIDERATIONS, PRACTICE 08—887-030-085, ISSUE 2, DATED JULY 2001, PAGES 1-69.
- 2. 24 HOURS NOTICE SHALL BE GIVEN TO THE CONSTRUCTION MANAGER AND THE RESPONSIBLE SITE TECHNICIANS PRIOR TO CLOSING TRENCHES FOR INSPECTION OF GROUNDING
- 3. THE CONTRACTOR SHALL NOTIFY THE PROPERTY CONTACT OR OWNER A MINIMUM OF 24 HOURS PRIOR TO ENTERING THE PROPERTY.
- 4. THE CONTRACTOR SHALL COMPLY WITH ALL OCCUPATIONAL SAFETY AND HEALTH STANDARDS ISSUED UNDER THE OSH ACT THAT APPLY TO ACTIONS AND CONDUCT OF WORKERS AND PERSONNEL ON THE JOB SITE.
- THE CONTRACTOR MUST FURNISH ALL EMPLOYEES A SAFE AND HEALTHFUL WORKING ENVIRONMENT FREE FROM RECOGNIZED HAZARDS.
- 6. THE CONTRACTOR SHALL PROVIDE PERSONAL PROTECTIVE EQUIPMENT FOR ALL WORKERS AND PERSONNEL
- THE SITE CONTRACTORS SHALL BE MINDEUL 7. THE SITE CONTRACTORS SHALL BE MINDFULL OF KEEPING THE ACCESS ORIVE AND THE PUBLIC STREET CLEAN OF DEBRIS, MUD AND DIRT DURING CONSTRUCTION. THEY SHALL PROVIDE CLEAN—UP AT LEAST TWICE DAILY AS NEEDED OR AS DIRECTED BY THE TOWNSHIP INSPECTIONS DEPARTMENT.

SITE PLAN

SCALE: I" = 20'

- The locations of existing utilities shown on this sheet are only approximate and may not be complete. The contractor shall verify location of all complete. The contractor shall verity location of all willilies in the field prior to commencing construction. Protect all existing utilities which are to remain. Upon discovery of unknown or conceoled utilities, nolify architect/owner immediately. Call J.U.L.I.E. at 1-800-892-0123.
- 2. All proposed construction work shall be in accordance with the latest edition of the standard specifications for road and bridge construction in Illinois.
- 3. All utility trenches in structural areas shall be backfilled to subgrade with trench backfill material and compacted to at least 95 percent of maximum dry density as determided by the standard proctor
- 4. A minimum of 8 inches of topsoil shall be 4. A minimum of inches of lapson shall be placed in all unpaved disturbed areas. Topsoi shall be ferile, friable, sandy loam and shall be free of roots, sticks and any other extraneous materials and toxic substances. Finish grade all unpaved disturbed areas to a condition suitable for
- Traffic control during construction shall be in accordance with state and city requirements. At al times traffic control and construction procedures shall be performed in a way as to provide reasonable safety to all involved, including, but not limited to, construction workers, motorists and pedestrians. The safety of all involved shall be the sole responsibility of the contractor
- 6. All existing surrounding areas and property shall be properly protected from damage and left undamaged from operations of the contractor. If such damage occurs, it shall be the sole responsibility of the contractor.
- Contractor shall verify all dimensions shown or
- 8. Contractor shall acquire all permits that are required by the local authorities, and all construction work shall be performed in compliance with the requirements of all applicable local, state and federal laws, regulations and rules.
- See tower and building plans for respective site
- 10. Elevations are above mean sea level.
- Do not scale any dimensions from this
- 12. All existing recorded easements are indicated 12. All existing recorded eosements are indicated on this drawing to the best of the surveyors knowledge per visual inspection, survey drawings and information received from the developer. Confractor shall contact J.U.L.I.E. at 1–800–892–0123 48 hours prior to start of construction to have underground utilities located and marked.
- 13. All construction shall conform to the 1996 BOCA code, NEC code, IBC 2003 and per local county requirements. 5

CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A.

VERIZON WIRELESS REAL ESTATE MANAGER: OCTAVIO HERRERA 1515 EAST WOODFIELD RD SCHAUMBURG, IL 60173

OFFICE: (847) 619-4142 CONSTRUCTION MANAGER: RON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63304

CLS

OFFICE: (636) 793-9278

I AND SURVEYORS

AND PROFESSIONAL ENGINEERS PHONE: 309-692-3434 FAX: 309-692-3433

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PREPARED BY: HRH 5-12-15

7-28-15 ADDED LANDSCAPING PER CITY COMMENTS REVISED PER FIBER 8-25-15 9-8-15

ADDED FIBER HH PER AT&T COMMENTS 10-20-15 REVISED PER CITY COMMENTS



IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

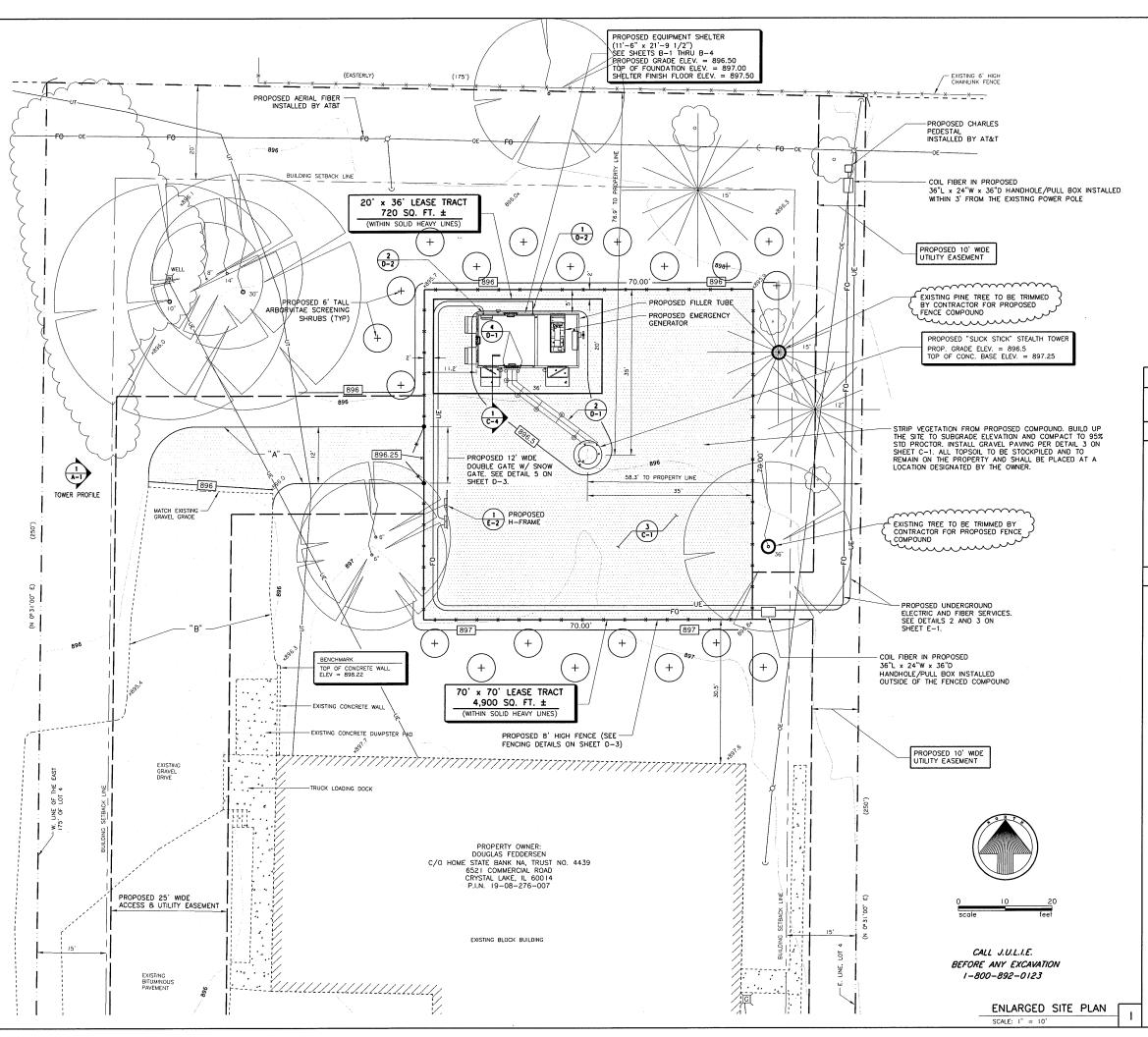
SHEET NAME

SITE PLAN

SHEET NUMBER

JOB NUMBER 9468-43-8-8B-03

2



- A"
 PROPOSED 12' WIDE GRAVEL DRIVE. STRIP ALL
 OF TOPSOIL FROM ROAD BED AND STOCKPILE.
 COMPACT SUBGRADE TO 95% STD PROCTOR.
 INSTALL GRAVEL DRIVE PER DETAIL 4 ON SHEET
 C-1. MATCH EXISTING ADJACENT GRADES. ALL
 TOPSOIL TO BE STOCKPILED AND TO REMAIN ON
 THE PROPERTY AND SHALL BE PLACED AT A
 LOCATION DESIGNATED BY THE OWNER.
- "B" AN EXISTING GRAVEL DRIVE WILL BE UTILIZED FOR SERVICING AND CONSTRUCTING THE PROPOSED FENCE COMPOUND. THE EXISTING GRAVEL DRIVE SHALL BE REPAIRED, REGRADED OR ROAD GRAVEL ADDED TO MAINTAIN THE CONDITION OF THE DRIVE TO EQUAL OR BETTER CONSTRUCTION.

BENCHMARK DATUM

LOCATION: TOP OF CONCRETE WALL ADJACENT TO DUMPSTER PAD

EVATION: 808 22

GENERAL NOTES

- SEE SHEET C-1 FOR LEGEND.
- 2. SEE SHEET C-3, SP-1 & SP-2 FOR CONSTRUCTION NOTES & SPECIFICATIONS.
- 3. TOWER PLANS, BUILDING PLANS, GROUNDING PLANS AND ANTENNA CONFIGURATION DESIGN WERE PROVIDED BY DIFFERENT ENGINEERING FIRMS AND EQUIPMENT MANUFACTURES. CONSOLIDATED LAND SURVEYING, INC. HAS COMBINED AND COMPILED THIS DATA INTO CONSTRUCTION PLANS FOR THIS PROJECT.
- 4. ALL SITE PREPARATION AND UTILITIES CONSTRUCTION CONCERNING GRAVEL, PAVEMENTS, TRENCHING, BACKFILLING, STORM SEWER, EXCAVATION, ETC., IF NOT SPECIFICALLY DETAILED OR SPECIFIED SHALL BE CONSTRUCTED IN ACCORDANCE WITH THE LATEST EDITION OF THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION IN ILLINOIS AND ARE AVAILABLE AT OUR OFFICE FOR EXAMINATION.

CONTRACTOR NOTES

- I. IF THE CONTRACTOR ENCOUNTERS A CONFLICT OR DISCREPANCY BETWEEN THE PLAN VERSUS SITE CONDITIONS OR LOCAL CODES, HE SHALL CONTACT THE OWNER OR OWNER'S OR OWNER'S REPRESENTATIVE TO ADDRESS AND RESOLVE THESE CONFLICTS OR DISCREPANCIES, PRIOR TO BIDDING.
- 2. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR CONTACTING THE ELECTRICAL POWER PROVIDER AND INCLUDING THE COST OF OBTAINING ELECTRICAL SERVICE IN THEIR BID.
- 3. THE CONTRACTOR SHALL INCLUDE IN THEIR BID AND IS RESPONSIBLE FOR THE COST OF THE ANTENNA MOUNTS, COAX SUPPORTS, AS NEEDED, THE COAX BRIDGE AND ALL NECESSARY HARDWARE.
- 4. THE CONTRACTOR SHALL INCLUDE IN THEIR BID AND IS RESPONSIBLE FOR THE PROPOSED ANTENNA INSTALLATION WORK AND ALL NECESSARY HARDWARE SUCH AS (BUT NOT LIMITED TO), THE TOP TOWER MOUNTS, THE INSIDE TOWER MOUNTS THE COAX BRIDGE, CABLE LADDER, ANTENNA MOUNTS AND MOUNTS FOR THE COAX BRIDGE.
- 5. THE CONTRACTOR SHALL INCLUDE IN THEIR BID AND IS RESPONSIBLE FOR THE COST OF EXTENDING THE GENERATOR VENT PIPE 6 INCHES ABOVE THE ROOF LINE AFTER THE BUILDING IS IN PLACE.
- 6. THE CONTRACTOR SHALL INCLUDE IN THEIR BID AND IS RESPONSIBLE FOR THE COST OF INSTALLING THE GPS ANTENNA ON A 1 1/4" DIA. GALVANIZED PIPE, ANTENNA MOUNTS AND ALL NECESSARY HARDWARE AND BRACKETS, THE GPS ANTENNA SHALL BE MOUNTED TO THE COAX BRIDGE AS SHOWN ON THE PLAN.
- 7. THE CONTRACTOR SHALL SWEEP TEST ALL COAX LINES AND VERIFY WITH OPERATIONS PERSONNEL PRIOR TO PULLING OFF THE JOB. THE CONTRACTOR SHALL PROVIDE A MINIMUM OF 48 HOURS NOTICE PRIOR TO THE TIME OF THE SWEEP TEST.
- 8. THE CONTRACTOR SHALL BRING THE COAX LINES FROM THE COAX BRIDGE TO INSIDE THE EQUIPMENT SHELTER BEFORE CUTTING THE COAX.
- 9. THE CONTRACTOR IS RESPONSIBLE FOR REVIEWING ALL CONSTRUCTION DOCUMENTS AND CONSTRUCTION PLANS PRIOR TO SUBMITTING THEIR BID. THE SUBMITTING OF THEIR BID ACKNOWLEDGES THAT THEIR REVIEW OF SUCH DOCUMENTS AND PLANS ARE COMPLETE.
- 10. THE CONTRACTOR SHALL COMPLY WITH ALL OCCUPATIONAL SAFETY AND HEALTH STANDARDS ISSUED UNDER THE OSH ACT THAT APPLY TO ACTIONS AND CONDUCT OF WORKERS AND PERSONNEL ON THE JOB SITE.
- II. THE CONTRACTOR MUST FURNISH ALL EMPLOYEES A SAFE AND HEALTHFUL WORKING ENVIRONMENT FREE FROM RECOGNIZED HAZARDS.
- 12. THE CONTRACTOR SHALL PROVIDE PERSONAL PROTECTIVE EQUIPMENT FOR ALL WORKERS AND PERSONNEL.
- 13. LOCATION OF ANY FIELD TILE IS UNKNOWN. CONTRACTOR SHALL FIELD VERFY TILE LOCATIONS PRIOR TO CONSTRUCTION, AS WELL AS USE CAUTION TO PREVENT ANY DAMAGE TO SAID TILE. ANY DAMAGE THAT OCCURS DURING CONSTRUCTION TO FIELD TILE SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR TO REPAIR AND/OR REPLACE.

CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A. VERIZON WIRELESS

REAL ESTATE MANAGER: OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142

CONSTRUCTION MANAGER:

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PREPARED BY: HRH 5-12-15

7-28-15 ADDED LANDSCAPING PER CITY COMMENTS

2 8-25-15 REVISED PER FIBER
WALK
3 9-8-15 ADDED FIBER HH PER
ATRI COMMENTS

10-20-15 REVISED PER CITY COMMENTS

(CST)

IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME

ENLARGED SITE PLAN

SHEET NUMBER

C-2

JOB NUMBER

9468-43-8-8B-03

EROSION AND SEDIMENT CONTROL MEASURES:

UNLESS OTHERWISE INDICATED, ALL VEGETATION AND STRUCTURAL EROSION AND SEDIMENT CONTROL PRACTICES WILL BE CONSTRUCTED AND MAINTAINED ACCORDING TO MINIMUM STANDARDS AND SPECIFICATIONS OF THE ILLINOIS ENVIRONMENTAL PROTECTION AGENCY FOR

SCHEDULE OF EROSION AND SEDIMENT CONTROL MEASURES:

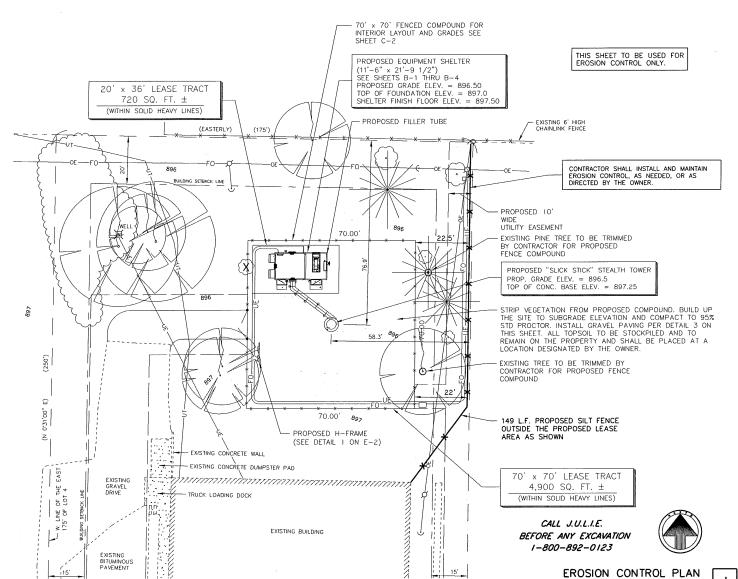
THE FOLLOWING SEQUENCE OF EVENTS AND EROSION CONTROL MEASURES SHALL BE INCORPORATED INTO THE CONSTRUCTION SCHEDULE FOR THIS PROJECT AND SHALL APPLY TO ALL CONSTRUCTION ACTIVITIES WITHIN THE PROJECT LIMITS:

- I. ALL STORM WATER MANAGEMENT FACILITIES INCLUDING EROSION CONTROL ARE TO BE INSTALLED AND MADE OPERATIONAL AS A FIRST STEP BEFORE THE START OF CLEARING AND GRUBBING OPERATIONS.
- 2. ALL UNPAVED AREAS AND/OR AREAS DISTURBED BY CONSTRUCTION SHALL HAVE TOPSOIL PLACED AND BE SEEDED.
- 3. ALL DISTURBED AREAS, WHICH ARE NOT DESIGNATED FOR PAVING, UTILITY OR STRUCTURAL USES OR AREAS THAT HAVE BEEN STRIPPED AND HAVE FINAL GRADE ESTABLISHED, SHALL HAVE PERMANENT SOIL STABILIZATION APPLIED WITHIN SEVEN DAYS THEREAFTER. ALL STRIPPED AREAS THAT DO NOT HAVE FINAL GRADE ESTABLISHED, SHALL HAVE TEMPORARY SOIL STABILIZATION APPLIED WITHIN SEVEN DAYS THEREAFTER.
- 4. INLET PROTECTION SHALL BE INSTALLED AT ALL STORM WATER STRUCTURES (WHEN PRESENT) TO PREVENT SEDIMENT FROM ENTERING THE STORM SEWER SYSTEM.
- 5. A WEEKLY RECORD OF EROSION/SEDIMENT CONTROL MEASURES AND MAINTENANCE SHALL BE MAINTAINED BY THE CONTRACTOR. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ALL EROSION CONTROL MEASURES AND MAINTENANCE THROUGHOUT THE LIFE OF CONSTRUCTION.

EROSION AND SEDIMENT CONTROL MAINTENANCE:

IN GENERAL, ALL EROSION AND SEDIMENTATION CONTROL MEASURES SHALL BE CHECKED AFTER EACH RAINFALL OR WEEKLY, WHICHEVER IS MOST FREQUENT, AND SHOULD BE CLEANED AND REPAIRED ACCORDING TO THE FOLLOWING SCHEDULE:

- I. SILT FENCES SHALL BE CHECKED AFTER EVERY RAINFALL AND AT LEAST DAILY DURING PROLONGED PERIODS OF RAIN, SEDIMENTS MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY 1/2 THE HEIGHT OF THE SILT FENCE.
- 2. STRAW BALE BARRIERS WILL BE CHECKED REGULARLY FOR UNDERMINING OR DETERIORATION OF THE BALES.
- 3. ALL SEEDED AREAS WILL BE CHECKED REGULARLY TO SEE THAT A GOOD STAND IS MAINTAINED. AREAS SHOULD BE FERTILIZED AND
- 4. ALL TEMPORARY EROSION AND SEDIMENT CONTROL MEASURES SHALL BE DISPOSED OF WITHIN 30 DAYS FOLLOWING FINAL SITE STABILIZATION OR AFTER THE TEMPORARY MEASURES ARE NO LONGER NEEDED, UNLESS OTHERWISE AUTHORIZED BY THE CONSTRUCTION LANARGE / ENCLYPER / ENCL CONSTRUCTION MANAGER/ ENGINEER.

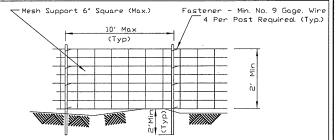


NOT TO SCALE

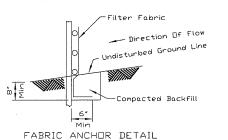
GENERAL NOTES

- 1. SCHEDULE: THE CONSTRUCTION OF THE SITE REQUIRES A CERTAIN SEQUENCE OF EVENTS TO MINIMIZE CONSTRUCTION TIME REQUIRED UNTIL AVAILABILITY OF CELLULAR TELEPHONE SERVICE.
- 2. BENCHMARK: SEE SURVEY FOR ADDITIONAL INFORMATION
- 3. CONSTRUCTION STAKING: THE GENERAL CONTRACTOR SHALL CONTACT THE SURVEYOR TO SCHEDULE CONSTRUCTION STAKING AT LEAST 48 HOURS PRIOR TO SITE LAYOUT, SURVEYOR TO STAKE LEASE AREA CORNERS, SHELTER CORNERS, FENCE CORNERS, CENTER OF TOWER AND CENTERLINE OF ALL ACCESS AND UTILITY EASEMENTS. ANY SITE CONSTRUCTION LAYOUT WORK DONE BY ANY OTHER(S) THAN CONSCILLATED LAND SURVEYING INC., SHALL BE THE SOLE RESPONSIBILITY OF THE CONTRACTOR. THE CONTRACTOR CONSTRUCTION THE PROPOSED IMPROVEMENTS SHALL HAVE A RESPONSIBILITY IN CHECKING AND VERRYING GRADE ELEVATIONS PRIOR TO INSTALLATION OF SAID IMPROVEMENTS. THE CONTRACTOR SHALL ALSO USE QUALIFIED AND COMPETENT PERSONNEL THAT CAN RECOGNIZE AND UNDERSTAND PROPER CONSTRUCTION TECHNIQUES AND PROCEDURES AND CAN RECOGNIZE IRREGULARITIES OF CONFLICTS ON THE PLANS OR ON THE CONSTRUCTION SITE WHICH WOULD NEED TO BE CORRECTED. THE CONTRACTOR SHALL NOTIEY THE CONTRACTION MANAGER AND/OR ENGINEER OF ANY DISCREPANCIES, CONFLICTS OR NOTIFY THE CONSTRUCTION MANAGER AND/OR ENGINEER OF ANY DISCREPANCIES, CONFLICTS OR ERRORS FOUND ON THE PLANS OR ON THE CONSTRUCTION SITE IMMEDIATELY.
- 4. SITE CLEARING EXCAVATION AND FILL: ALL NEW SHELTER AND TOWER LOCATIONS SHALL BE CLEARED OF ALL TOPSOIL AND VEGETATION. CONTRACTOR SHALL USE EXCAVATED MATERIAL FROM FOUNDATION EXCAVATION AND SHALL PROVIDE SPREAD AND COMPACT GRAVEL AS REQUIRED TO BRING SHELTER UP TO ELEVATIONS AS INDICATED BY THE FINAL GRADE ELEVATIONS AS SHOWN ON THE PLANS.
- 5. SHELTER LOCATION: THE GENERAL CONTRACTOR SHALL VERIFY THAT THE SHELTER FOUNDATION IS LOCATED CORRECTLY WITH RESPECT TO EXISTING OR PROPOSED SHELTER(S), TOWER AND FENCE CORNERS. THE CONTRACTOR MUST NOTIFY THE ARCHITECT/ENGINEER OF ANY DISCREPANCIES PRIOR TO POURING CONCRETE.
- 6. PREFABRICATED SHELTER: THE GENERAL CONTRACTOR SHALL PROVIDE ALL LABOR, EQUIPMENT AND MATERIALS FOR THE PROPER LIFTING OF THE SHELTER FROM THE TRANSPORT TRUCK BED TO THE FINAL POSITION ON THE CONCRETE FOUNDATION. THE SHELTER SHALL BE LIFTED INTO PLACE BY USING EIGHT (8) LIFTING EYELETS PROVIDED BY THE SHELTER MANUFACTURER. THE SHELTER MANUFACTURER REQUIRES EIGHT (8) 3/4" DIAMMETER, 15" LONG STEEL CABLES CONNECTED TO THE SPREADER BAR. IF THE SHEADER BAR STATE SHELTER, CORNER PROTECTORS WILL NOT NEED TO BE USED. THE APPROXIMATE WEIGHT OF THE SHELTER, CORNER PROTECTORS WILL ONLY NEED TO BE USED. THE APPROXIMATE WEIGHT OF THE SHELTER TO THE CONCRETE SLAB WITH STEEL PLATES AND ANCHOR BOLTS PROVIDED BY THE SHELTER MANUFACTURER. THE GOUPMENT IS RELITER SHAD ANCHOR BLIES SHELTER SHALL NOT BE USED FOR THE STORAGE OF ANY MATERIALS, TOOLS, ETC. USED BY THE CONTRACTOR SHALL STORAGE OF ANY
- 7. THE GENERAL CONTRACTOR IS RESPONSIBLE FOR THE INSTALLATION OF THE ELECTRICAL DISCONNECT, DOOR CANOPIES (WITH CAULKING), EXTERIOR LIGHT FIXTURE, GENERATOR LOOSE SH MATERIALS, INCLUDING FUELING, START UP AND TESTING (COORDINATE WITH OPERATIONS TO SET GENERATOR ROUTINE RUN DATE).
- 8. UTILITIES: THE GENERAL CONTRACTOR SHALL BE RESPONSIBLE FOR THE EXCAVATION AND PROPER BACK FILLING OF TRENCHES REQUIRED FOR UNDERGROUND TELEPHONE AND ELECTRICAL UTILITIES. SEE SHEET D-I AND D-2 FOR THE UTILITY TRENCH PLAN AND DETAILS. COORDINATE SERVICE DATE WITH THE RESPECTIVE UTILITY COMPANIES.
- 9. THE GENERAL CONTRACTOR SHALL INSTALL THE TOWER FOUNDATION, INCLUDING THE ANCHOR BOLTS AS FURNISHED BY THE TOWER MANUFACTURER. TOWER FABRICATION, ERECTION, AND ANTENNA INSTALLATION SHALL BE BY OTHERS.
- IO. ACCESS DRIVEWAY: THE GENERAL CONTRACTOR SHALL CONSTRUCT THE ACCESS DRIVEWAY PER THE ALIGNMENT AND CROSS SECTION ON THE DRAWINGS. IF ANY AREA OF CONSTRUCTION REQUIRES MORE FILL OF ACGREGATE STONE THAN SHOWN ON THE DRAWINGS, THE GENERAL CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER AND/OR ENGINEER FOR APPROVAL OF THE SIZE, TYPE AND QUANTITY OF STONE/FILL NECESSARY, AND SHALL NOT BE USED UNTIL APPROVAL BY THE CONSTRUCTION MANAGER/ENGINEER.
- II. ANTENNAS INSTALLATION: ALL ANTENNAS AND LINES AND ICE BRIDGE SHALL BE INSTALLED BY THE ANTENNA CONTRACTOR. DURING THIS WORK THE GENERAL CONTRACTOR SHALL BE LIMITED TO THE WORK WHICH CAN BE PERFORMED IN THE VICINITY OF THE TOWER.
- 12. HERBICIDE: AFTER PLACEMENT AND COMPACTING OF FILL AROUND THE PREFABRICATED SHELTER AND BEFORE PLACEMENT OF LIMESTONE SURFACE, A WEED BARRIER SHALL BE PLACED AND HERBICIDE SHALL BE SPRAYED OVER ALL DISTURBED AREA.
- 13. TRASH REMOVAL: THE GENERAL CONTRACTOR SHALL REMOVE ALL TRASH AS CREATED BY HIMSELF AND HIS SUBCONTRACTORS AND ALSO BY OTHER CONTRACTORS, INCLUDING CABLE REELS, CARDBOARD BOXES AND PACKAGING. THE GENERAL CONTRACTOR SHALL PROVIDE A TRASH DUMPSTER (40 YARD ROLL—OFF) ON THE SITE UNTIL ALL CONSTRUCTION WORK AND EQUIPMENT INSTALLATION WORK HAS BEEN COMPLETED. ALL TRASH SHALL BE REMOVED FROM THE SITE IN A TIMELY FASHION TO A LEGAL DISPOSAL AREA. FAILURE TO PROVIDE A DUMPSTER ON SITE WILL RESULT IN A \$1,000.00 REDUCTION IN THE CONTRACT AMOUNT.
- 14. FINAL CLEAN UP: UPON COMPLETION OF ALL WORK BY THE GENERAL CONTRACTOR AND ALL OTHER CONTRACTORS ON THIS PROJECT, THE GENERAL CONTRACTOR SHALL STRIP AND CLEAN THE FLOOR OF THE SHELTER USING AN INDUSTRIAL STRIPPING MACHINE. THE FINISHED FLOOR SHALL BE CLEAN AND DUST FREE. NO SURFACE FINISHES SHALL BE APPLIED. THE GENERAL CONTRACTOR IS ALSO RESPONSIBLE FOR THE REMOVAL OF ALL EXCESS MATERIALS FROM INSIDE THE SHELTER ALONG WITH SHIPMENT OF NOTED MATERIALS BACK TO THE OWNER.
- 15. GENERAL CONTRACTOR SHALL REQUEST DELIVERY OF ANTENNAS AND MISCELLANEOUS MATERIALS WHEN READY TO RECEIVE AND INVENTIORY. ANY SHORTAGES MUST BE REPORTED TO THE CONSTRUCTION MANAGER WITHIN 48 HOURS OF DELIVERY.
- 16. THE GENERAL CONTRACTOR SHALL PROVIDE AND MAINTAIN A PORTABLE TOILET ON SITE DURING THE DURATION OF THE CONSTRUCTION PROJECT.
- 17. UNDERGROUND UTILITY LOCATION: CONTACT J.U.L.I.E. (800) 892-0123 AT LEAST 48 HOURS PRIOR TO DIGGING.
- 18. THE CONTRACTOR WILL, UPON BECOMING AWARE OF SUBSURFACE OR LATENT PHYSICAL CONDITIONS DIFFERING FROM THOSE DISCLOSED BY THE ORIGINAL SOIL INVESTIGATION WORK, PROMPTLY NOTIFY THE OWNER VERBALLY TO PERMIT VERIFICATION OF THE CONDITIONS, AND IN WRITING, AS TO THE NATURE OF THE DIFFERING CONDITIONS. NO CLAIM BY THE CONTRACTOR FOR ANY CONDITIONS DIFFERING FROM THOSE ANTICIPATED IN THE PLANS AND SPECIFICATIONS AND DISCLOSED BY THE STUDIES WILL BE ALLOWED UNLESS THE CONTRACTOR HAS SO NOTIFIED THE OWNER, VERBALLY AND IN WRITING, AS REQUIRED ABOVE, OF SUCH DIFFERING SUBSURFACE
- 19. THE GENERAL CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER 48 HOURS PRIOR TO POURING CONCRETE FOR SHELTER FOUNDATION.
- 20. CONCRETE CORES (3 CYLINDERS PER TRUCK) ARE TO BE TAKEN AND TESTED BY A QUALIFIED CONCRETE TESTING COMPANY. THE GENERAL CONTRACTOR SHALL PROVIDE THREE (3) COPIES OF TESTING RESULTS TO THE CONSTRUCTION MANAGER. FAILURE TO PROVIDE WRITTEN TESTS WILL RESULT IN A \$1,000.00 DEDUCTION FROM CONTRACT. THE GENERAL CONTRACTOR WILL BE HELD RESPONSIBLE FOR ANY ADDITIONAL COSTS IN TESTING DUE TO DELAYS BY THE GENERAL CONTRACTOR OR HIS SUBCONTRACTORS.
- 21. BEFORE AND DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL AS NECESSARY IN THE FORM OF SILT FENCES FOR THE SITE AND BALES AROUND ANY EXISTING MANHOLES, INLETS, OR CATCHBASINS (WHEN PRESENT) SUSCEPTIBLE TO EROSION EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED TO ENSURE PROPER FUNCTION. EROSION CONTROL SHALL BE REMOVED UPON COMPLETION OF WORK BY THE CONTRACTOR.
- 22. THE CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING PAVED, CONCRETE, OR GRAVEL PARKING AREAS AND DRIVES. CONTRACTORS SHALL PHOTOGRAPH AND VIDEOTAPE EXISTING PARKING AREAS AND DRIVES PRIOR TO CONSTRUCTION. ANY DAMAGE CAUSED DURING CONSTRUCTION SHALL BE REPLACED TO EXISTING OR BETTER CONDITIONS AT NO ADDITIONAL COST.
- 23. GRADE AND RE-SEED ALL AREAS DISTURBED DURING CONSTRUCTION PER EROSION AND SEDIMENT CONTROL NOTES AND BETAILS ON THIS SHEET TO MATCH EXISTING SURROUNDINGS AFTER WORK IS COMPLETE OR AS WEATHER PERMITS WITH APPROVAL FROM THE PROPERTY

SILT FENCE PLAN



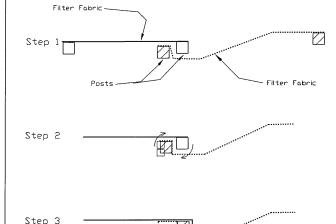
ELEVATION



- Top and bottom wires of mesh support shall be min. gage no.9
- 2. Intermediate wires of mesh supports shall be min. gage no. 11. 3. Temporary sediment fence shall be installed prior to any grading work
- in the area to be protected. They shall be maintained throughout the construction period and removed in conjunction with the final grading .Filter fabric shall meet the requirements of material specification 592 Geotextile Table 1 or 2, Class I with equivalent opening size of
- at least 30 for nonwoven and 50 for woven. 5. Fence post shall be either standard steel post or wood post with a minmum sectional area 3.0 sq.in.
- $6.\,\mathrm{The}$ mesh support may be omitted if a maximum of 5' is used for post

U.S. DEPARTMENT OF AGRICULTURE Pro ject IL-620 SOIL CONSERVATION SERVICE _ Date SHEET 1 DF 1 DATE 3-3-95

SILT FENCE



ATTACHING TWO SILT FENCES

- Place the end post of the second fence inside the end post of the 2. first fence.
- Rotate both posts at least 180 degrees in a clockwise direction to create a tight seal with the fabric material.

 Drive both posts a minimum of 2 feet into the ground and bury the flap.

USDA NRCS STANDARD DVG. NO.

IL-620 NATURAL RESDURCES CONSERVATION SERVICE SHEET 2 OF 2

CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A. VERIZON WIRELESS

REAL ESTATE MANAGER OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG II 60173 OFFICE: (847) 619-4142

CONSTRUCTION MANAGER RON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63304

OFFICE: (636) 793-9278



1300 W. COMMERCE DR. STE. 700 PEORIA, ILLINOIS 61615

LAND SURVEYORS AND PROFESSIONAL ENGINEERS

PHONE: 309-692-3434 FAX: 309-692-3433

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PREPARED BY: HRH 5-12-15

8-25-15 10-20-15



IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

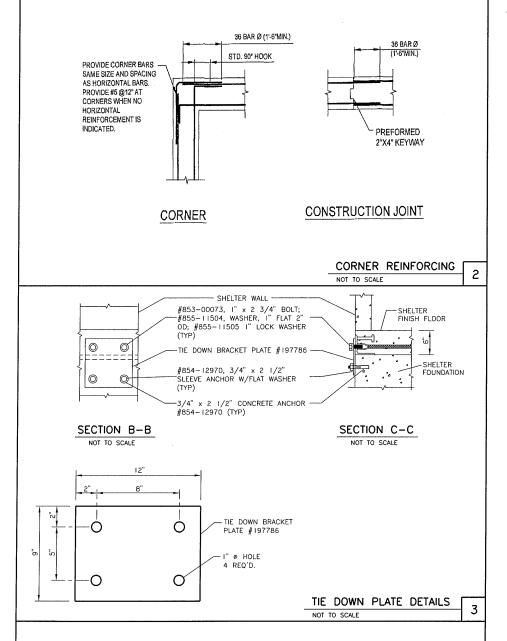
SHEET NAME

GENERAL NOTES EROSION CONTROL

SHEET NUMBER

JOB NUMBER

9468-43-8-8B-03



A. EQUIPMENT ENCLOSURE FOUNDATION

I. REFER TO CIVIL DRAWINGS FOR ORIENTATION OF THE FOUNDATIONS.

2. EQUIPMENT ENCLOSURE FOUNDATION IS DESIGNED FOR THE FOLLOWING LOADS: ENCLOSURE DEAD LOAD: 70,000 LBS. ROOF LIVE LOAD: 50 PSF FLOOR LIVE LOAD: 50 PSF FLOOR LIVE LOAD: 125 PSF

3. THE CONTRACTOR SHALL NOTIFY THE CLIENT'S GEOTECHNICAL ENGINEER TO COORDINATE HAVING A FIELD REPRESENTATIVE ON SITE FOR TESTING AND INSPECTION.

4. FOOTINGS SHALL BEAR ON VIRGIN SOIL OR COMPACTED FILL MATERIAL CAPABLE OF SUPPORTING A MINIMUM SOIL BEARING PRESSURE OF 2000 PSF.

5. SUBGRADE PREPARATION

REMOVE ALL SOILS CONTAINING TOPSOIL: ORGANIC MATERIALS, AND/OR FILL MATERIALS FROM WITHIN AREA OF

B. PROOF ROLL RESULTING SUBGRADE WITH A HEAVILY LOADED SINGLE AXLE ROLLER OR SIMILAR VEHICLE. (20 TON B. PROOF ROLL RESULTING SUBGRADE WITH A HEAVILY LUADED SINGLE ARLE NULLER ON SMIRLAR VEHICLE. (20 TON LOAD), CONTRACTOR SHALL UNDERCUT AND REPLACE WITH ENGINEERED FILL ALL LOOSE SOFT OR UNSTABLE AREAS REVEALED DURING PROOFROLLING AS DIRECTED BY THE TESTING AGENCY. CONTRACTOR SHALL INCLUDE ANTICIPATED UNDERCUT AND REPLACEMENT AS INDICATED IN THE GETECHNICAL REPORT AS PART OF THE BID.

C. BACKFILL AND COMPACT THE AREA WITHIN THE BUILDING FOUNDATION. BETWEEN RESULTANT SUBGRADE AND FOUNDATION WALL WITH APPROVED GRANULAR MATERIAL.

- 6. FOUNDATION WALLS SHALL BE BACKFILLED EVENLY ON EACH SIDE OF THE WALL.
- 7. CONTRACTOR TO ENSURE FOUNDATION IS POURED TO MEET FLATNESS LEVEL TOLERANCES AS INDICATED IN ACI 4.5.6 AND 4.5.7.

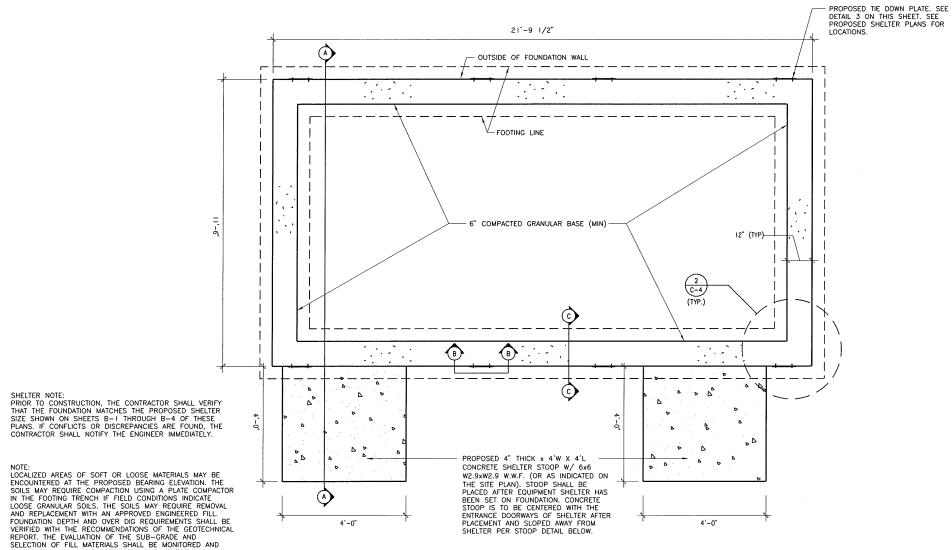
B. EQUIPMENT ENCLOSURE

- 1. THE EQUIPMENT ENCLOSURE IS A PRE-FABRICATED BUILDING MANUFACTURERED BY FIBREBOND, MINDEN, LOUISIANA.
- 2. THE EQUIPMENT ENCLOSURE BUILDING SHALL BE FURNISHED AND INSTALLED BY THE OWNER AND INSTALLED BY THE CONTRACTOR PERMANUFACTURER'S SPECIFICATIONS.

I. ALL CONCRETE WORK SHALL CONFORM TO THE REQUIREMENTS OF ACI 318 AND ACI 301, LATEST EDITION. THESE DOCUMENTS SHALL BE AVAILABLE IN THE FIELD OFFICE.

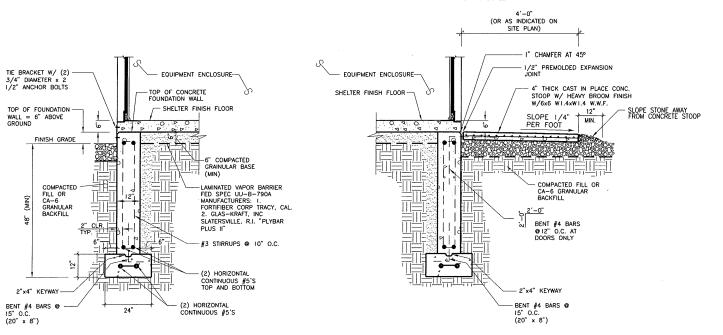
2. EXCEPT WHERE OTHERWISE INDICATED, CONCRETE SHALL BE NORMAL WEIGHT AND WITH MINIMUM 28-DAY COMPRESSIVE STRENGTHS OF F'C=400D PSI. ALL EXTERIOR EXPOSED CONCRETE SHALL BE AIR ENTRAINED.

3. REINFORCING BARS SHALL CONFORM TO ASTM AG15, GRADE 60. ALL WELDED WIRE FABRIC SHALL CONFORM TO ASTM A185.



SHELTER FOUNDATION PLAN

NOT TO SCALE



TESTED BY A QUALIFIED REPRESENTATIVE OF THE SOILS

FOUNDATION WALL SECTION A-A

NOT TO SCALE

STOOP DETAIL SECTION A-A

NOT TO SCALE

CHICAGO SMSA LIMITED

PARTNERSHIP, D.B.A. VERIZON WIRELESS

REAL ESTATE MANAGER: OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142

RON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63304 OFFICE: (636) 793-9278

CONSTRUCTION MANAGER:

CLS

PEORIA, ILLINOIS 61615

LAND SURVEYORS
AND PROFESSIONAL ENGINEERS

PHONE: 309-692-3434 FAX: 309-692-3433

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PREPARED BY: HRH 5-12-15

1	8-25-15	UPDATED FOUNDATION DETAILS
L		



IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME **FOUNDATION** PLAN AND **DETAILS**

SHEET NUMBER

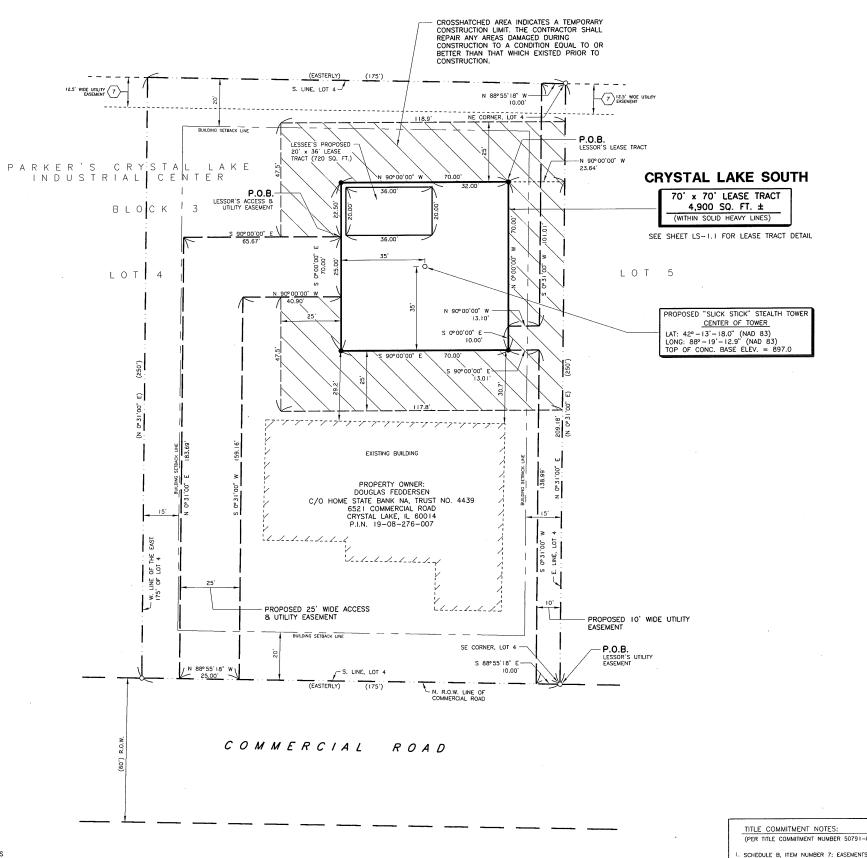


JOB NUMBER

9468-43-8-8B-03

SHELTER FOUNDATION DETAILS

NOT TO SCALE



STATE OF ILLINOIS COUNTY OF PEORIA

WE, CONSOLIDATED LAND SURVEYING, INC. DO HEREBY CERTIFY THAT WE HAVE SURVEYED AND PREPARED A PLAT OF SURVEY OF A PART OF THE EAST 175 FEET OF LOT 4 IN BLOCK 3 IN PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER, A SUBDIVISION OF PART OF SECTION 8, TOWNSHIP 43 NORTH RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, MCHENRY COUNTY, ILLINOIS, AND THAT THE ABOVE PLAT IS A CORRECT REPRESENTATION OF SAD SURVEY AS MADE BY US AND DRAWN TO A SCALE OF I INCH = 20 FEET.

GIVEN UNDER MY HAND AND SEAL THIS 20TH DAY OF OCTOBER A.D. 2015.

CONSOLIDATED LAND SURVEXING, INC. H. RALPH HODGES, WINOIS PROFESSIONAL LAND STRVEYOR NO. 2812

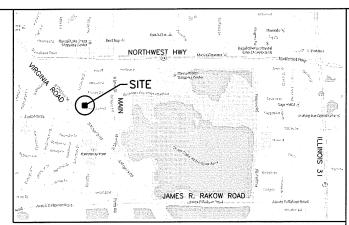


(PER TITLE COMMITMENT NUMBER 50791-IL 1503-5030, DATED MARCH 12, 2015)

SCHEDULE B, ITEM NUMBER 7: EASEMENTS AS NOTED ON THE PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER PLAT DATED 4/26/1955 RECORDED 5/10/1955 IN BOOK 12 PAGE 27.

SEE SHEET LS-I.I FOR LEGAL DESCRIPTIONS

SEE SHEET LS-1.1 FOR LEASE TRACT DETAIL



LOCATION MAP

NOT TO SCALE

LEGEND

BOUNDARY LINE OF LEASE SITE - PARENT PARCEL RIGHT OF WAY LINE - - BUILDING SETBACK LINE - - - - - EXISTING PROPERTY LINE PROPOSED EASEMENT LINE SURVEY PIPE OR ROD FOUND IRON ROD SET

(250') INFORMATION OF RECORD P.O.B.

POINT OF BEGINNING

CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A. VERIZON WIRELESS

OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142

CONSTRUCTION MANAGER: RON PAULY 500 TECHNOLOGY DRIVE

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PROFESSIONAL DESIGN FIRM NO. 184-002756

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PREPARED BY: HRH 5-12-15

10-20-15



IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

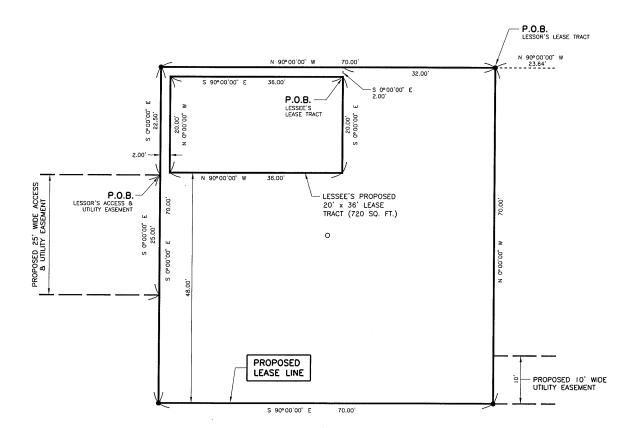
SHEET NAME

LESSEE

PLAT OF SURVEY

SHEET NUMBER

JOB NUMBER



PROPOSED LEASE TRACT DETAIL

NOT TO SCALE

SEE SHEET LS-I FOR PLAT OF SURVEY

LEGAL DESCRIPTION PROPOSED 20' x 36' LEASE TRACT 720 SQ. FT. ±

A 20 FOOT BY 36 FOOT LEASE TRACT AND UTILITY EASEMENT BEING A PART OF LOT 4 IN BLOCK 3 IN PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER, A SUBDIVISION OF PART OF SECTION 8, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 4; THENCE NORTH 00° -31'-00" EAST (BEARINGS ASSUMED FOR THE PURPOSE OF DESCRIPTION ONLY) ALONG THE EAST LINE OF SAID LOT 4, A DISTANCE OF 209.18 FEET; THENCE NORTH 90° -00'-00" WEST, A DISTANCE OF 23.64 FEET; THENCE CONTINUING NORTH 90° -00'-00" WEST, A DISTANCE OF 32.00 FEET; THENCE SOUTH 00° -00'-00" EAST, A DISTANCE OF 2.00 FEET TO THE POINT OF BEGINNING OF THE TRACT TO BE DESCRIBED; THENCE CONTINUING SOUTH 00° -00'-00" EAST, A DISTANCE OF 20.00 FEET; THENCE NORTH 90° -00'-00" WEST, A DISTANCE OF 36.00 FEET; THENCE NORTH 90° -00'-00" WEST, A DISTANCE OF 20.00 FEET; THENCE SOUTH 90° -00'-00" EAST, A DISTANCE OF 36.00 FEET TO THE POINT OF BEGINNING, CONTAINING 720 SOUARE FEET, MORE OR LESS, SITUATED IN THE COUNTY OF MCHENRY AND STATE OF ILLINOIS

LEGAL DESCRIPTION PROPOSED 70' x 70' LEASE TRACT 4,900 sq. ft. ±

A 70 FOOT BY 70 FOOT LEASE TRACT AND UTILITY EASEMENT BEING A PART OF LOT 4 IN BLOCK 3 IN PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER, A SUBDIVISION OF PART OF SECTION 8, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 4; THENCE NORTH $00^{\circ}-31^{\circ}-00^{\circ}$ EAST (BEARINGS ASSUMED FOR THE PURPOSE OF DESCRIPTION ONLY) ALONG THE EAST LINE OF SAID LOT 4, A DISTANCE OF 209.18 FEET; THENCE NORTH $90^{\circ}-00^{\circ}-00^{\circ}$ WEST, A DISTANCE OF 23.64 FEET TO THE POINT OF BEGINNING OF THE TRACT TO BE DESCRIBED; THENCE CONTINUING NORTH $90^{\circ}-00^{\circ}-00^{\circ}$ WEST, A DISTANCE OF 70.00 FEET; THENCE SOUTH $90^{\circ}-00^{\circ}-00^{\circ}$ EAST, A DISTANCE OF 70.00 FEET; SOUTH $90^{\circ}-00^{\circ}-00^{\circ}$ EOST, A DISTANCE OF 70.00 FEET; THENCE NORTH $90^{\circ}-00^{\circ}-00^{\circ}$ WEST, A DISTANCE OF 70.00 FEET; THENCE NORTH $90^{\circ}-00^{\circ}-00^{\circ}$ WEST, A DISTANCE OF 70.00 FEET TO THE POINT OF BEGINNING, CONTAINING 4,900 SOUARE FEET, MORE OR LESS, SITUATED IN THE COUNTY OF MCHENRY AND STATE OF ILLINOIS.

LEGAL DESCRIPTION PROPOSED 25' WIDE ACCESS & UTILITY EASEMENT

A 25 FOOT WIDE ACCESS AND UTILITY EASEMENT BEING A PART OF LOT 4 IN BLOCK 3 IN PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER, A SUBDIVISION OF PART OF SECTION 8, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 4; THENCE NORTH 00° -31'-00" EAST (BEARINGS ASSUMED FOR THE PURPOSE OF DESCRIPTION ONLY) ALONG THE EAST LINE OF SAID LOT 4, A DISTANCE OF 29.18 FEET; THENCE NORTH 90°-00'-00" WEST, A DISTANCE OF 23.64 FEET; THENCE CONTINUING NORTH 90°-00'-00" WEST, A DISTANCE OF 70.00 FEET; THENCE SOUTH 00°-00'-00" EAST, A DISTANCE OF 22.50 FEET TO THE POINT OF BEGINNING OF THE EASEMENT TO BE DESCRIBED; THENCE CONTINUING SOUTH 00°-00'-00" EAST, A DISTANCE OF 25.00 FEET; THENCE NORTH 90°-00'-00" WEST, A DISTANCE OF 5.00 FEET; THENCE NORTH 90°-00'-00" WEST, A DISTANCE OF 159.16 FEET TO A POINT ON THE SOUTH LINE OF SAID LOT 4, A DISTANCE OF 159.16 FEET TO A POINT ON THE SOUTH LINE OF SAID LOT 4, THENCE NORTH 80°-55'-18" WEST ALONG THE SOUTH LINE OF SAID LOT 4, A DISTANCE OF 5.00 FEET; THENCE NORTH 00°-31'-00" EAST, PARALLEL WITH THE EAST LINE OF SAID LOT 4, A DISTANCE OF 159.16 FEET TO A POINT ON THE SOUTH LINE OF SAID LOT 4, A DISTANCE OF 65.67 FEET TO THE POINT O0°-31'-00" EAST, PARALLEL WITH THE EAST LINE OF SAID LOT 4, A DISTANCE OF 183.69 FEET; THENCE SOUTH 90°-00'-00" EAST, A DISTANCE OF 65.67 FEET TO THE POINT OF BEGINNING, SITUATED IN THE COUNTY OF MCHENRY AND STATE OF ILLINOIS.

LEGAL DESCRIPTION PROPOSED 10' WIDE UTILITY EASEMENT

A 10 FOOT WIDE UTILITY EASEMENT BEING A PART OF LOT 4 IN BLOCK 3 IN PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER, A SUBDIVISION OF PART OF SECTION 8, TOWNSHIP 43 NORTH, RANGE 8 EAST OF THE THIRD PRINCIPAL MERIDIAN, BEING MORE PARTICULARLY DESCRIBED AS FOLLOWS:

COMMENCING AT THE SOUTHEAST CORNER OF SAID LOT 4 AS THE POINT OF BEGINNING OF THE EASEMENT TO BE DESCRIBED; THENCE NORTH 00°-31'-00" EAST (BEARINGS ASSUMED FOR THE PURPOSE OF DESCRIPTION ONLY) ALONG THE EAST LINE OF SAID LOT 4, A DISTANCE OF 250 FEET TO THE NORTHEAST CORNER OF SAID LOT 4; THENCE NORTH 88°-55'-18" WEST ALONG THE NORTH LINE OF SAID LOT 4, A DISTANCE OF 10.00 FEET; THENCE SOUTH 00°-31'-00" WEST, PARALLEL WITH THE EAST LINE OF SAID LOT 4, A DISTANCE OF 10.10 I FEET; THENCE NORTH 90°-00'-00" WEST, A DISTANCE OF 13.10 FEET; THENCE SOUTH 00°-00'-00" EAST, A DISTANCE OF 10.00 FEET; THENCE SOUTH 90°-00'-00" EAST, A DISTANCE OF 138.99 FEET TO A POINT ON THE SOUTH LINE OF SAID LOT 4, A DISTANCE OF 138.99 FEET TO A POINT ON THE SOUTH LINE OF SAID LOT 4; THENCE SOUTH 88°-55'-18" EAST ALONG THE SOUTH LINE OF SAID LOT 4; THENCE SOUTH 88°-55'-18" EAST ALONG THE SOUTH LINE OF SAID LOT 4; DISTANCE OF 118.99 FEET TO A POINT ON THE SOUTH LINE OF SAID LOT 4; DISTANCE OF 138.99 FEET TO A POINT ON THE SOUTH LINE OF SAID LOT 4; DISTANCE OF 138.99 FEET TO A POINT ON THE SOUTH LINE OF SAID LOT 4; DISTANCE OF 10.00 FEET; TO A POINT ON THE SOUTH LINE OF SAID LOT 4; DISTANCE OF 10.00 FEET TO THE POINT OF BEGINNING, SITUATED IN THE COUNTY OF MCHENRY AND STATE OF ILLINOIS.

LEGAL DESCRIPTION EXISTING PARENT PARCEL

THE EAST 175 FEET OF LOT 4 IN BLOCK 3 IN PARKER'S CRYSTAL LAKE INDUSTRIAL CENTER, A SUBDIVISION OF PART OF SECTION 8, TOWNSHIP 43 NORTH RANGE 8 EAST OF THE THIRD PRINCIPAL MERDIAN, ACCORDING TO THE PLAT THEREOF RECORDED MAY 10, 1955 AS DOCUMENT NO, 292393, IN BOOK 12 OF PLATS, PAGE 27 IN MCHENRY COUNTY, ILLINOIS

CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A. VERIZON WIRELESS

REAL ESTATE MANAGER: OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142

CONSTRUCTION MANAGER: RON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63304

OFFICE: (636) 793-9278

CUS CONSOLIDATED LAND SURVEYING

.___ ___

1300 W. COMMERCE DR. STE. 700 PEORIA, ILLINOIS 61615

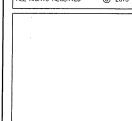
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PREPARED BY: HRH 5-12-15

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IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME

LESSEE

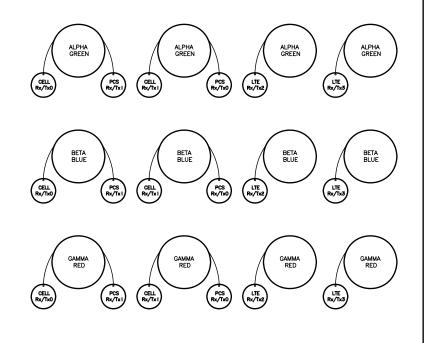
PLAT OF SURVEY LEGAL DESCRIPTIONS

SHEET NUMBER

LS-1.1

JOB NUMBER

9468-43-8-88-03



VIEW LOOKING AT ENTRY PORT FROM INSIDE SHELTER

PREFERRED COAX & COAX TAG ORIENTATION

I. VERIFY EACH COAXIAL CABLE LENGTH, ROUTING AND ALL MOUNTING APPURTENANCES WITH OWNER PRIOR TO ORDERING.

2. THE MINIMUM COAXIAL CABLE LENGTH HAS BEEN ESTIMATED AT $_167$ _ FEET EACH WITH A CORRESPONDING CABLE DIAMETER OF I 5/8". THIS CABLE LENGTH IS APPROXIMATE AND IS NOT TO BE USED FOR CONSTRUCTION. ACTUAL CABLE LENGTHS MAY VARY FROM ESTIMATED MINIMUM LENGTH

3. TAG ALL MAIN CABLES (LABELED ACCORDING TO SPECS) AT FOUR (4) LOCATIONS:

A. I ID TAG ON THE BOTTOM 1/2" JUMPER COMING FROM THE LUCENT EQUIPMENT B. I ID TAG ON THE BOTTOM MAIN LINE INSIDE THE SHELTER NEAR THE MAIN CONNECTOR C. I ID TAG ON THE TOP MAIN LINE NEAR THE MAIN CONNECTOR

4. CONTRACTOR TO AFFIX TAGS ON THE MAIN CABLES USING A MORE PERMANENT METHOD THAT TIE WRAPS. CONTACT CONSTRUCTION MANAGER FOR SUFFICIENT METHODS.

5. IN THE EVENT DIPLEXERS AND/OR OTHER EQUIPMENT IS ADDED INTO THE SYSTEM, TAGGING WILL BE CHANGED FROM NOTE 3. CONTACT CONSTRUCTION MANAGER FOR SUFFICIENT METHODS.

6. EACH COAX SHALL BE SUPPORTED COLUMN GRIP (CHINESE FINGER GRIP) HUNG FROM A J-HOOK AT TOP OF TOWER, (10' ABOVE FOR LATTICE TOWER).

7. EACH COAX SHALL BE GROUNDED AT THREE (3) LOCATIONS:

A. TOWER PLATFORM OR V-FRAME

B. TOWER BASE

C. OUTSIDE EQUIPMENT SHELTER AT THE WAVEGUIDE ENTRY PORT

8. COAXIAL CABLES TO BE SUPPORTED EVERY 3'-0" ON PLATFORM OR V-FRAME WITH STAINLESS STEEL HANGERS.

9. COAXIAL CABLES TO BE SUPPORTED EVERY 18" WITH STAINLESS STEEL HANGERS.

10. ANTENNA CONTRACTOR RESPONSIBLE FOR FABRICATION ENCLOSURE JUMPERS.

II. COAX TYPE WILL BE AVA7-50 AIR FOAM DIELECTRIC CABLE FROM ANDREW TO REPLACE THE OLDER LDF7-50 CABLE.

12. THE CONTRACTOR SHALL USE PPC CONNECTORS ONLY. NO ANDREW CONNECTORS SHALL BE USED.



REAR VIEW OF THE SHELTER FRONT VIEW OF THE SHELTER

PROPOSED COAX BRIDGE -PROPOSED PREFABRICATED -UNMANNED EQUIPMENT SHELTER $(11'-6"W \times 21'-9 1/2"L \times$ 10'-1/2"H) ON CONCRETE FOUNDATION

PROPOSED 5' LIGHTNING ROD AERIAL-

PROPOSED ANTENNAS MOUNTED

TOWER. SEE ANTENNA

SECTORIZATION)

ANTENNA PLACEMENT AND

AT 120'-0" AGL INSIDE STEALTH

SPECIFICATIONS ON SHEET A-I.I

FOR THE NUMBER OF ANTENNAS,

PROPOSED ANTENNA CANISTERS

TOP LIGHTNING ROD ELEV.: 1027.25 +130'-0" AGL

TOP OF STEALTH TOWER ELEV.: 1022.25 +125'-0" AGL

CENTERLINE OF ANTENNA ELEV.: 1017.25 +120'-0" AGL

CENTERLINE OF FUTURE ANTENNA ELEV.: 1007.25 +110'-0" AGL

CENTERLINE OF FUTURE ANTENNA
ELEV.: 997.25
+100'-0" AGL

NEW STEALTH TOWER TO MAINTAIN A GALVANIZED STEEL FINISH.

NEW GALVANIZED STEEL "SLICK STICK" STEALTH TOWER FURNISHED BY OWNER AND INSTALLED BY CONTRACTOR. TOWER FOUNDATION (DESIGNED BY OTHERS)

PROPOSED COAX CABLES TO BE ROUTED UP THE INTERIOR OF THE PROPOSED STEALTH TOWER TO THE PROPOSED ANTENNAS MOUNTED INSIDE THE TOWER, SEE SHEET A-1.1 FOR ANTENNA INFORMATION. MINIMUM ESTIMATED CABLE LENGTH IS 167 LIN.

STRUCTURAL NOTES:

1. STRUCTURAL CALCULATION PREPARED BY OTHERS. CONTRACTOR TO COORDINATE WITH REPRESENTATIVE TO OBTAIN A COPY.

CONTRACTOR TO REFER TO TOWER STRUCTURAL CALCULATIONS FOR ADDITIONAL LOADS. NO ERECTION OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.

TOWER NOTES:

I. COAX LADDER OR BRACKETS AND HARDWARE WILL NEED TO BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR

2. IT IS THE INSTALLING CONTRACTORS RESPONSIBILITY TO VERIFY ALL ANTENNA INFORMATION AGAINST FINAL RADIO ENGINEERING PLAN PROVIDED BY OTHERS.

NEW CHAIN LINK FENCE WITH BARBED WIRE EXTENSION FURNISHED & INSTALLED BY CONTRACTOR SEE SHEET D-3 FOR DETAILS

ELEV.: 897.25

ELEVATION - LOOKING EAST NOT TO SCALE

CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A. VERIZON WIRELESS

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CONSTRUCTION MANAGER: RON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63304 OFFICE: (636) 793–9278

CONSOLIDATED LAND SURVEYING

1300 W. COMMERCE DR. STE. 700 PEORIA, ILLINOIS 61615 LAND SURVEYORS AND PROFESSIONAL ENGINEERS

PHONE: 309-692-3434 FAX: 309-692-3433

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PREPARED BY: HRH 5-12-15



IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME

TOWER ELEVATION AND NOTES

SHEET NUMBER

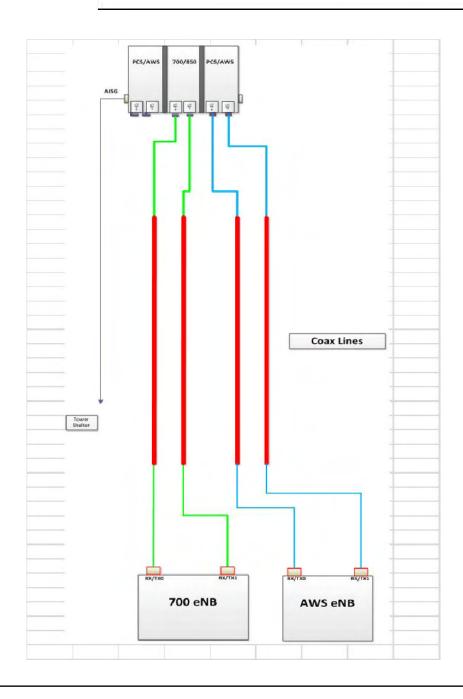
JOB NUMBER

ESTIMATED COAX CABLE LENGTH IS 167 LIN. FT.

			Propose	ed		
1,5	Location	Manufacturer	Componer	nt Model	Count	Action
Components	Top (Platform)					
9	Bottom (Shelter)					
ō	Top (Platform)					
Ē	Bottom (Shelter)					
ദ	Top (Platform)					
9	Top (Platform)					
Passive	Bottom (Shelter)					
G	Top (Platform)					
	Bottom (Shelter)					
	Sector	Coax Manufacturer	Туре	Size	Count	Action
×	Alpha	ANDREW	LDF7-50A	7/8"	4	Install
Coax	Beta	ANDREW	LDF7-50A	7/8"	4	Install
O	Gamma	ANDREW	LDF7-50A	7/8"	4	Install
	AWS					

Comments

Use high power amplifier (80w) at the base station (inside the shelter) for AWS. NO RRHs. Stealth pole site.



EQUIPMENT CHANGE REQUEST FORM- ECR

Cell ID

3319

ccii iau			SKISTAL LAKE SOOT	1				CCII ID			3313
Locatio			281875	RF Engineer	Shoaib Nagi			Address			nmercial Road
Date of Request		st	5/5/2015	Market	Elgin-1	City/		City/State	/Zip	Crystal Lake, IL, 60014	
				PROPOSED CONFIGURATION		Configuration		Option-A2			
		Ante	nna			Antenna Serial			Variable	Mechanical	
Sector	Pos	Port	RF Path	Antenna Manufacturer	Antenna Model	Number	Centerline	Azimuth	Tilt	Tilt	Action
		L1 (-45)	LTE C - RxTx0/RxTx1						2		
	A1	L2 (+45)	LTE C - RxTx2/RxTx3	Amphenol	CWWX063X19G00		120	90		0	Add- Install
		H1 (-45)	AWS - RxTx0		CTTTAGGGATGGG		120	30	2		riad miscan
		H2 (+45)	AWS - RxTx1								
		L1 (-45)	Unused at this time	_							
	A2	L2 (+45)	Unused at this time	_							Unchanged
Alpha		H1 (-45)	Unused at this time	_							
효		H2 (+45)	Unused at this time Unused at this time								
K		L2 (+45)	Unused at this time	_							
	A3	H1 (-45)	Unused at this time	-							Unchanged
		H2 (+45)	Unused at this time	-							
		L1 (-45)	Unused at this time								
		L2 (+45)	Unused at this time								
	A4	H1 (-45)	Unused at this time								Unchanged
		H2 (+45)	Unused at this time								
		L1 (-45)	LTE C - RxTx0/RxTx1								
	100	L2 (+45)	LTE C - RxTx2/RxTx3	_					2		
	B1	H1 (-45)	AWS - RxTx0	Amphenol	CWWX063X19G00		120	210		0	Add- Install
		H2 (+45)	AWS - RxTx1						2		
- 19		L1 (-45)	Unused at this time								
	-	L2 (+45)	Unused at this time								
	B2	H1 (-45)	Unused at this time								Unchanged
Beta		H2 (+45)	Unused at this time								
Be		L1 (-45)	Unused at this time								
	D2	L2 (+45)	Unused at this time								
	B3	H1 (-45)	Unused at this time								Unchanged
		H2 (+45)	Unused at this time								
		L1 (-45)	Unused at this time								
	В4	L2 (+45)	Unused at this time								Unchanged
	54	H1 (-45)	Unused at this time								Onchanged
-		H2 (+45)	Unused at this time								
100		L1 (-45)	LTE C - RxTx0/RxTx1						2		
	G1	L2 (+45)	LTE C - RxTx2/RxTx3	Amphanal	CWWX063X19G00		120	330	2	0	Add- Install
	GI	H1 (-45)	AWS - RxTx0	Amphenol	CWWXU65X19G00		120	330	2	U	Add- Install
		H2 (+45)	AWS - RxTx1						-		
		L1 (-45)	Unused at this time								
	G2	L2 (+45)	Unused at this time								Unchanged
1		H1 (-45)	Unused at this time								ononangea
€		H2 (+45)	Unused at this time								
GAMIMA		L1 (-45)	Unused at this time								
O	G3	L2 (+45)	Unused at this time								Unchanged
	1	H1 (-45)	Unused at this time	_							<u> </u>
		H2 (+45)	Unused at this time								
		L1 (-45)	Unused at this time								
	G4	L2 (+45)	Unused at this time	_							Unchanged
		H1 (-45) H2 (+45)	Unused at this time								
		(12 (*40)	Unused at this time								

TOWER NOTES:

Cell Name

CRYSTAL LAKE SOUTH

I. COAX LADDER OR BRACKETS AND HARDWARE WILL NEED TO BE PROVIDED AND INSTALLED BY GENERAL CONTRACTOR

2. IT IS THE INSTALLING CONTRACTORS RESPONSIBILITY TO VERIFY ALL ANTENNA INFORMATION AGAINST FINAL RADIO ENGINEERING PLAN PROVIDED BY OTHERS.

ANTENNA SCHEDULE

NOT TO SCALE

3

CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A. VERIZON WIRELESS

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FDADET) RY- HDH 5_12_15

EPARED BY: HRH 5-12-15

I 10-20-15 REVISED TO "SLICK STICK" STEALTH TOWER



IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME

ANTENNA INFORMATION

SHEET NUMBER

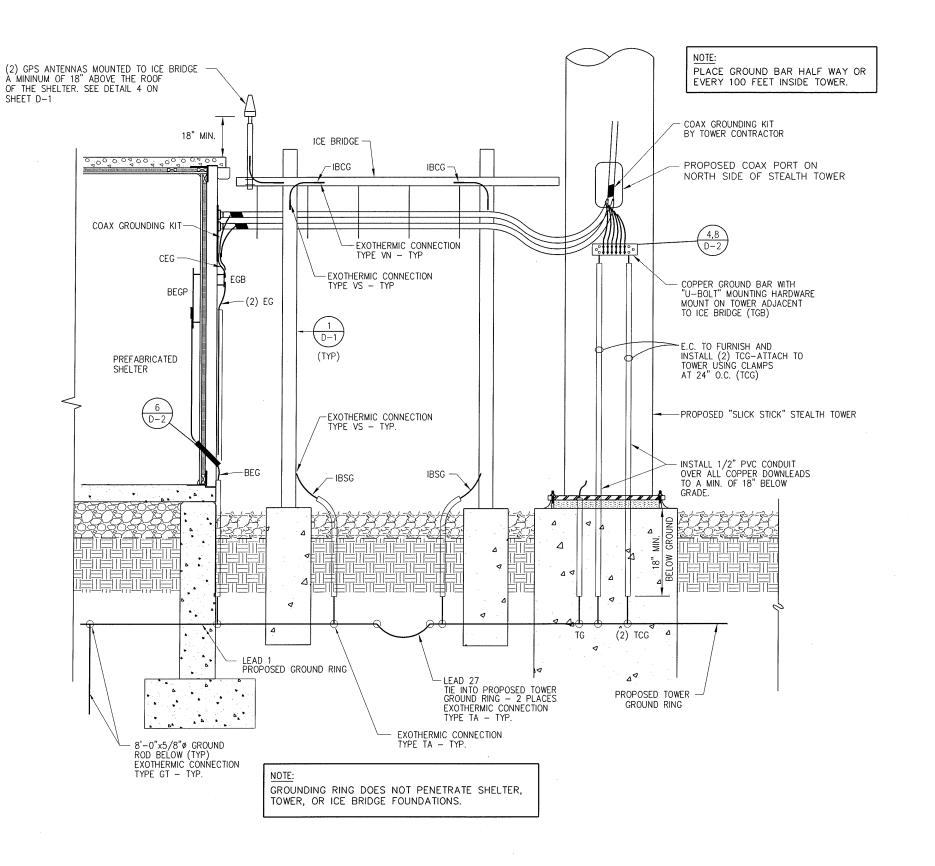
A-1.

JOB NUMBER

9468-43-8-8B-03

ANTENNA LINE/PLATFORM SCHEMATIC

NOT TO SCALE



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PREPARED BY: HRH 5-12-15

	10-20-15	REVISED TO "SLICK STICK" STEALTH TOWE
_		



IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME ICE BRIDGE/COAX PROFILE WITH GROUNDING

SHEET NUMBER

JOB NUMBER

9468-43-8-8B-03

SEE SHEET A-3 FOR SHELTER AND TOWER GROUNDING SCHEMATIC WITH LEGEND.

LEGEND

- FENCE GROUND: E.C. TO PROVIDE AND INSTALL #2 AWG BARE SOLID TINNED COPPER GROUND WIRE AT EACH FENCE CORNER POST. GROUND WIRE TO BE BE WOVEN THROUGH FENCE FABRIC AND CADWELDER THREE PLACES. CADWELDS REQUIRED AT TOP RAIL, BOTTOM OF CORNER POST, AND GROUND RING. FG LEAD 6
 - TOWER GROUND: E.C. SHALL PROVIDE AND INSTALL (1) #2 AWG BARE SOLID TINNED COPPER GROUND WIRE FROM THE TOWER BASE TO GROUNDING RING. BOTH CONNECTIONS ARE CADWELD.
 - TOWER COAX GROUND: E.C. SHALL PROVIDE AND INSTALL (2) #2 AWG BARE SOLID TINNED COPPER GROUND WIRES FROM TOWER COAX GROUND BAR (TGB) TO THE GROUNDING RING. BOTH CONNECTIONS ARE CADWELD.
 - ICE BRIDGE CHANNEL GROUND: E.C. SHALL PROVIDE AND INSTALL (1) #2 AWG BARE SOLID TINNED COPPER GROUND WIRE FROM ICE BRIDGE CHANNEL TO GROUNDING RING. BOTH CONNECTIONS ARE CADWELD.
 - IBSG ICE BRIDGE SUPPORT GROUND: E.C. SHALL PROVIDE AND INSTALL (1) #2 BARE SOLID TINNED COPPER GROUND WIRE FROM ICE BRIDGE SUPPORT COLUMN TO GROUNDING RING. BOTH CONNECTIONS ARE CADWELD.
 - TVSS TRANSIENT VOLTAGE SURGE SUPPRESSER: E.C. TO INSTALL PER TOWER MANUFACTURERS REQUIREMENTS.
 - TVSG TRANSIENT VOLTAGE SURGE SUPPRESSER GROUND: E.C. SHALL PROWDE AND INSTALL (1) #2 BARE SOLID TINNED GROUND WIRE FROM PROVIDED SURGE SUPPRESSER TO GROUNDING RING. CONNECTION TO SURGE SUPPRESSER IS MECHANICAL. CONNECTION TO GROUNDING RING IS CADVALID.
 - TOWER COAX GROUND BAR: E.C. TO PROVIDE AND INSTALL (2) 20"x4"x1/4" COPPER GROUND BARS ON THE TOWER. ONE TO BE LOCATED AT ANTENNA MOUNT ELEVATION (ATTACHED TO TOWER STEEL), THE OTHER AT THE BASE OF TOWER ADJACENT TO ICE BRIDGE (ISOLATED FROM TOWER STEEL).
 - ACG AIR CONDITIONER GROUND: E.C. TO PROWDE AND INSTALL (1) #2 AWG BARE SOLID TINNED COPPER GROUND WIRE FROM CABINET OF HVAC UNIT TO GROUNDING RING. CONNECTION TO CABINET IS MECHANICAL. CONNECTION TO GROUNDING RING IS CADWELD (TYPICAL OF 2).
 - TELCO SERVICE GROUND: E.C. TO PROVIDE AND INSTALL (1) #2 AWG BARE SOLID TINNED COPPER GROUND FROM TELCO GROUND BAR IN 1 1/2" PVC SLEEVE TO (1) 8 -0 5.5/8 CLAD STEEL GROUND ROD (TOP AT 42" BELOW FINISH GRADE). SEAL SHELER PENETRATION WITH CLEAR SILICONE SEALANT.
 - ELECTRICAL SERVICE GROUND: E.C. SHALL PROVIDE AND INSTALL #2 AWG BARE SOLID TINNED COPPER GROUND FROM MAIN A/C SERVICE DISCONNECT SWITCH NEUTRAL BUS BAR TO ONE SEPARATE 8'-0"x5/8"®. COPPER CLAD STEEL GROUND ROD (TOP AT 42" BELOW FINISH GRADE). CONNECTION TO BUS BAR TO BE MECHANICAL. CONNECTION TO GROUND ROD TO BE CADWELD.
 - GHG GENERATOR HOOD GROUND: E.C. TO PROVIDE AND INSTALL (1) #2 AWG BARE SOLID TINNED COPPER GROUND WIRE FROM GENERATOR INTAKE AND EXHAUST HOOD TO GROUNDING RING. CONNECTION TO CABINET IS MECHANICAL. CONNECTION TO GROUNDING RING IS CADWELD (NOT NEEDED IF HODO IS FIBERGLASS).
 - HALO GROUND: E.C. TO INSTALL \$2 AWG BARE SOLID TINNED COPPER GROUND WIRE THROUGH PROVIDED SHELTER PENETRATION TO GROUNDING RING. GROUND WIRE IS PROVIDED, CONNECTION TO GROUNDING RING IS CADWELD. SEAL BOTH SIDES OF SHELTER PENETRATION WITH CLEAR SILICONE SEALANT (TYPICAL OF 4).

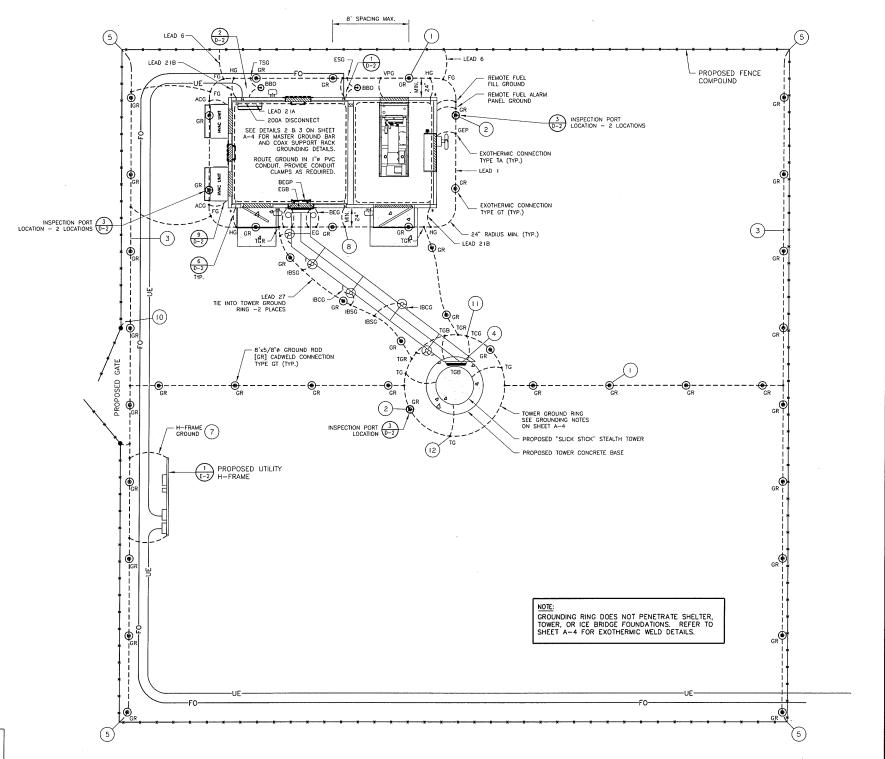
 - BBOD BOND TO BURIED OBJECTS: E.C. TO PROVIDE AND INSTALL #2 BARE SOLID TINNED COPPER GROUND WIRE FROM GROUND ROD TO GROUNDING RING AT TSG AND ESG. BOTH CONNECTIONS ARE CADWELD.
 - BEGP BUILDING ENTRY GROUND BAR: E.C. TO PROVIDE AND INSTALL 20"x16"x1/4" COPPER GROUND PLATE ON INTERIOR OF SIDE WALL BELOW COAX BUILDING ENTRY LOCATION.
 - BUILDING ENTRY GROUND: E.C. TO PROVIDE AND INSTALL (2) #2 AWG BARE SOUID TINNED COPPER WIRE FROM BEGG TO GROUNDING RING. E.C. TO PROVIDE OPENING IN SIDE WALL SIMILAR TO DETAIL 9/D-2 AND SEAL BOTH ENDS WEATHER TIGHT. BOTH CONNECTIONS ARE CADWELD.
 - EGB EXTERIOR GROUND BAR: E.C. TO PROVIDE AND INSTALL 20"x4"x1/4" COPPER GROUND BAR ON EXTERIOR OF SIDE WALL BELOW COAX BUILDING ENTRY LOCATION.
 - EXTERIOR GROUND: E.C. TO PROVIDE AND INSTALL (2) #2 AWG BARE SOLID TINNED COPPER WIRES FROM EGB TO GROUNDING RING. BOTH CONNECTIONS ARE CADWELD.
 - COAX ENTRY GROUND: E.C. TO PROVIDE AND INSTALL (1) #6 AWG BARE SOLID TINNED COPPER WIRE FROM COAX BUILDING ENTRY TO EGB. CONNECTION AT COAX PLATE CADWELD, CONNECTION AT EGB 2 HOLE LUG
 - POWER BOARD GROUND: E.C. TO PROVIDE AND INSTALL INSULATED #2 AWG STRANDED COPPER WIRE FROM EXTERIOR GROUND RING WITH SUFFICIENT LENGTH COLLED INSIDE TO REACH TOP OF DELTA POWER BOARD. CONNECTION AT GROUND RING TO BE CADWELD.
- 8'-0"x5/8" OCOPPER CLAD SIEEL GROUND ROD DRIVEN VERTICAL TO 42" BELOW GRADE (OR FROST LINE WHICHEVER IS GREATER). SPACING OF THE GROUND RODS SHALL BE 8' MAXIMUM. ALL CONNECTIONS TO BE CADWELD.
 - EXISTING SHELTER PENETRATION LOCATION REFER TO DETAIL 6/D-2.
- MASTER GROUND BAR: E.C. TO PROVIDE AND INSTALL (2) #2 AWG BARE SOUD TINNED COPPER WIRES FROM MGB TO GROUNDING RING. CONNECTION TO GROUNDING RING CADWELDED. SEAL BOTH SIDES OF SHELTER PENETRATION WITH CLEAR SILICONE SEALANT. (TYPICAL OF 2)
 - GENERATOR EXHAUST PIPE: E.C. TO PROVIDE AND INSTALL (1) #2 AWG BARE SOLID TINNED COPPER GROUND WIRE FROM GENERATOR EXHAUST PIPE TO GROUNDING RING. CONNECTION TO EXHAUST PIPE AND GROUNDING RING SHOULD BE CADWELDED.
 - VPG VENT PIPE GROUND: E.C. TO PROVIDE AND INSTALL (1) #2 AWG BARE SOLID TINNED COPPER WIRES FROM VENT PIPE TO GROUNDING RING. CONNECTION TO VENT PIPE AND GROUNDING RING SHOULD BE CADWELDED.
- LEAD 27 TOWER GROUND RING: E.C. TO PROVIDE AND INSTALL A MINIMUM OF (2) #2 AWG BARE SOLID TINNED COPPER WIRES FROM LEAD 1 TO THE EXTERNAL RADIO TOWER GROUND RING. TGR
- LEAD 21A INTERIOR HALO RING: THIS IS THE INTERIOR HALO RING THE E.C. IS TO PROVIDE AND INSTALL #2 AWG INSULATED COPPER WIRE AROUND THE INTERIOR OF THE EQUIPMENT SHELTER.

BALLOON REFERENCE NOTES

- 5/8"DIA X8' COPPER CLAD GROUND ROD BURIED 36" BELOW GRADE (MIN.)
- 2 GROUND ROD ACCESS WELL (MIN. OF 4 EACH PER COMPOUND)
- 3 #2 SOLID, TINNED, BARE COPPER WIRE GROUND RING (CONTINUOUS STRAND)
- 4 1/4"X4"X20" TINNED COPPER GROUND BAR. 2 TYP, AT BASE AND TOP OF TOWER. MOUNT DIRECT TO TOWER, DO NOT ISOLATE.
- (5) #2 SOLID, TINNED, BARE COPPER WIRE GROUND LEAD TO FENCE CORNER POST.
- 7 #2 SOLID, TINNED, BARE COPPER WIRE GROUND LEAD TO UTILITY
- 8 SERVICE ENTRANCE GROUND TO DEDICATED GROUND ROD
- (9) #2 INSULATED, STRANDED COPPER GROUND LEAD ROUTED IN CONDUIT TO 200A LOAD CENTER.
- #2 INSULATED, STRANDED COPPER BOND STRAP FROM GATE FRAME TO GATE POST. (TYP EACH GATE)
- #2 SOLID, TINNED, BARE COPPER GROUND LEAD FROM GROUND BAR AT TOWER BASE TO GROUND RING. ROUTE IN 3/4" FLEX CONDUIT AND WEATHERPROOF OPEN END. (2 TYPICAL)
- (2) #2 SOLID, TINNED, BARE COPPER GROUND LEAD FROM BASE TO GROUND RING. (2 TYPICAL, 180' SEPARATION)
- (13) TOWER LIGHT CONTROLLER (GROUND PER MANUFACTURES RECOMMENDATIONS) (IF REQUIRED)



THE INTENT OF THIS DRAWING IS FOR GROUNDING SCHEMATICS ONLY. SEE SHEETS C-I AND C-2 FOR SITE PLAN LAYOUT AND DIMENSIONS.



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PREPARED BY: HRH 5-12-15

ı	10-20-15	REVISED PER CITY COMMENTS



IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

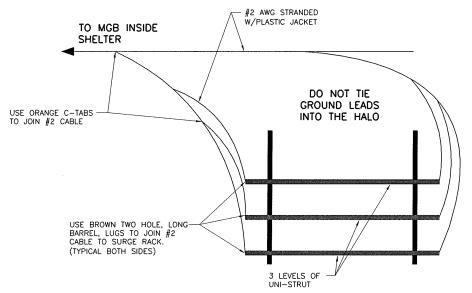
SHEET NAME

SHELTER AND TOWER GROUNDING SCHEMATIC WITH LEGEND

SHEET NUMBER

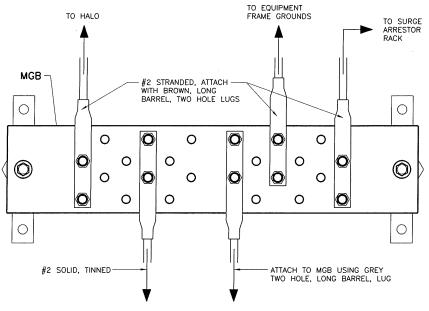


JOB NUMBER



COAX SUPPORT RACK GROUNDING

NOT TO SCALE



TO OUTSIDE GROUND RING

MASTER GROUND BAR CONNECTIONS

NOT TO SCALE



TYPE GT THROUGH CABLE TO TOP OF GROUND ROD



TEE OF HORIZONTAL RUN ND TAP CABLES



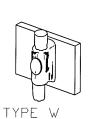
HORIZONTAL CABLE TAP TO HORIZONTAL STEEL SURFACE OR PIPE. CABLE OFF SURFACE



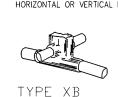
TYPE \vee N HORIZONTAL CABLE TAP TO VERTICAL STEEL SURFACE OR THE SIDE OF HORIZONTAL PIPE



CABLE TAP DOWN AT 45~ TO VERTICAL STEEL SURFACE OR SIDE OF HORIZONTAL OR VERTICAL PIPE



THROUGH VERTICAL CABLE TO VERTICAL STEEL SURFACE OR TO THE SIDE OF EITHER HORIZONTAL OR VERTICAL PIPE



CROSS OF HORIZONTAL CABLES.



TYPE GY THROUGH CABLE TO SIDE OF



TYPE GR CABLE TAP TO TOP OF GROUND ROD



TYPE NO THROUGH AND TAP CABLES

EXOTHERMIC WELD DETAILS NOT TO SCALE

GROUNDING NOTES

- ALL UNDERGROUND CONNECTIONS ON THE LIGHTNING PROTECTION SYSTEM SHALL BE EXOTHERMIC WELDED USING THE CADWELD PROCESS. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL THESE CONNECTIONS INCLUDING WELD METALS, MOLDS, AND TOOLS.
- 2. THE ELECTRICAL CONTRACTOR SHALL FURNISH AND INSTALL #2 AWG BARE TINNED COPPER SOLID GROUND CONDUCTOR AT A DEPTH OF 42" BELOW GRADE FOR THE
- GROUND SYSTEM TO BE VISUALLY INSPECTED BY THE CONSTRUCTION MANAGER BEFORE BACKFILLING. SEE NOTE 10 BELOW.
- E.C. SHALL REFER TO GROUNDING GUIDELINES WITH SPECIAL REGARD TO CADWELD GROUNDING AND TYPICAL DRAWINGS.
- ALL MECHANICAL CONNECTIONS TO GROUND BARS AND BUS BARS ARE TO BE GREASED WITH A CORRISION INHIBITOR ("NO OX").
- 6. ALL EXTERIOR CONNECTIONS TO BE CADWELD UNLESS NOTED OTHERWISE.
- 7. THE ELECTRICAL CONTRACTOR IS RESPONSIBLE FOR PROVIDING A WRITTEN MEGGER TEST UPON COMPLETION OF ALL GROUNDING WORK. IF THE RESISTANCE LEVEL EXCEEDS FIVE, NOTIFY THE ENGINEER IMMEDIATELY. THIS CONTRACTOR WILL BE REQUIRED TO SUBMIT A QUOTE TO THE PROJECT ADMINISTRATOR FOR THE LABOR AND MATERIALS NECESSARY TO ACHIEVE PROPER RESISTANCE LEVELS. THIS CONTRACTOR WILL BE REQUIRED TO BEGIN WORK IMMEDIATELY UPON APPROVAL FROM OWNER.
- THE COPPER WAVEGUIDE ENTRANCE PANEL MUST BE ASSEMBLED USING COPPER JOINT COMPOUND AND BOLTED COMPRESSION CONNECTIONS. THE LOW INDUCTANCE COPPER GROUNDING STRAPS ARE ATTACHED TO THE EXTERIOR OF THE PANEL USING COPPER JOINT COMPOUND AND BOLTED TO THE PANEL. THE CONNECTIONS OF THE GROUNDING STRAPS TO THE EARTH ELECTRODE RING GROUND ARE VIA A SANDWICH BAR THAT IS COATED WITH COPPER COMPOUND AND BOLTED TO THE STRAPS. THE SANDWICH BAR IS THEN EXOTERMICLLY WELDED TO THE \$2 BARE TINNED COPPER EARTH ELECTRODE GROUND RING. THE SANDWICH BAR THEN CAN BE SILVER SOLDERED TO PREVENT CORROSION OF THE CONNECTION WHEN IT IS BURIED IN THE GROUND. ALSO IF SOIL CONDITIONS ARE HIGHLY CORROSIVE SPECIAL TINNED COPPER GROUNDING STRAPS ARE AVAILABLE THROUGH SOURCES OTHER THAN POLYPHASER.
- NO 90' BENDS WILL BE USED WITH #2 BARE SOLID TINNED COPPER GROUND WIRE. A MINIMUM 24" RADIUS BEND IS ACCEPTABLE IF REQUIRED.
- CONTRACTOR SHALL NOTIFY THE PROJECT ADMINISTRATOR 48 HOURS PRIOR TO BACKFILLING GROUNDING RING TRENCH.
- 11. ALL MATERIALS, COPPER STRAP, GROUND RODS, WIRE, ETC. REQUIRED FOR GROUNDING SYSTEM SHALL BE PROVIDED AND INSTALLED BY THE E.C.
- ALL RIGID EXTERIOR CONDUITS (POWER, TELCO, H—FRAME, ETC.) SHALL HAVE SEPERATE LEADS TO THE GROUNDING RING AND BE CADWELDED AT ALL CONNECTIONS.
- 13. GROUND ROD SPACING ON SHELTER OR TOWER GROUNDING RING SHALL HAVE 8'
- 14. ALL GROUNDING LEADS GOING TO THE H-FRAME AND FENCE SHALL HAVE GROUND ROD INSTALLED EVERY 8 FEET.

ALL GROUNDING CONNECTIONS SHALL BE MADE BY THE "CADWELD" PROCESS CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE, SPLICES, ETC. ALL CABLE TO GROUND RODS, GROUND RODS SPLICES AND LIGHTNING PROTECTION SYSTEM AS INDICATED. GROUND FOUNDATION ONLY AS INDICATED BY PM. ALL MATERIALS USED (MOLDS, WELDING, METAL, TOOLS, ETC.) SHALL BE "CADWELD" PROCESS AND INSTALLED PER MANUFACTURERS RECOMMENDATIONS AND PROCEDURES. GROUND CONDUCTOR SHALL HAVE A MINIMUM OF 24" BENDING

16. ALL CADWELD CONNECTIONS ON GALVANIZED SURFACES SHALL BE CLEANED THOROUGHLY AND COLORED TO MATCH SURFACE WITH (2) COATS OF SHERWIN-WILLIAMS GALVITE (WHITE) PAINT B50W3 (OR EQUAL)OR SHERWIN-WILLIAMS SILVERBRITE (ALUMINUM) B59S11 (OR EQUAL)

17. ALL ELECTRICAL AND MECHANICAL GROUND CONNECTIONS SHALL HAVE ANTIOXIDANT COMPOUND APPLIED TO CONNECTION.

18. UTILITY COMPANY COORDINATION:
ELECTRICAL CONTRACTOR SHALL CONFIRM THAT ALL WORK IS IN
ACCORDANCE WITH THE RULES OF THE LOCAL UTILITY COMPANY BEFORE
SUBMITTING THE BID, THE CONTRACTOR SHALL CHECK WITH THE UTILITY COMPANIES SUPPLYING SERVICE TO THIS PROJECT SHALL DETERMINE FROM THEM ALL EQUIPMENT AND CHARGES WHICH THEY WILL REQUIRE AND SHALL INCLUDE

19. GROUND TESTS:

GROUND TESTS SHALL BE PERFORMED AS REQUIRED BY LESSEE STANDARD PROCEDURES. GROUND RESISTANCE SHALL NOT EXCEED 5-OHMS.

20. CONTRACTOR SHALL SUBMIT THE GROUND RESISTANCE TEST REPORT AS FOLLOWS:

- 1. ONE (1) COPY TO OWNER REPRESENTATIVE
- 2. ONE (1) COPY TO ENGINEER
- 3. ONE (1) COPY TO KEEP INSIDE EQUIPMENT ENCLOSURE

CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A. VERIZON WIRELESS

REAL ESTATE MANAGER: OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142

CONSTRUCTION MANAGER:

RON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63304 OFFICE: (636) 793-9278

CLS CONSOLIDATED LAND SURVEYING

PEORIA, ILLINOIS 61615 LAND SURVEYORS
AND PROFESSIONAL ENGINEERS

PHONE: 309-692-3434 FAX: 309-692-3433

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IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME

GROUNDING DETAILS AND NOTES

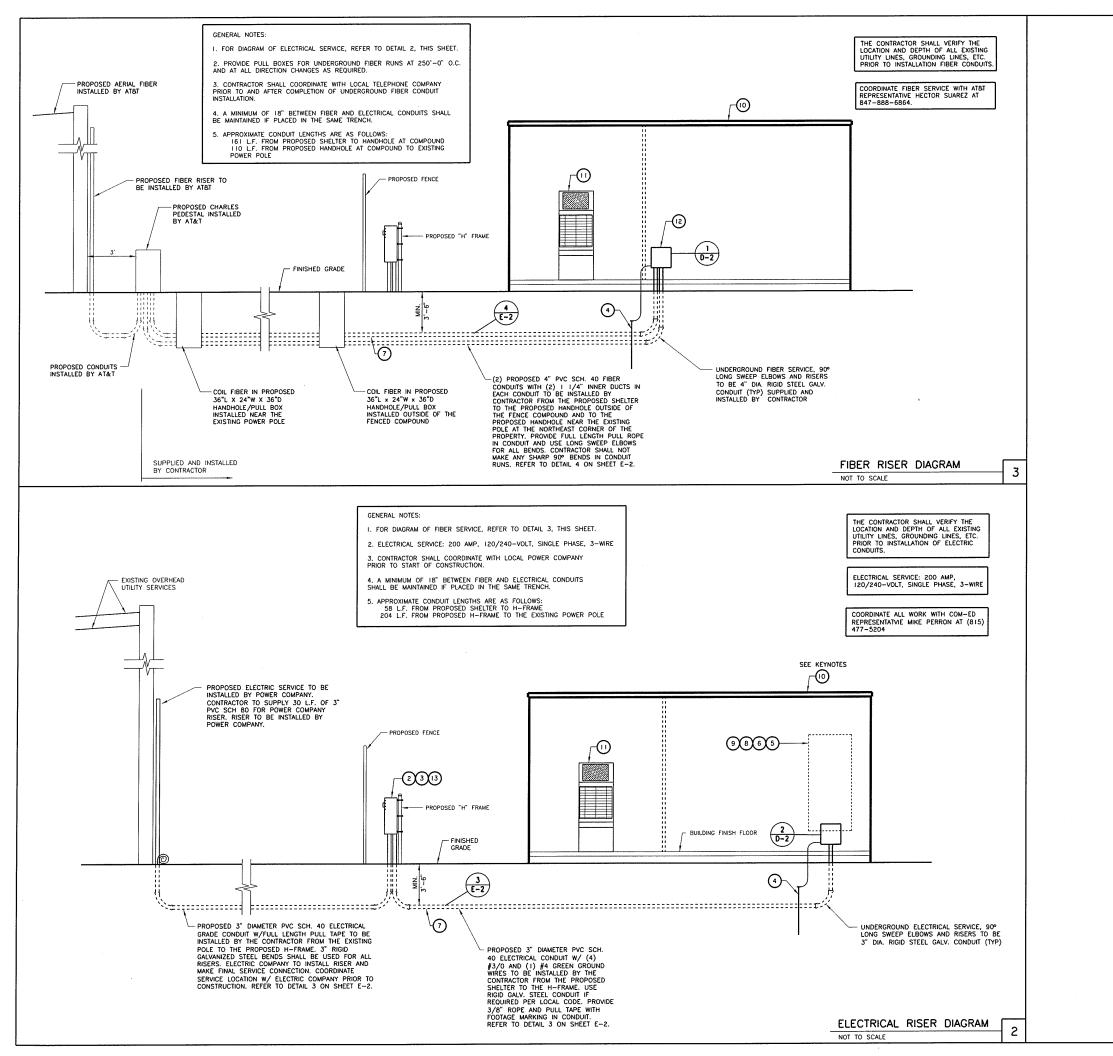
SHEET NUMBER



JOB NUMBER

9468-43-8-8B-03

GROUNDING NOTES



ELECTRIC & FIBER RISER KEY NOTES

1

METER SOCKET. LOCAL POWER COMPANY APPROVED VENDOR ONLY. SUPPLIED AND INSTALLED BY CONTRACTOR.

(3) ELECTRICAL METER BY UTILITY COMPANY.

GROUND ROD FOR UTILITY COMPANY GROUNDING OF SERVICE CONNECTION.

200 AMP DISTRIBUTION PANEL (42 SPACE) WITH MAIN BREAKER. SUPPLIED AND INSTALLED BY SHELTER MANUFACTURER. (5)

SURGE ARRESTOR LOCATED WITHIN PANEL

7 PROPOSED ELECTRIC & FIBER SERVICES TO CONNECT WITH EXISTING

200 AMP DISCONNECT. SUPPLIED AND INSTALLED BY SHELTER MANUFACTURER.

NOTES

NOT TO SCALE

225 AMP AUTOMATIC TRANSFER SWITCH LOCATED IN SHELTER

PREFABRICATED EQUIPMENT SHELTER.

EMERGENCY GENERATOR SUPPLIED WITH SHELTER

(12) 12" x 12" x 6" JUCTION BOX FOR FIBER SERVICE SERVICE

PROPOSED SERVICE BOX AND METER
MOUNTED ON PROPOSED "H" FRAME SUPPORT

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1 8-25-15 REVISED PER FIBER 2 9-8-15 ADDED FIBER HH PER



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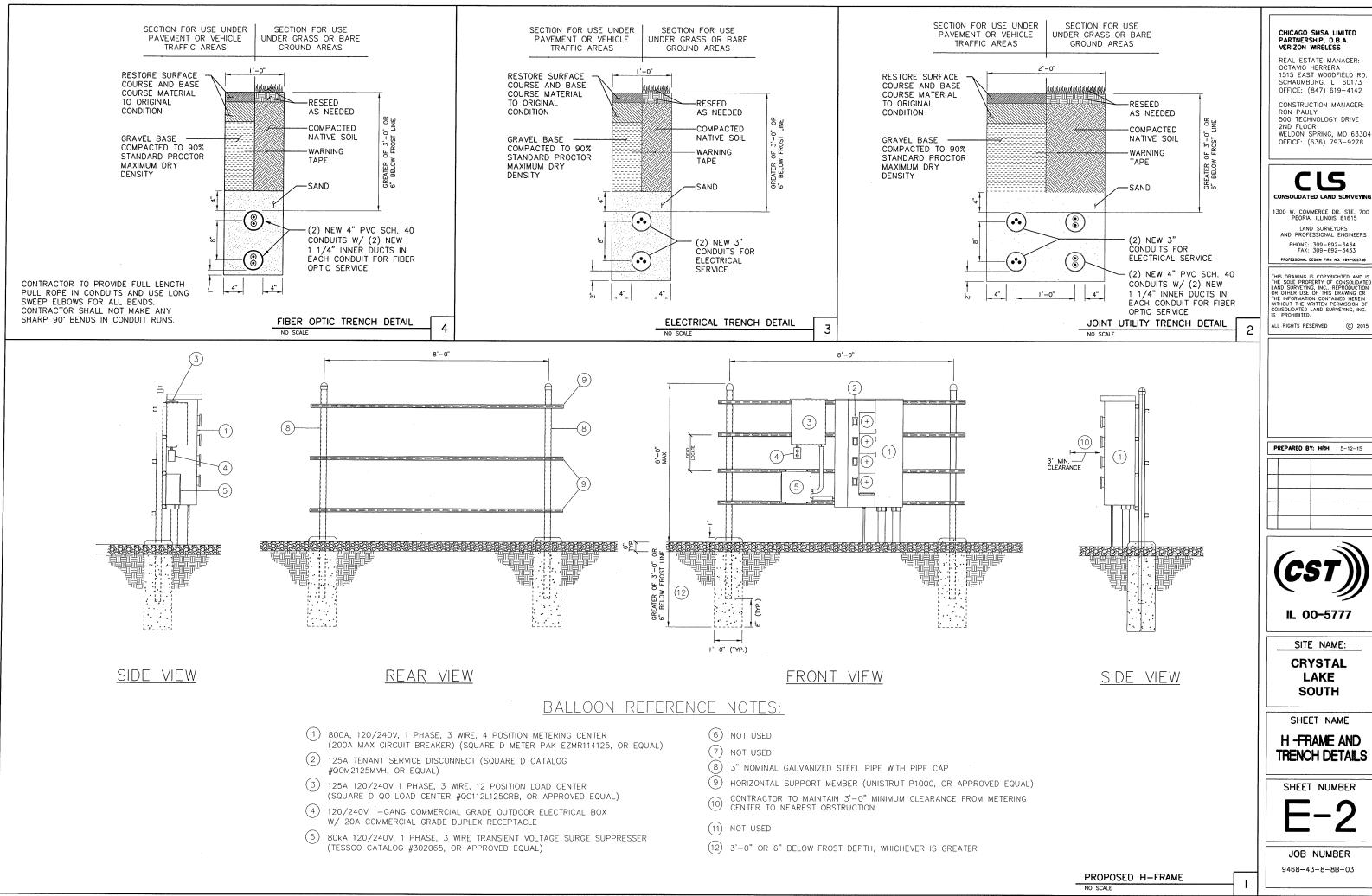
SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME **UTILITY ROUTING** PLAN AND NOTES

SHEET NUMBER

JOB NUMBER



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OFFICE: (847) 619-4142 CONSTRUCTION MANAGER:

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SITE NAME:

CRYSTAL LAKE

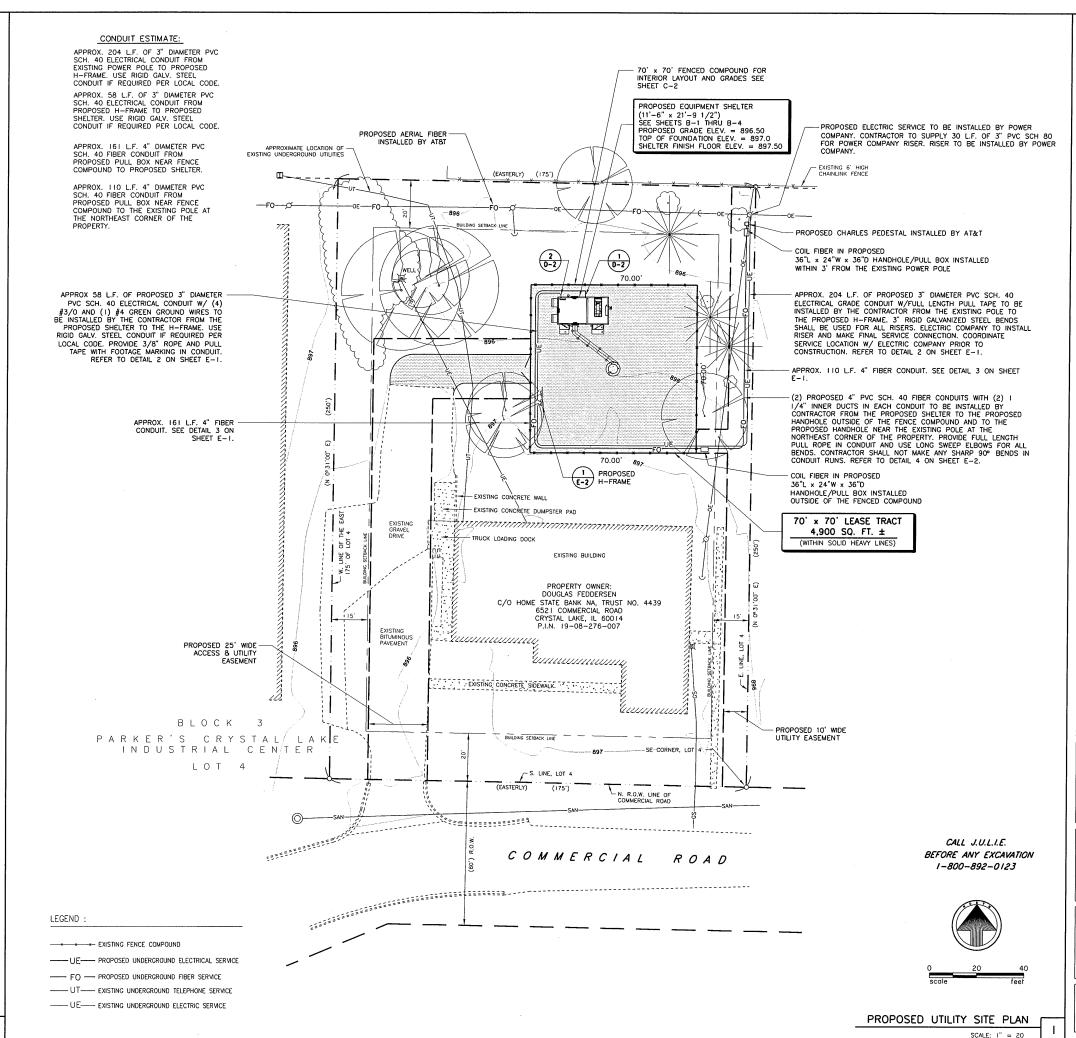
SHEET NAME

H-FRAME AND TRENCH DETAILS

SHEET NUMBER

UTILITY GENERAL NOTES

- UNLESS OTHERWISE NOTED, ALL WORK ON SHEETS A-2 AND E-1 SHALL BE PERFORMED BY THE E.C.
- THE E.C. MUST BE LICENSED TO PERFORM WORK IN THIS COUNTY, AND SHALL BE RESPONDIBLE FOR OBTAINING ALL NECESSARY ELECTRICAL PERMITS FROM LOCAL BUILDING DEPARTMENTS.
- UNDERGROUND CONDUIT SHALL BE SCH. 40 PVC PLASTIC DUCT WITH ALL BENDS TO BE MINIMUM 18" RADIUS 900 SWEEP UNLESS NOTED OTHERWISE
- 4. ABOVE GRADE RISER CONDUIT TO BE GALVANIZED STEEL WITH MATCHING FITTINGS.
- 5. METERING PEDESTAL TO BE CONSTRUCTED OF GALVANIZED HARDWARE.
- E.C. SHALL CONTACT TELEPHONE AND ELECTRIC COMPANIES AT LEAST TWENTY (20) WORKING DAYS PRIOR TO NEEDING INSTALLATION OF ELECTRIC AND TELCO SERVICE. CONTACT NAMES AND PHONE NUMBERS ARE LISTED ON TITLE SHEET T-1.
- 7. ALL 2/C #22 SHLD CABLE SHALL BE BELDEN #8450 OR EQUAL.
- 8. ALL WIRE SHALL BE (600V THHN) U.N.O.
- SEAL ALL PENETRATIONS.
- 10. ALL WORK IS TO BE IN ACCORDANCE WITH NFPA, NEME, NEC, & ALL LOCAL CODES.
- REPAIR AND/OR REPLACE ANY DISTURBED AGGREGATE TO MATCH EXISTING SURROUNDINGS AND GRADE AFTER SUB-GRADE GROUNDING AND UTILITY WORK IS COMPLETE.
- 12. CAUTION NEEDS TO BE TAKEN WHEN EXCAVATING FOR NEW SHELTER FOUNDATION SO NOT TO DAMAGE ANY EXISTING UNDERGROUND GROUNDING SYSTEM OR UTILITIES.
- ANY EXCAVATION FOR FOUNDATIONS AND TRENCHING FOR UTILITIES WITHIN COMPOUND SHOULD BE DONE BY HAND, OR AS APPROVED BY THE CONSTRUCTION MANAGER
- 14. NOT ALL NOTES OR DETAILS MAY BE APPLICABLE TO THE CONSTRUCTION OF THIS SITE DUE TO EXISTING SITE CONDITIONS.
- 15. E.C. TO ADJUST LAYOUT TO SITE CONDITIONS WITH APPROVAL FROM CONSTRUCTION MANAGER
- 16. ELECTRICAL SERVICE WILL BE 120/240V, 1PH, 3W.



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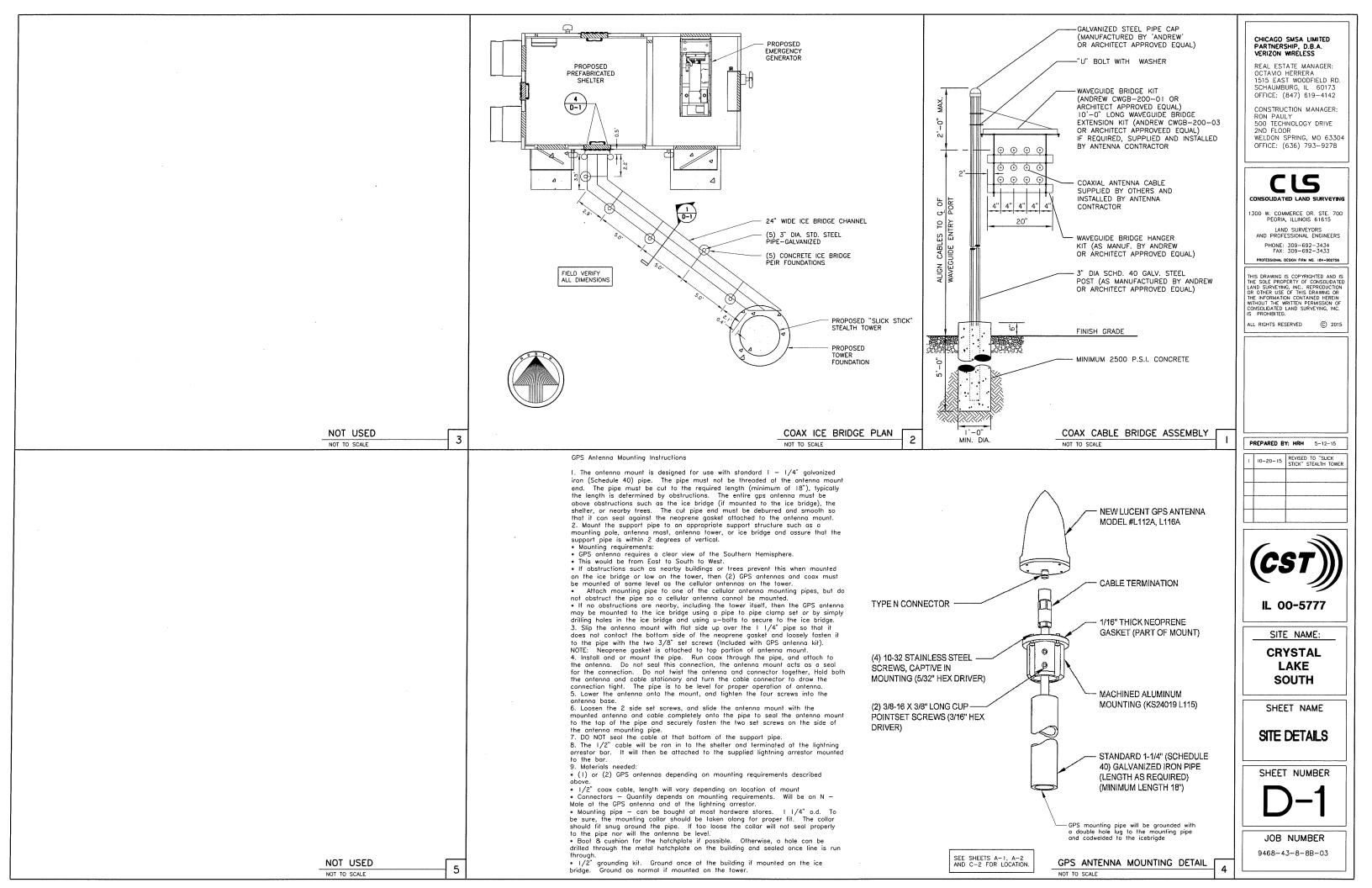
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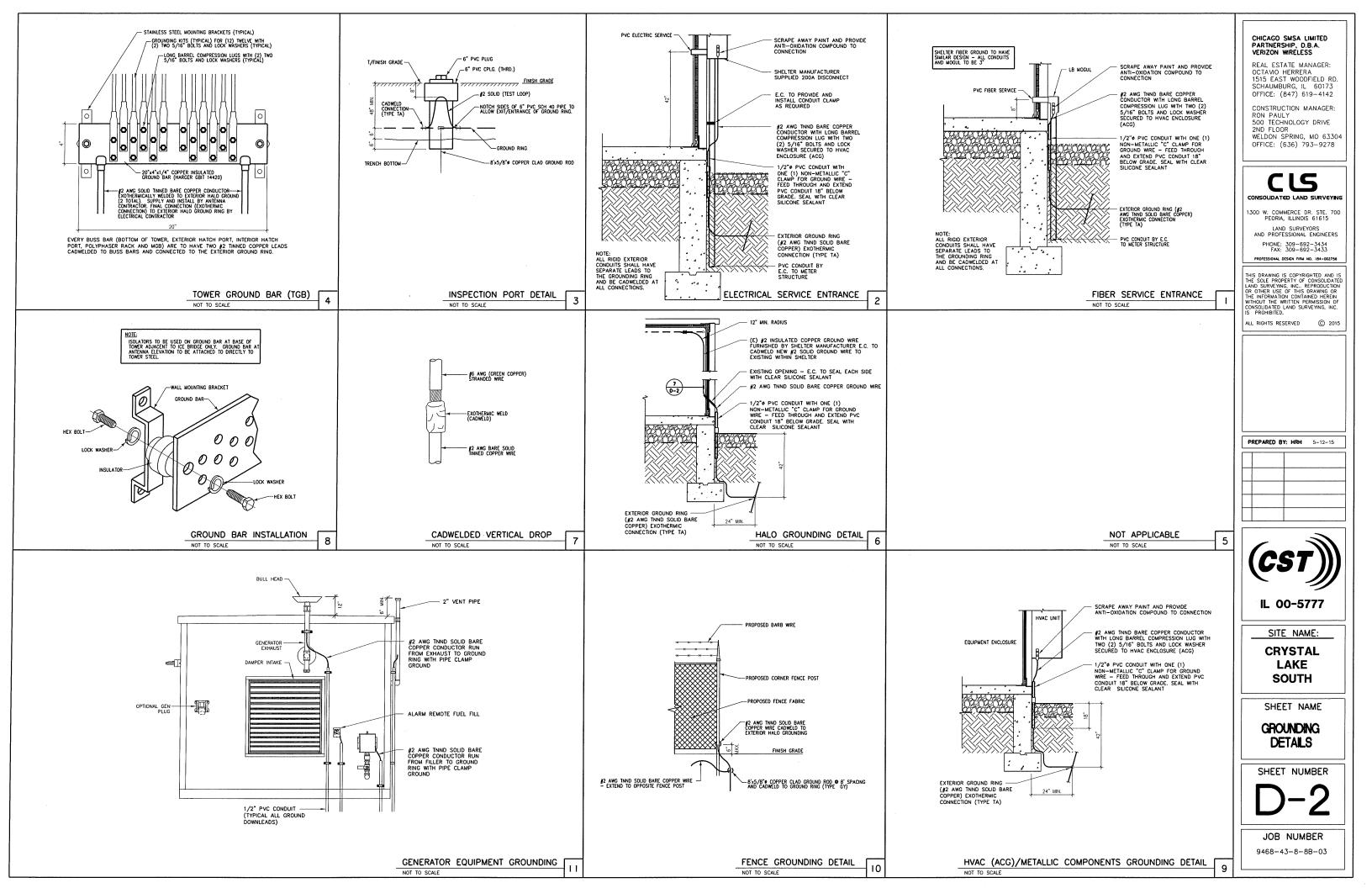
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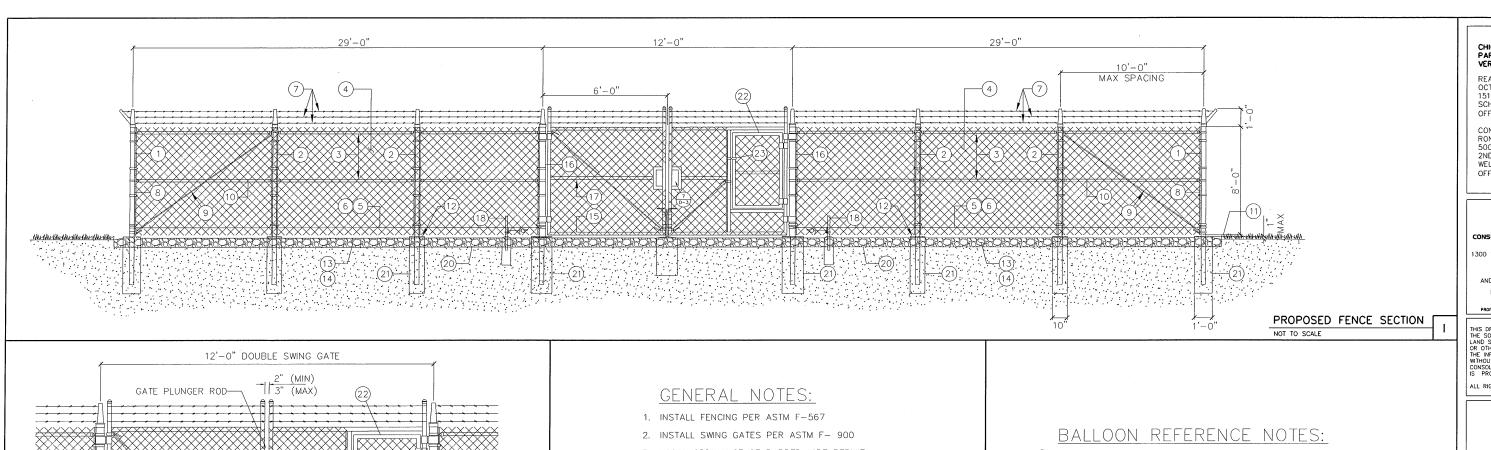
SHEET NAME UTILITY PLAN. **DETAILS AND NOTES**

SHEET NUMBER

JOB NUMBER 9468-43-8-8B-03







CONCRETE POST

SWING GATE DETAIL

NOT TO SCALE

5

- 3. LOCAL ORDINANCE OF BARBED WIRE PERMIT REQUIREMENT SHALL BE COMPLIED IF REQUIRED.
- 4. POST & GATE PIPE SIZES ARE INDUSTRY STANDARDS. ALL PIPE TO BE GALVANIZED (HOT DIP, ASTM A120 GRADE "A" STEEL). ALL GATE FRAMES SHALL BE WELDED. ALL WELDING SHALL BE COATED WITH (3) COATS OF COLD GALV. (OR EQUAL).
- 5. ALL OPEN POSTS SHALL HAVE END-CAPS.
- 6. USE GALVANIZED HOG-RING WIRE TO MOUNT ALL SIGNS.
- 7. ALL SIGNS MUST BE MOUNTED ON INSIDE OF FENCE FABRIC.
- 8. MUSHROOM ANCHOR & PLUNGER REQUIRED FOR GATE.

GENERAL NOTES

NOT TO SCALE

3

9. G.C. RESPONSIBLE FOR GATE LOCK

4" DIA. SCH. 40 STEEL PIPE, FILLED WITH CONCRETE. EXPOSED SURFACE SHALL BE PAINTED YELLOW 2500 PSI CONCRETE 10" **BOLLARD DETAIL**

- (1) CORNER, END OR PULL POST: 3" O.D. SCHEDULE 40 PIPE.
- 2 LINE POST: 2 1/2" NOMINAL SCHEDULE 40 PIPE, PER ASTM-F1083. LINE POSTS SHALL BE EQUALLY SPACED AT MAXIMUM 10'-0" O.C.
- TOP RAIL & BRACE RAIL: 1-5/8"O.D. STANDARD ROUND PIPE, PER ASTM-F1083.
- (4) FABRIC: 9 GA CORE WIRE SIZE 2" MESH, CONFORMING TO ASTM-A392.
- TIE WIRE: 9 GA ALUMINUM. A SINGLE WRAP OF FABRIC TIE AND AT TENSION WIRE BY HOG RINGS SPACED 12" O.C. POSTS/GATES AND 24" RAILS/WIRE.
- (6) TENSION WIRE: 9 GA ALUMINUM
- 7 BARBED WIRE: DOUBLE STRAND 12-1/2" O.D. TWISTED WIRE TO MATCH WITH FABRIC. 14 GA, 4 PT. BARBS SPACED ON APPROXIMATELY 5" CENTERS.
- (8) 3/16" X 3/4" (MIN) FULL HEIGHT STRETCHER BAR.
- 9 3/8" DIAGONAL ROD WITH GALVANIZED STEEL TURNBUCKLE OR DIAGONAL
- (10) FENCE CORNER POST BRACE: 1 5/8" NOMINAL PIPE.
- (11) 1" MAXIMUM CLEARANCE FROM FINISH GRADE.
- (12) FENCE POST FOUNDATION TO BE 1" FINISH ABOVE FINISHED GRADE
- (13) 6" COMPACTED BASE MATERIAL
- (14) FINISH GRADE SHALL BE UNIFORM AND LEVEL.
- (15) WELDED GATE FRAME: 2" O.D., SCHEDULE 40 PIPE, PER ASTM-F1083.
- (16) GATE POST 6 5/8" O.D., SCHEDULE 40 PIPE, PER ASTM-F1083.
- (17) GATE FRAME BRACE RAIL: 1 1/2" NOMINAL PIPE, PER ASTM-F1083.
- (18) DUCK BILL OPEN GATE HOLDER. VERIFY LOCATION IN FIELD PRIOR TO INSTALLATION.
- (19) STYMIE LOCK MULTI-TENANT LOCKING DEVICE
- (20) GEOTEXTILE FABRIC
- (21) CONCRETE FOUNDATION (MIN 3000 PSI). MINIMUM DEPTH: 6" BELOW FROST LINE
- (22) 4' WIDE SNOW GATE WITHIN DOUBLE SWING GATE FRAME.
- (23) FORK LATCH WITH COMBINATION LOCK.

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ı	10-20-15	REVISED FENCE TO 8' PER CITY COMMENTS



IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

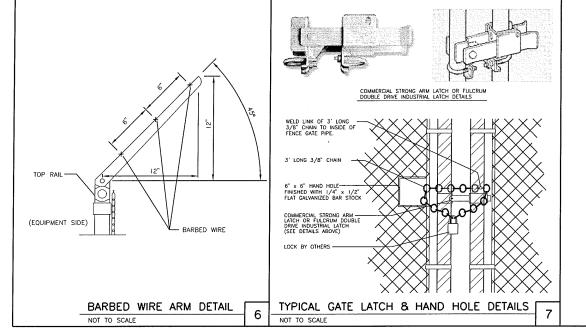
SHEET NAME

FENCING DETAILS

SHEET NUMBER

JOB NUMBER 9468-43-8-8B-03

FENCE REFERENCE NOTES NOT TO SCALE



NOT TO SCALE

SECTION 02200 - EARTHWORK AND DRAINAGE

PART I - GENERAL

SEE SITE PLAN WORK INCLUDED:

ACCESS DRIVE W/ TURNAROUND AREA, LEASE AREA, AND IF APPLICABLE UNDERGROUND UTILITY EASEMENTS ARE IT DIS CONSTRUCTED TO PROVIDE A WELL DRAINED, EASILY MAINTAINED, EVEN SURFACE FOR MATERIAL AND EQUIPMENT DELIVERIES AND MAINTENANCE PERSONNEL ACCESS.

- A. APPLY SOIL STERILIZER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATIONS (AS NEEDED).
- B. APPLY AND MAINTAIN GRASS SEED AS RECOMMENDED BY THE SEED PRODUCER (IF REQUIRED).
- C. PLACE AND MAINTAIN VEGETATION LANDSCAPING, IF INCLUDED WITHIN THE CONTRACT, AS RECOMMENDED BY NURSERY INDUSTRY STANDARDS.

SEQUENCING

- A. CONFIRM SURVEY STAKES AND SET ELEVATION STAKES PRIOR TO ANY CONSTRUCTION
- B. COMPLETELY GRUB THE ACCESS DRIVE W/ TURNAROUND, UNDERGROUND UTILITY EASEMENTS, (IF APPLICABLE) AND LEASE AREA PRIOR TO FOUNDATION CONSTRUCTION, PLACEMENT OF BACKFILL AND SUB-BASE MATERIALS.
- C. CONSTRUCT TEMPORARY CONSTRUCTION AREA ALONG ACCESS DRIVE.
- D. BRING THE LEASE AREA AND ACCESS DRIVE $\mbox{W}/\mbox{ TURNAROUND TO BASE COURSE ELEVATION PRIOR TO INSTALLING FOUNDATION.}$
- E. APPLY SOIL STERILIZER PRIOR TO PLACING BASE MATERIALS
- F. GRADE, SEED, FERTILIZE, AND MULCH ALL AREAS DISTURBED BY CONSTRUCTION (INCLUDING UNDERGROUND UTILITY EASEMENTS) IMMEDIATELY AFTER BRINGING LEASE AREA AND ACCESS DRIVE W/ TURNAROUND TO BASE COURSE ELEVATION. WATER TO ENSURE GROWTH.
- G. REMOVE GRAVEL FROM TEMPORARY CONSTRUCTION ZONE TO AN AUTHORIZED AREA OR AS DIRECTED BY PROJECT MANAGER.
- H. AFTER APPLICATIONS OF FINAL SURFACES, APPLY SOIL STERILIZER TO STONE SURFACES.

5. SUBMITTALS

IF LANDSCAPING IS APPLICABLE TO THE CONTRACT, SUBMIT TWO COPIES OF THE LANDSCAPE PLAN UNDER NURSERY LETTERHEAD. IF A LANDSCAPE ALLOWANCE WAS INCLUDED IN THE CONTRACT, PROVIDE AN ITEMIZED LISTING OF PROPOSED COSTS ON NURSERY LETTERHEAD (REFER TO PLANS FOR LANDSCAPING REQUIREMENTS).

- 1. MANUFACTURER'S DESCRIPTION OF PRODUCT AND WARRANTY STATEMENT ON SOIL STERRILIZED.
- 2. MANUFACTURER'S DESCRIPTION OF PRODUCT ON GRASS SEED AND FERTILIZER.

- A. IN ADDITION TO THE WARRANTY ON ALL CONSTRUCTION COVERED IN THE CONTRACT DOCUMENTS, THE CONTRACTOR SHALL REPAIR ALL DAMAGE AND RESTORE AREA AS CLOSE TO ORIGINAL CONDITION AS POSSIBLE AT SITE AND SURROUNDINGS.
- B. SOIL STERILIZATION APPLICATION TO GUARANTEE VEGETATION FREE ROAD AND SITE AREAS FOR ONE YEAR FROM DATE OF FINAL INSPECTION.
- C. DISTURBED AREAS WILL REFLECT GROWTH OF NEW GRASS COVER PRIOR TO FINAL INSPECTION.
- D. LANDSCAPING, IF INCLUDED WITHIN THE SCOPE OF THE CONTRACT, WILL BE GUARANTEED FOR ONE YEAR FROM DATE OF FINAL INSPECTION.

PART 2 - PRODUCTS

MATERIALS

A. SOIL STERILIZER SHALL BE EPA-REGISTERED, PRE-EMERGENCE LIQUID:
TOTAL KILL PHASAR CORPORATION
PRODUCT 910 P.O. BOX 5123
EPA 10292-7 DEARBORN, MI 48128

(313) 563-8000

AMBUSH HERBICIDE EPA REGISTERED

FRAMAR INDUSTRIAL PRODUCTS 1435 MORRIS AVE. UNION, NJ 07083

B. ROAD AND SITE MATERIALS SHALL CONFORM TO MODT SPECIFICATIONS FILL MATERIAL (UNLESS OTHERWISE NOTED) — ACCEPTABLE SELECT FILL SHALL BE IN ACCORDANCE WITH STATE DEPARTMENT OF HIGHWAY AND TRANSPORTATION STANDARD SPECIFICATIONS.

C. SOIL STABILIZER FABRIC SHALL BE MIRAFI - 500X.

LOCAL BUILDING INSPECTORS SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS, UNLESS OTHERWISE SPECIFIED BY JURISDICTION.

- A. CLEAR TREES, BRUSH AND DEBRIS FROM LEASE AREA, ACCESS DRIVE W/ TURN-AROUND AND UNDER GROUND UTILITY EASEMENTS AS REQUIRED FOR CONSTRUCTION.
- B. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION, GRUB ORGANIC MATERIAL TO A MINIMUM OF SIX (6) INCHES BELOW GRADE.
- C. UNLESS OTHERWISE INSTRUCTED BY CONSTRUCTION MANAGER, TRANSPORT ALL REMOVED TREES, BRUSH AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED LANDFILL.
- D. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, ROLL THE SOIL
- E. WHERE UNSTABLE SOIL CONDITIONS ARE ENCOUNTERED, LINE THE AREAS WITH STABILIZER MAT PRIOR TO PLACEMENT OF FILL OR BASE MATERIAL.

A. GRADE OR FILL THE LEASE AREA AND ACCESS DRIVE W/ TURNAROUND AS REQUIRED IN ORDER THAT UPON DISTRIBUTION OF SPOILS, RESULTING FROM EXCAVATIONS, THE RESULTING GRADE WILL CORRESPOND WITH SAID SUB-BASE COURSE. ELEVATIONS ARE TO BE CALCULATED FROM BENCHMARK FINISHED GRADES, OR INDICATED SLOPES.

B. CLEAR EXCESS SPOILS, IF ANY, FROM JOB SITE AND DO NOT SPREAD BEYOND THE LIMITS OF PROJECT AREA UNLESS AUTHORIZED BY PROJECT MANAGER AND AGREED TO BY LANDOWNER.

- C. BRING THE ACCESS DRIVE W/ TURNAROUND TO BASE COURSE ELEVATION TO FACILITATE CONSTRUCTION AND OBSERVATION DURING CONSTRUCTION OF THE SITE.
- $\ensuremath{\mathsf{E}}.$ The contract shall include grading, banking, and ditching, unless otherwise indicated.
- F. WHEN IMPROVING AN EXISTING ACCESS DRIVE, GRADE THE EXISTING DRIVE TO REMOVE ANY ORGANIC MATTER AND SMOOTH THE SURFACE BEFORE PLACING FILL OR STONE.
- G. PLACE FILL OR STONE IN SIX (6) INCH MAXIMUM LIFTS, AND COMPACT BEFORE PLACING NEXT LIFT.
- H. THE TOP SURFACE COURSE, SHALL EXTEND A MINIMUM OF ONE (1) FOOT BEYOND THE SITE FENCE (UNLESS OTHERWISE NOTED) AND SHALL COVER THE AREA AS INDICATED.
- I. APPLY RIPRAP TO THE SIDE SLOPES OF ALL FENCED SITE AREAS, PARKING AREAS, AND ALL OTHER SLOPES GREATER THAN $2\!:\!1$.
- J. APPLY RIPRAP TO THE SIDES OF DITCHES OR DRAINAGE SWALES.
- K. RIPRAP ENTIRE DITCH FOR SIX (6) FEET IN ALL DIRECTIONS AT CULVERT OPENINGS.
- L. APPLY SEED, FERTILIZER AND STRAW COVER TO ALL OTHER DISTURBED AREAS, DITCHES, AND DRAINAGE SWALES, NOT OTHERWISE RIPRAPPED.
- UNDER NO CIRCUMSTANCES WILL DITCHES, SWALES, OR CULVERTS BE PLACED SO THAT Y DIRECT WATER TOWARDS, OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SHELTER EQUIPMENT. IF DESIGNS OR ELEVATIONS ARE IN CONFLICT WITH THIS, ADVISE CONSTRUCTION MANAGER IMMEDIATELY.
- N. IN DITCHES WITH SLOPES GREATER THAN 10%, MOUND DIVERSIONARY HEADWALLS IN THE DITCH AT CULVERT ENTRANCES. POSITION THE HEADWALL AT AN ANGLE NO GREATER THAN 60 OFF THE DITCH LINE. RIPRAP THE UPSTERAM SIDE OF THE HEADWALL AS WELL AS THE DITCH FOR SIX (6) FEET ABOVE THE CULVERT ENTRANCE.
- O. APPLY SEED AND FERTILIZER TO SURFACE CONDITIONS WHICH WILL ENCOURAGE ROOTING. RAKE AREAS TO BE SEEDED TO EVEN THE SURFACE AND LOOSEN THE SOIL.
- P. SOW SEED IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE SEED PRODUCER.
- Q. ENSURE GROWTH OF SEEDED AND LANDSCAPED AREAS, BY WATERING, UP TO THE POINT OF RELEASE FROM THE CONTRACT. CONTINUE TO REWORK THE BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.

COMPACT SOILS TO MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE. INDICATE PERCENTAGE OF COMPACTION ACHIEVED ON AS-BUILT DRAWING.

A. PROTECT SEEDED AREAS FROM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1-2 INCHES, STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET WILL BE AN ACCEPTABLE ALTERNATE.

B. ALL TREES PLACED IN CONJUNCTION WITH A LANDSCAPE CONTRACT WILL BE WRAPPED. TIED WITH HOSE PROTECTED WIRE, AND SECURED TO 2° X 2° X $4^{\circ}-0^{\circ}$ WOODEN STAKES EXTENDING TWO-FEET INTO THE GROUND ON FOUR SIDES OF THE TREE.

C. PROTECT ALL EXPOSED AREAS AGAINST WASHOUTS AND SOIL EROSION. PLACE STRAW BALES AT THE INLET APPROACH TO ALL NEW OR EXISTING CULVERTS. WHERE THE SITE OR ROAD AREAS HAVE BEEN LELVATED IMMEDIATELY ADJACENT TO THE RAIL LINE, STAKE EROSION CONTROL FABRIC FULL LENGTH IN THE SWALE TO PREVENT CONTAMINATION OF THE RAIL BALLAST. ALL EROSION CONTROL METHODS SHALL CONFORM TO APPLICABLE BUILDING CODE REQUIREMENTS.

SECTION 02830 - FENCING AND GATE(S)

PART I - GENERAL

WORK INCLUDED

SEE PLAN FOR SITE AND LOCATION OF FENCE AND GATE(S).

ALL STEEL MATERIALS UTILIZED IN CONJUNCTION WITH THIS SPECIFICATION WILL BE GALVANIZED OR STAINLESS STEEL. WEIGHT OF ZINC COATING ON THE FABRIC SHALL NOT BE LESS THAN 12 OUNCES PER SQUARE FOOT OF MATERIAL COVERED. POSTS SHALL BE HOT-DIPPED IN GRADE 'E' ZINC, 18 OUNCES PER SQUARE FOOT.

IF THE SITE AREA HAS BEEN BROUGHT UP TO SURFACE COURSE ELEVATION (PRIOR TO THE FENCE CONSTRUCTION), FENCE POST EXCAVATION SPOILS MUST BE CONTROLLED TO PRECLUDE CONTAMINATION OF SAID SURFACE COURSE.

- A. MANUFACTURER'S DESCRIPTIVE LITERATURE
- B. CERTIFICATE OR STATEMENT OF COMPLIANCE WITH THE SPECIFICATIONS.

I. FENCE MATERIAL

A. ALL FABRIC WIRE, RAILS, HARDWARE, AND OTHER STEEL MATERIALS SHALL BE HOT-DIPPED GALVANIZED.

- B. FABRIC SHALL BE SEVEN-FOOT HIGH OR TO MATCH EXISTING FENCE TWO-INCH CHAIN LINK MESH OF NO. 9 GAUGE (0.148") WIRE. THE FABRIC SHALL HAVE A KNUCKLED FINISH FOR THE TOP SELVAGES. FABRIC SHALL CONFORM TO THE SPECIFICATIONS OF ASTM A-392 CLASS I.
- C. BARBED WIRE SHALL BE DOUBLE-STRAND, 12-1/2 GAUGE TWISTED WIRE, WITH 14-GAUGE, 4-POINT ROUND BARBS SPACED ON FIVE-INCH CENTERS.
- D. ALL POSTS SHALL BE SCHEDULE 40 MECHANICAL SERVICE PIPE AND SHALL BE TYPE I ASTM A-128 AND OF THE FOLLOWING DIAMETER

LINE 2" SCHEDULE 40 (2 3/8" OD)
CORNER 3" SCHEDULE 40 (3 1/2" OD)
GATE 6" SCHEDULE 40 (6 5/8" OD)

- E. GATE POSTS SHALL BE EXTENDED 12 INCHES, INCLUDING DOME CAP, TO PROVIDE FOR ATTACHMENT OF BARBED WIRE.
- F. ALL TOP AND BRACE RAILS SHALL BE 1/4 DIAMETER SCHEDULE 40 MECHANICAL—SERVICE PIPE.
- G. GATE FRAMES AND BRACES SHALL BE 1.90 INCH DIAMETER SCHEDULE 40 MECHANICAL—SERVICE PIPE. FRAMES SHALL HAVE WELDED CORNERS.
- H. GATE FRAMES SHALL HAVE A FULL-HEIGHT VERTICAL BRACE, AND A FULL-WIDTH HORIZONTAL BRACE, SECURED IN PLACE BY USE OF GATE BRACE CLAMPS.
- GATE HINGES SHALL BE MERCHANTS METAL MODEL 64386 HINGE ADAPTER WITH MODEL 6409, 188-DEGREE ATTACHMENT. J. THE GUIDE (LATCH ASSEMBLY) SHALL BE HEAVY INDUSTRIAL DOUBLE GATE LATH. SEE DETAIL.
- K. LATCHES AND STOPS SHALL BE PROVIDED FOR ALL GATES.
- N. A NO. I GAUGE ZINC COATED TENSION WIRE SHALL BE USED AT THE BOTTOM OF THE FABRIC, TERMINATED WITH BAND CLIPS AT CORNER AND GATE POSTS. O. A SIX-INCH BY 1/2-INCH DIAMETER EYEBOLT TO HOLD TENSION WIRE SHALL BE PLACED

- P. STRETCHER BARS SHALL BE 3/16-INCH BY 3/4-INCH OR HAVE EQUIVALENT CROSS-SECTIONAL AREA.
- Q. ALL CORNER GATE AND PANELS SHALL HAVE A 3/8-INCH TRUSS ROD WITH TURNBUCKLES.
- R. ALL POSTS EXCEPT GATE POSTS SHALL HAVE A COMBINATION CAP AND BARBED WIRE SUPPORTING ARM. GATE POSTS SHALL HAVE A DOME CAP.
- S. OTHER HARDWARE INCLUDES BUT MAY NOT BE LIMITED TO TIE CLIPS, BAND CLIPS AND TENSION BAND CLIPS.
- T. BARBED WIRE GATE GUARDS SHALL BE FITTED WITH DOME CAPS.
- U. BARBED WIRE SUPPORT ARMS SHALL BE PRESSED STEEL COMPLETE WITH SET BOLT AND LOCK WIRE IN THE ARM.
- V. ALL CAPS SHALL BE MALLEABLE IRON, DOME OR ACORN SHAPED AS REQUIRED BY PIPE SIZE.

W. WHERE THE USE OF CONCERTINA HAS BEEN SPECIFIED, 24-INCH DIAMETERS COIL, BARBED TAPE, STAINLESS STEEL, CYCLONE FENCE MODEL GBP TO TYPE III SHALL BE SUPPORTED ABOVE THE TOP RAIL BY USE OF SIX (6) WIRE BARBED WIRE ARMS POSITIONED ATOP FACH LINE (CORDER) POST

TO CONFIRM PROPER DEPTH AND DIAMETER OF POST HOLE EXCAVATIONS. ALL POST HOLES WILL BE EXCAVATED AS PER CONSTRUCTION DOCUMENTS.

- A. FOUNDATIONS SHALL HAVE A MINIMUM SIX (6) INCH CONCRETE COVER UNDER POST.
- B. ALL FENCE POSTS SHALL BE VERTICALLY PLUMB ± ONE QUARTER (1/4) INCH
- C. AT CORNER POSTS, GATE POSTS, AND SIDES OF GATE FRAME, FABRIC SHALL BE ATTACHED WITH STRETCHER AND TENSION BAND-CLIPS AT FIFTEEN (15) INCH INTERVALS.
- D. AT LINE POSTS, FABRIC SHALL BE ATTACHED WITH BAND-CLIPS AT FIFTEEN (15) INCH INTERVALS.
- E. FABRIC SHALL BE ATTACHED TO BRACE RAILS, TENSION WIRE AND TRUSS RODS WITH TIE-CLIPS AT TWO (2) FOOT INTERVALS.
- F. A MAXIMUM GAP OF ONE INCH WILL BE PERMITTED BETWEEN TIE CHAIN LINE FABRIC AND THE FINAL GRADE.
- G. GATE SHALL BE INSTALLED SO LOCKS ARE ACCESSIBLE FROM BOTH SIDES.
- H. GATE HINGE BOLTS SHALL HAVE THEIR THREADS PEENED OR WELDED TO PREVENT UNAUTHORIZED REMOVAL.
- I. CONCRETE TO BE A MINIMUM OF 3,000 PSI.

UPON COMPLETION OF ERECTION, INSPECT FENCE MATERIAL AND PAINT FIELD CUTS OR GALVANIZING BREAKS WITH ZINC-BASED PAINT, COLOR TO MATCH THE GALVANIZED METAL.

SPECIFICATION FOR PIPE, STEEL BLACK AND HOP-DIPPED ZINC COATED(GALVANIZED) WELDED AND SEAMLESS, FOR ORDINARY USES. ASTM-A120

ZINC (HOT-DIP GALVANIZED) COATING ON IRON AND STEEL PRODUCTS. ASTM-A123

STANDARD SPECIFICATION FOR ZINC COATING (HOT-DIP) ON IRON AND STEEL HARDWARE. ASTM-A153 ASTM-A392 SPECIFICATION FOR ZINC-COATED STEEL CHAIN LINK FENCE FABRIC

ASTM-A491 SPECIFICATION FOR ALUMINUM-COATED STEEL CHAIN LINK FENCE FABRIC

STANDARD SPECIFICATION FOR STEEL SHEET ZINC COATED (GALVANIZED) BY THE HOT-DIPPED PROCESS. ASTM-A525 SPECIFICATION FOR HOT-ROLLED CARBON STEEL SHEET AND STRIF STRUCTURAL QUALITY.

SPECIFICATION FOR ALUMINUM COATED STEEL BARBED WIRE.

FEDERAL SPECIFICATION ${\rm RR-F-191-}$ FENCING, WIRE AND POST METAL (AND GATES, CHAIN LINK FENCE FABRIC, AND ACCESSORIES)

CONCRETE

DIVISION 3:

SECTION 03000 - BASIC CONCRETE MATERIALS AND METHODS

PART I - GENERAL

FORMWORK, REINFORCEMENT, ACCESSORIES, CAST-IN-PLACE CONCRETE, FINISHING, AND CURING.

- ${\bf A}_{-}$ Contractor is responsible for scheduling building department inspections required for his scope of work.
- B. ALL REINFORCING STEEL SHALL BE INSPECTED AND APPROVED BY THE CONSTRUCTION MANAGER PRIOR TO PLACEMENT OF CONCRETE.
- C. THE CONSTRUCTION MANAGER SHALL BE NOTIFIED NO LESS THAN 48 HOURS IN ADVANCE OF CONCRETE POURS.

- CONSTRUCT AND ERECT CONCRETE FORMWORK IN ACCORDANCE WITH ACI 301 AND ACI 318.
- B. PERFORM CONCRETE REINFORCING WORK IN ACCORDANCE WITH ACI 301, ACI 318, AND ASTM A184.
- C. PERFORM CAST-IN-PLACE CONCRETE WORK IN ACCORDANCE WITH ACI 301, ACI 318, AND ACI 117-90.

SUBMIT CONCRETE MIX AND REINFORCING STEEL SHOP DRAWINGS FOR APPROVAL BY CONSTRUCTION MANAGER/ENGINEER. THE SHOP DRAWINGS SHALL BE SUBMITTED IN THE FORM OF TWO (2) CONCRETE MIX DESIGN INFORMATION SHEETS AND TWO (2) BLUELINE DRAWINGS FOR REINFORCING STEEL.

- A. REINFORCEMENT STEEL, ASTM A615, 60 ksi YIELD GRADE, DEFORMED BILLET STEEL BARS, PLAIN FINISH.
- B. WELDED STEEL WIRE FABRIC ASTM A185 PLAIN TYPE, IN FLAT SHEETS, PLAIN FINISH. C. CHAIRS, BOLSTERS, BAR SUPPORTS, SPACERS, SIZED AND SHAPED FOR SUPPORTS OF REINFORCING.
- D. FABRICATE CONCRETE REINFORCING IN ACCORDANCE WITH ACI 315, ACI 318, ASTM A184.

- CONCRETE MATERIALS
 - A. CEMENT: ASTM C150, PORTLAND TYPE
 - B. FINE AND COARSE AGGREGATES: ASTM C33 MAXIMUM SIZE OF CONCRETE AGGREGATE SHALL NOT EXCEED ± ONE (1) INCH SIZE SUITABLE FOR INSTALLATION METHOD UTILIZED OR ONE—THIRD CLEAR DISTANCE BEHIND OR BETWEEN REINFORCING.
 - WATER, CLEAN AND NOT DETRIMENTAL TO CONCRETE
 - AIR ENTRAINING ADMIXTURE: ASTM C260
 - BONDING AGENT: LATEX EMULSION FOR BONDING NEW TO OLD CONCRETE AS MANUFACTURED BY DAYTON SUPERIOR.
 - NON-SHRINK GROUT, PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICISING AGENTS.

- ${\bf A}.$ Concrete materials shall conform to the appropriate a.c.i. Requirements for exposed structural concrete.
- C. PROPORTIONS OF CONCRETE MATERIALS SHALL BE SUITABLE FOR THE INSTALLATION METHOD UTILIZED AND SHALL RESULT IN DURABLE CONCRETE FOR LOCAL ANTICIPATED AGGRESSIVE ACTIONS. THE DURABLITY REQUIREMENTS OF ACI 318 CHAPTER 4 SHALL BE SATISFIED BASED ON THE CONDITIONS EXPECTED AT THE SITE. PROVIDE CONCRETE AS FOLLOWS:
- COMPRESSIVE STRENGTH: 3000 psi AT 28 DAYS SEE SHEET S-1 FOR CAISSON CONCRETE COMPRESSIVE STRENGTH

PART 3 - EXECUTION

I. INSERTS, EMBEDDED COMPONENTS AND OPENINGS

- A. THE CONTRACTOR SHALL COORDINATE AND CROSS-CHECK ARCHITECTURAL, BUILDING & ELECTRICAL DRAWINGS FOR OPENINGS, SLEEVES, ANCHORS, HANGERS, AND OTHER ITEMS RELATED TO CONCRETE WORK AND SHALL ASSUME FULL RESPONSIBILITY FOR THE PROPER LOCATION BEFORE PLACING CONCRETE.
- PROVIDE FORMED OPENINGS WHERE REQUIRED FOR WORK TO BE EMBEDDED IN AND PASSING THROUGH CONCRETE MEMBERS.
- COORDINATE WORK OF OTHER SECTIONS IN FORMING AND SETTING OPENING, SLOTS, RECESSES, CHASES, SLEEVES, BOLTS, ANCHORS, AND OTHER INSERTS.
- D. INSTALL CONCRETE ACCESSORIES STRAIGHT, LEVEL AND PLUMB.O

REINFORCEMENT PLACEMENT

- PLACE REINFORCEMENT, SUPPORTED AND SECURED AGAINST DISPLACEMENT
- ENSURE REINFORCING IS CLEAN, FREE OF LOOSE SCALE, DIRT, OR OTHER FOREIGN COATINGS
- WELDING IS PROHIBITED ON REINFORCING STEEL AND EMBEDMENTS
- MINIMUM CONCRETE COVER FOR REINFORCING SHALL BE 3 INCHES UNLESS OTHERWISE NOTED. CONCRETE COVER FROM TOP OF FOUNDATION TO ENDS OF VERTICAL REINFORCEMENT SHALL NOT EXCEED 3 INCHES NOR BE LESS THAN 2 INCHES.

- ALL CONCRETE WORK SHALL ADHERE TO THE LATEST A.C.I. STANDARDS FOR WINTER POURING AND CURING PROCEDURES IF SEASONAL CONDITIONS APPLY.
- AFTER PLACEMENT, PROTECT CONCRETE FROM PREMATURE DRYING
- MAINTAIN CONCRETE WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR A PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.

PROVIDE HAND RUBBED SMOOTH FINISH TO ALL EXPOSED VERTICAL FORMED CONCRETE SURFACES.

- FIELD QUALITY CONTROL A. SUBMIT THREE (3) CONCRETE TEST CYLINDERS - TAKEN FOR EVERY 15 CUBIC YARD OR LESS. SUBMIT CONCRETE TESTS TO THE PROJECT MANAGER IN ACCORDANCE WITH ASTM, C-31 AND C-32.
- B. SUBMIT ONE (1) ADDITIONAL TEST CYLINDER TAKEN DURING COLD WEATHER POURS AND CURED ON JOB SITE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.
- C. SUBMIT ONE (I) SLUMP TEST TAKEN FOR EACH SET OF TEST CYLINDERS TAKEN
- MODIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED LINES, DETAILS OR ELEVATIONS AS DIRECTED BY ARCHITECT/ENGINEER.

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PREPARED BY: HRH 5-12-15



SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME

SHEET NUMBER

JOB NUMBER

OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142 CONSTRUCTION MANAGER:

RON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63304 OFFICE: (636) 793-9278

CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A.

REAL ESTATE MANAGER:

CLS

LAND SURVEYORS AND PROFESSIONAL ENGINEERS

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IL 00-5777

SPECIFICATIONS

9468-43-8-8B-03

SPECIFICATIONS

PART I - GENERAL

STRUCTURAL STEEL FRAMING MEMBERS, BASE PLATES, PLATES, BARS AND GROUTING UNDER BASE PLATES.

SHOP DRAWINGS: INDICATE SIZES, SPACING, AND LOCATIONS OF STRUCTURAL MEMBERS, OPENINGS, CONNECTIONS, CAMBERS, LOADS, AND WELDED SECTIONS.

- A. FABRICATE STRUCTURAL STEEL MEMBERS IN ACCORDANCE WITH AISC SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS.
- B. PERFORM DESIGN UNDER DIRECT SUPERVISION OF A PROFESSIONAL STRUCTURAL ENGINEER LICENSED IN THE STATE.

PART 2 - PRODUCTS

STRUCTURAL STEEL MEMBERS: STRUCTURAL TUBING:

PIPE:
BOLTS, NUTS, AND WASHERS:
ANCHOR BOLTS:
WELDING MATERIALS:

ASTM A572, GRADE 50 ASTM A500, GRADE B ASTM A53, TYPE E OR 8, GRADE B ASTM A325 ASTM A307 AWS D1.1, TYPE REQUIRED FOR MATERIALS BEING WELDED

NON-SHRINK TYPE, PREMIXED COMPOUND CONSISTING OF NONMETALLIC AGGREGATE, CEMENT, WATER REDUCING AND PLASTICIZING ADDITIVES, CAPABLE OF DEVELOPING A MINIMUM COMPRESSIVE STRENGTH OF 7000 psi AT 28 DAYS.

H. SHOP AND TOUCH-UP PRIMER: SSPC 15, TYPE 1, RED OXIDE

TOUCH-UP PRIMER FOR GALV. SURFACES:

CONTINUOUSLY SEAL JOINTED MEMBERS BY CONTINUOUS WELDS. GRIND EXPOSED WELDS SMOOTH.

- B. STRUCTURAL STEEL MEMBERS SHALL BE HOT DIPPED GALVANIZED.

I. EXAMINATION AND PREPARATION:

VERIFY THAT THE FIELD CONDITIONS ARE ACCEPTABLE.

- A. ALLOW FOR ERECTION LOADS. PROVIDE TEMPORARY BRACING TO MAINTAIN FRAMING IN ALIGNMENT UNTIL COMPLETION OF ERECTION AND INSTALLATION OF PERMANENT BRIDGING AND BRACING.
- B. FIELD WELD COMPONENTS INDICATED ON SHOP DRAWINGS.
- C. DO NOT FIELD CUT OR ALTER STRUCTURAL MEMBERS WITHOUT APPROVAL OF THE ARCHITECT/ENGINEER.
- D. AFTER ERECTION, TOUCH-UP WELDS, ABRASIONS, AND SURFACES NOT SHOP PRIMED OR GALVANIZED WITH TOUCH-UP PRIMERS AS SPECIFIED UNDER SECTION 05000,—METALS, PART 2 PRODUCTS, H & I. SURFACES TO BE IN CONTACT WITH CONCRETE NOT INCLUDED.

FIELD INSPECTION OF MEMBERS, CONNECTIONS, WELDS AND TORQUING.

DIVISION 16: ELECTRICAL SECTION 16050 - BASIC ELECTRICAL MATERIALS AND METHODS

I. CONTRACTOR SHALL REVIEW THE CONTRACT DOCUMENTS PRIOR TO ORDERING THE ELECTRICAL EQUIPMENT AND STARTING THE ACTUAL CONSTRUCTION. CONTRACTOR SHALL ISSUE A WRITTEN NOTICE OF ALL FINDINGS TO THE ARCHITECT LISTING ANY DISCREPANCIES OR CONFLICTING INFORMATION.

2. ELECTRICAL PLANS, DETAILS AND DIAGRAMS ARE DIAGRAMMATIC ONLY. VERIFY EXACT LOCATIONS AND MOUNTING HEIGHTS OF ELECTRICAL EQUIPMENT WITH OWNER PRIOR TO INSTALLATION.

3. EACH CONDUCTOR OF EVERY SYSTEM SHALL BE PERMANENTLY TAGGED IN EACH PANELBOARD, PULLBOX, JUNICION BOX, SWITCH BOX, ETC. THE TYPE OF TAGGING METHODS SHALL BE IN COMPLIANCE WITH OCCUPATIONAL SAFETY AND HEALTH ADMINISTRATION (O.S.H.A.).

4. ALL MATERIALS AND EQUIPMENT SHALL BE NEW AND IN GOOD WORKING CONDITION WHEN INSTALLED AND SHALL BE OF THE BEST GRADE AND OF THE SAME MANUFACTURER THROUGHOUT FOR EACH CLASS OR GROUP OF EQUIPMENT. MATERIALS SHALL BE LISTED "J" WHERE APPLICABLE. MATERIALS SHALL MEET WITH APPROVAL OF ALL GOVERNING BODIES HAVING JURISDICTION. MATERIALS SHALL BE MANUFACTURED IN ACCORDANCE WITH APPLICABLE STANDARDS ESTABLISHED BY ANSI, NEMA, NBFU AND "UL" LISTED.

5. ALL CONDUIT SHALL HAVE A PULL CORD.

6. PROVIDE PROJECT MANAGER WITH ONE SET OF COMPLETE ELECTRICAL "AS INSTALLED" DRAWINGS AT THE COMPLETION OF THE JOB, SHOWING ACTUAL DIMENSIONS, ROUTINGS, AND CIRCUITS.

7. ALL CIRCUIT BREAKERS, FUSES AND ELECTRICAL EQUIPMENT SHALL HAVE AN INTERRUPTING SHORT CIRCUIT CURRENT TO WHICH THEY MAY BE SUBJECTED, AND A MINIMUM OF 10,000 A.I.C.

8. THE ENTIRE ELECTRICAL INSTALLATION SHALL BE GROUNDED AS REQUIRED BY UBC, NEC AND 9. PATCH, REPAIR AND PAINT ANY AREA THAT HAS BEEN DAMAGED IN THE COURSE OF THE ELECTRICAL WORK.

10. PLASTIC PLATES FOR ALL SWITCHES, RECEPTACLES, TELEPHONE AND BLANKED OUTLETS SHALL HAVE ENGRAVED LETTERING WHERE INDICATED ON THE DRAWINGS. WEATHERPROOF RECEPTACLES SHALL HAVE SIERRA #WPD-8 LIFT COVERPLATES.

SECTION 16400 - SERVICE AND DISTRIBUTION

- I. WIRE AND CABLE CONDUCTORS SHALL BE COPPER, 600V, TYPE THHN OR THWN, FROM THE H-FRAME TO THE SHELTER WITH A MIN. SIZE OF #12 AWG, COLOR CODED. ALL RECTIFIER DROPS SHALL BE STRANDED TO ACCEPT CRIMP CONNECTORS
- 2. ALL CHEMICAL GROUND RODS SHALL BE "UL" APPROVED.
- 3. METER SOCKET AMPERES, VOLTAGE, NUMBER OF PHASES SHALL BE AS NOTED ON THE DRAWINGS. MANUFACTURED BY MILBANK OR APPROVED EQUAL, AND SHALL BE UTILITY COMPANY APPROVED.

4. CONDUIT

A. RIGID CONDUIT SHALL BE U.L. LABEL GALVANIZED ZINC COATED WITH GALVANIZED ZINC INTERIOR OR PVC SCHEDULE 40 FOR UNDERGROUND CONDUITS OR PVC SCHEDULE 80 FOR UTILITY RISERS AND SHALL BE USED WHEN INSTALLED IN OR UNDER CONCRETE SLABS,

B. ELECTRICAL METALLIC TUBING SHALL HAVE U.L. LABEL, FITTING SHALL BE GLAND RING COMPRESSION TYPE.

C. FLEXIBLE METALLIC CONDUIT SHALL HAVE U.L. LISTED LABEL AND MAY BE USED WHERE PERMITTED BY CODE. FITTINGS SHALL BE "JAKE" OR "SQUEEZE" TYPE. ALL FLEXIBLE CONDUITS SHALL HAVE FULL LENGTH GROUND WIRE.

D. ALL UNDERGROUND CONDUIT SHALL BE AS NOTED ON THE DRAWINGS AT A MINIMUM DEPTH OF 42" BELOW GRADE. IT IS REQUIRED AND WILL BE THE RESPONSIBILITY OF THE ELECTRICAL CONTRACTOR TO NOTIFY JULIE. AT 1-800-892-0123 OR OTHER SUCH NOTIFYING AGENCY FORTY-EIGHT (48) HOURS PRIOR TO DIGGING.

5. CONTRACTOR TO COORDINATE WITH UTILITY COMPANY FOR CONNECTION OF TEMPORARY AND PERCHANNENT POWER TO THE SITE. THE TEMPORARY POWER AND ALL HOOKUP COSTS ARE TO BE PAID YITH CONTRACTOR.

6. ALL ELECTRICAL EQUIPMENT SHALL BE LABELED WITH PERMANENT ENGRAVED PLASTIC LABELS WITH WHITE ON BLUE BACKGROUND LETTERING (MINIMUM LETTER HEIGHT SHALL BE 1/4-INCH). NAMEPLATES SHALL BE FASTENED WITH STAINLESS STEEL SCREWS, NOT ADMESIVE.

7. UPON COMPLETION OF WORK, CONDUCT CONTINUITY, SHORT CIRCUIT, AND FALL POTENTIAL GROUNDING TESTS BY AN INDEPENDENT TESTING SERVICE ENGAGED BY THE CONTRACTOR SHALL BE SUBMITTED FOR APPROVAL. SUBMIT TEST REPORTS TO PROJECT MANAGER. CLEAN PREMISES OF ALL BEBRIS RESULTING FROM WORK AND LEAVE WORK IN A COMPLETE AND UNDAMAGED CONDITION.

8. GROUNDING ELECTRODE SYSTEM

ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FIELD INSPECTED AND MODIFIED TO ENSURE PROPER CONTACT. NO WASHERS ARE ALLOWED BETWEEN THE ITEMS BEING GROUNDED. ALL CONNECTIONS ARE TO HAVE A NON-OXIDIZING AGENT APPLIED PRIOR TO INSTALLATION.

ALL COPPER GROUND BARS SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED.

ALL GROUNDING CONDUCTORS SHALL RUN THROUGH PVC SLEEVES WHEREVER CONDUCTORS RUN THROUGH WALLS, FLOORS OR CEILINGS. IF CONDUCTORS MUST RUN THROUGH EMT, BOTH ENDS OF CONDUIT SHALL BE GROUNDED. SEAL BOTH ENDS OF CONDUIT WITH SILICONE CAULK.

- ALL GROUND BARS SHALL BE 1/4-INCH THICK TINNED COPPER PLATE AND OF SIZE INDICATED ON DRAWINGS.
- ALL CONNECTIONS TO THE GROUND BAR SHALL OBSERVE THE FOLLOWING SEQUENCE:
 - BOLT—HEAD 2—HOLE LUG TINNED BUSS BAR STAR WASHER NUT

C. EXTERNAL CONNECTIONS

- ALL BURIED GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC WELD PROCESS. CONNECTIONS SHALL INCLUDE ALL CABLE TO CABLE, SPLICES, IEE'S, CROSSES, ETC.
 ALL CABLE TO GROUND RODS, GROUND ROD SPLICES AND LIGHTNING PROTECTION SYSTEMS ARE TO
 BE AS INDICATED. ALL MATERIALS USED (MOLDS, WELDING METAL, TOOLS, ETC.) SHALL BE BY
 "CADWELD" AND INSTALLED PER MANUFACTURER'S RECOMMENDED PROCEDURES.
- ALL ABOVE GRADE GROUNDING AND BONDING CONDUCTORS SHALL BE CONNECTED BY TWO HOLE CRIMP TYPE (COMPRESSION) CONNECTIONS (EXCEPT FOR THE ACEG AND GROUND ROD) MECHANICAL CONNECTIONS, FITTINGS OR CONNECTIONS THAT DEPEND SOLELY ON SOLDER SHALL NOT BE USED. ALL CABLE TO CABLE CONNECTIONS SHALL BE HIGH PRESSURE DOUBLE CRIMP TYPE CONNECTIONS. CONNECTIONS TO STRUCTURAL STEEL SHALL BE EXOTHERMIC WELDS.

ALL GROUND RODS SHALL BE 5/8-INCH DIAMETER X 8'-0" LONG "COPPERWELD" OR APPROVED EQUAL, OF THE NUMBER AND LOCATIONS INDICATED. GROUND RODS SHALL BE DRIVEN FULL LENGTH VERTICAL IN UNDISTURBED EARTH.

E. GROUND CONDUCTORS

ALL GROUND CONDUCTORS SHALL BE STANDARD TINNED SOLID BARE COPPER ANNEALED, AND OF SIZE INDICATED ON DRAWINGS UNLESS NOTED OTHERWISE.

LUGS SHALL BE 2-HOLE, LONG BARREL, STRAND COPPER UNLESS OTHERWISE SPECIFIED IN THE CONTRACT DOCUMENTS. LUGS SHALL BE THOMAS AND BETTS SERIES #548_ _BE OR EQUIVALENT.

A.	535 MCM DLO	54880B
В.	262 MCM DLO	54872B
C.	#1/0 DLO	54862B
D.	#4/0 THWN AND BARE	54866B
E.	#2/0 THWN	54862B
	#2 THHN	54207B
C	#6 DLO	54205B

WHEN THE DIRECTION OF THE CONDUCTOR MUST CHANGE, IT SHALL BE DONE GRADUALLY. THE CURVATURE OF THE TURN SHALL BE DONE IN ACCORDANCE WITH THE FOIL OWING. CHAPT. IUM BENDING TO INSIDE EDGE

FULLUWING CHART:	MINIMU
GROUNDING CONDUCTOR SIZE	RADIUS T
NO. 6 AWG TO NO. 4 AWG	6 INCHES
NO. 2 AWG TO NO. I/O AWG	8 INCHES
NO. 2/0 AWG TO 4/0 MCM	12 INCHE
250 MCM TO 750 MCM	24 1000

- THE EXTERNAL GROUND RING ENCIRCLING THE TOWER (IF APPLICABLE) AND BETWEEN THE EQUIPMENT SHELTER PLATFORM ANCHORS SHALL BE MINIMUM NO. 2 A.W.G. SOLID TINNED BARE COPPER CONDUCTOR IN DIRECT CONTACT WITH THE EARTH AT THE DETHI INDICATED ON THE DRAWINGS. CONDUCTOR BENDS SHALL HAVE A MINIMUM BENDING RADIUS OF EIGHT (8) INCHES.
- ALL EXTERNAL GROUND RINGS ARE TO BE JOINED TOGETHER AND ALL CONNECTIONS MUST BE CADWELDED. NO LUGS OR CLAMPS WILL BE ACCEPTED.

GROUND EACH GATE POST, CORNER POST AND GATE AS INDICATED ON DRAWING.
GROUND CONNECTIONS TO FENCE POSTS AND ALL OTHER CONNECTIONS FOR THE GROUND GRID
SYSTEM SHALL BE MADE BY EXOTHERMIC WELD PROCESS, AND INSTALLED PER MANUFACTURER'S
RECOMMENDATIONS AND PROCEDURES, AND SPRAYED WITH COLD—GALVANIZED PAINT.

9. I.E.E.E. FALL POTENTIAL TESTS

1. GROUND TESTS SHALL BE PERFORMED AS INDICATED ON DRAWINGS. A BIDDLE GROUND OHMER OR THE METHOD OF USING TWO AUXILIARY GROUND RODS (AS DESCRIBED IN I.E.E.E. STANDARDS NO. 81-1983, PART 1) MAY BE USED. THE I.E.E.E. METHOD REQUIRES THE USE OF AN A.C. TEST CURRENT. THE AUXILIARY TEST RODS MUST BE SUFFICIENTLY FAR AWAY FROM THE ROD UNDER TEST SO THAT THE REGIONS IN WHICH THEIR RESISTANCE IS LOCALIZED DO NOT OVERLAP. THE TEST POINT WILL BE THE GROUND ROD AND WILL CONSIST OF THE THREE POINT FALL OF POTENTIAL MEGGER TEST METHOD, USING THE BIDDLE NULL—BALANCE EARTH TESTER (MEGGER #250220-2 OR EQUIVALENT)

- 2. CONTRACTOR TO CONDUCT GROUND RESISTANCE TEST IN THE FORMAT AS FOLLOWS

I. FIRST TEST — SHALL BE WITH FOUR GROUND RODS INSTALLED, ONE AT EACH CORNER OF THE PAD BUT NOT CONNECTED TO THE MAIN GROUNDING BUS. FURNISH WIRE TO CONNECT (TEMPORARY CLAMP) ALL FOUR GROUND RODS TOGETHER TO MAKE A SYSTEM TEST AFTER EACH ROD IS INDIVIDUALLY TESTED. IF ANY INDIVIDUAL ROD TESTS 25 OHMS OR MORE, THE ELECTRICAL CONTRACTOR AND OWNER'S REPRESENTATIVE SHOULD BE NOTIFIED SO THAT THE ROD CAN BE DRIVEN DEEPER UNTIL ALL FOUR RODS HAVE A RESISTANCE OF 10 OHMS OR LESS ON A DRY DAY.

2. SECOND TEST — SHALL BE WITH THE GROUND RODS CONNECTED, WITH DRY SOIL AND WHEN NO STANDING WATER HAS BEEN PRESENT FOR THE PAST TEN (10) DAYS. THE MAXIMUM ALLOWABLE READING IS 5 OHMS TO GROUND. IF THE RESISTANCE OF THE ENTIRE SYSTEM EXCEEDS 5 OHMS, NOTIFY THE CONTRACTOR AND OWNER'S REPRESENTATIVE SO THAT ADDITIONAL AND/OR DEEPER RODS CAN BE INSTALLED.

1. FIRST TEST — SHALL BE WITH THREE GROUND RODS INSTALLED (MINIMUM), EQUALLY SPACED AROUND THE TOWER FOUNDATION, BUT NOT CONNECTED TO THE SHELTER PAD EXTERNAL GROUND RING. FURNISH WHEE TO CONNECT (TEMPORARY CLAMP) ALL THREE GROUND RODS TOGETHER TO MAKE A SYSTEM TEST AFTER EACH ROD IS INDIVIDUALLY TESTED. IF ANY INDIVIDUAL ROD TESTS 25 OHMS OR MORE, NOTIFY THE CONTRACTOR AND OWNER'S REPRESENTATIVE SO THAT THE ROD CAN BE DRIVEN DEEPER UNTIL ALL THREE (3) RODS HAVE A RESISTANCE OF 10 OHMS OR LESS ON A DRY DAY.

2. SECOND TEST — SHALL BE WITH THE GROUND RODS CONNECTED, WITH DRY SOIL AND WHEN NO STANDING WATER HAS BEEN PRESENT FOR THE PAST TEN (10) DAYS. THE MAXIMUM ALLOWABLE READING IS 5 OHMS TO GROUND. IF THE RESISTANCE OF THE ENTIRE SYSTEM EXCEEDS 5 OHMS THE ELECTRICAL CONTRACTOR AND OWNER'S REPRESENTATIVE SHOULD BE NOTIFIED SO THAT EITHER ADDITIONAL AND/OR DEEPER RODS CAN BE INSTALLED.

1. AFTER THE EQUIPMENT PAD AND TOWER GROUND RESISTANCE TEST IS COMPLETED, CONTRACTOR SHALL TIE EQUIPMENT PAD EXTERNAL GROUND RING AND TOWER EXTERNAL GROUND RING TOWER EXTERNAL GROUND RING TOWER EXTERNAL GROUND RING TOWER EXTERNAL GROUND RING TOWER EXTERNAL OF THE RIPER AND EXCEPTED.

EXOTHERMIC WELD. NO LUGS OR CLAMPS WILL BE ACCEPTED.

AFTER ALL THE EXTERNAL GROUND RINGS ARE TIED TOGETHER, COMPLETE A MEGGER CHECK OF THE GROUND SYSTEM SHOULD BE DONE. THE MAXIMUM ALLOWABLE READING IS 5 OHMS TO GROUND.

10. GROUNDING RESISTANCE TEST REPORT

UPON COMPLETION OF THE TESTING FOR EACH SITE, A TEST REPORT SHOWING RESISTANCE IN OHMS WITH AUXILIARY POTENTIAL ELECTRODES AT 5 FEET AND 10 FEET INTERVALS UNTIL THE AVERAGE RESISTANCE STARTS INCREASING AND ALSO NOTE THAT 10-15 PHOTOS MUST BE TAKEN TO PROOF ENTIRE EXTERNAL GROUND RING SYSTEM BEFORE BACKFILL TWO (2) SETS OF TEST DOCUMENTS ARE OF THE INDEPENDENT TESTING SERVICE TO BE BOUND AND SUBMITTED WITHIN ONE (1) WEEK OF WORK COMPLETION.

SECTION 16503 - POLES, POSTS, AND STANDARDS

(SINGLE MAST AND SELF SUPPORTING TOWERS)

I. GENERAL

A. LIGHTNING ROD AND EXTENSION PIPE INCLUDING ALL APPURTENANCES, TO BE FURNISHED BY OWNER, IF REQUIRED.

B. PROVIDE TEMPORARY LIGHTING FOR TOWER AS PER FAA REGULATIONS DURING CONSTRUCTION, IF REQUIRED.

GROUND TOWER WITH A MINIMUM OF #2 AWG TINNED SOLID BARE COPPER CONDUCTOR CADWELDED TO TOWER BASE PLATE. TWO (2) GROUNDING LEADS PER TOWER BASE PLATE.

NO EXOTHERMIC WELDS SHALL BE ATTACHED DIRECTLY TO THE MONOPOLE TOWER SHAFT. SECTION 16745 - TELECOMMUNICATIONS WIRING COMPONENTS

(COAXIAL ANTENNA CABLE)

A. ALL MATERIALS, PRODUCTS OR PROCEDURES INCORPORATED INTO WORK SHALL BE NEW AND OF STANDARD COMMERCIAL QUALITY.

B. CERTAIN MATERIALS AND PRODUCTS WILL BE SUPPLIED BY THE OWNER (REFER TO GENERAL CONDITIONS FOR THE LIST OF OWNER FURNISHED EQUIPMENT, MATERIALS AND SUPPLIES FOR THESE ITEMS). THE CONTRACTOR IS RESPONSIBLE FOR PICKUP AND DELIVERY OF ALL SUCH MATERIALS.

C. ALL OTHER MATERIALS AND PRODUCTS SPECIFIED IN THE CONTRACT DOCUMENTS SHALL BE SUPPLIED BY THE CONTRACTOR.

2. MATERIALS

1. INSTALL COAXIAL CABLE AND TERMINATIONS BETWEEN ANTENNAS AND EQUIPMENT PER MANUFACTURER'S RECOMMENDATIONS WITH COAXIAL CABLES SUPPORTED AT NO MORE THAN 3'-O' O.C. WEATHERPROOF ALL CONNECTORS BETWEEN THE ANTENNA AND EQUIPMENT PER MANUFACTURERS' REQUIREMENTS. TERMINATE ALL COAXIAL CABLE THREE (3) FEET IN EXCESS OF EQUIPMENT LOCATION UNLESS OTHERWISE STATED.

2. ALL COAX RUN LENGTHS GREATER THAN 175 FEET SHALL BE 1-5/8", ALL COAX RUN LENGTH BETWEEN 101 FEET AND 174 FEET SHALL BE 1-1/4", AND IN LENGTH LESS THAN OR EQUAL TO 100 FEET SHALL BE 7/8".

A. ALL COAXIAL CABLE GROUNDING KITS ARE TO BE INSTALLED ON STRAIGHT RUNS OF COAXIAL CABLE (NOT WITHIN BENDS) 3. COAXIAL CABLE IDENTIFICATION

> A. TO PROVIDE EASY IDENTIFICATION AND UNIFORM MARKING OF ANTENNA CABLING, PLASTIC TAGS SHALL BE USED AT THE FOLLOWING LOCATIONS: I. I ID TAG ON THE BOTTOM 1/2: JUMPER COMING FROM THE LUCENT EQUIPMENT

2. I ID TAG ON THE BOTTOM MAIN LINE INSIDE THE SHELTER NEAR THE MAIN CONNECTOR

3. I ID TAG ON THE TOP MAIN LINE NEAR THE MAIN CONNECTOR

4. I ID TAG ON TAHE TOP 1/2" JUMPER NEAR THE ANTENNA

B. USE ANDREW CABLE TIES (PT.# 27250) TO SECURE IDENTIFICATION TAGS.

THE DEVELOPER SHALL PROVIDE AN INDEPENDENT TESTING AGENCY TO PERFORM THE COAXIAL SWEEP TEST 8 REPORT. THE CONTRACTOR IS TO PROVIDE ONE CLIMBER / OUALIFIED PERSONNEL TO ASSIST IN ANY REPARKS AND WEATHERPROOFING ONCE THE TEST IS COMPLETE. THE CONTRACTOR IS TO PROVIDE THE CONSTRUCTION MANAGER WITH A MINIMUM OF 48 HOURS NOTICE PRIOR TO THE TIME OF THE SWEEP TEST.

SPECIFICATIONS

CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A. VERIZON WIRELESS

REAL ESTATE MANAGER: OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142

CONSTRUCTION MANAGER: RON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 6330-OFFICE: (636) 793–9278

CLS

1300 W. COMMERCE DR. STE. 1 PEORIA, ILLINOIS 61615

LAND SURVEYORS
AND PROFESSIONAL ENGINEERS PHONE: 309-692-3434 FAX: 309-692-3433

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PREPARED BY: HRH 5-12-15



SITE NAME:

IL 00-5777

CRYSTAL LAKE SOUTH

SHEET NAME

SPECIFICATIONS

SHEET NUMBER

JOB NUMBER

9468-43-8-88-03



STANDING ACROSS THE STREET FROM EXISTING PROPERTY ENTRANCE (LOOKING NORTH)



STANDING NEAR EAST PROPERTY LINE (LOOKING NORTH)



STANDING IN EXISTING DRIVEWAY (LOOKING NORTH)



STANDING IN THE ACCESS LANE FACING PROPOSED COMPOUND (LOOKING NORTHEAST)



STANDING AT PROPOSED ACCESS DRIVE (LOOKING EAST)



STANDING EAST OF PROPOSED COMPOUND (LOOKING WEST)

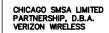


STANDING AT EAST PROPERTY LINE (LOOKING NORTH)



STANDING SOUTH OF PROPOSED COMPOUND (LOOKING NORTH)





REAL ESTATE MANAGER: OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142

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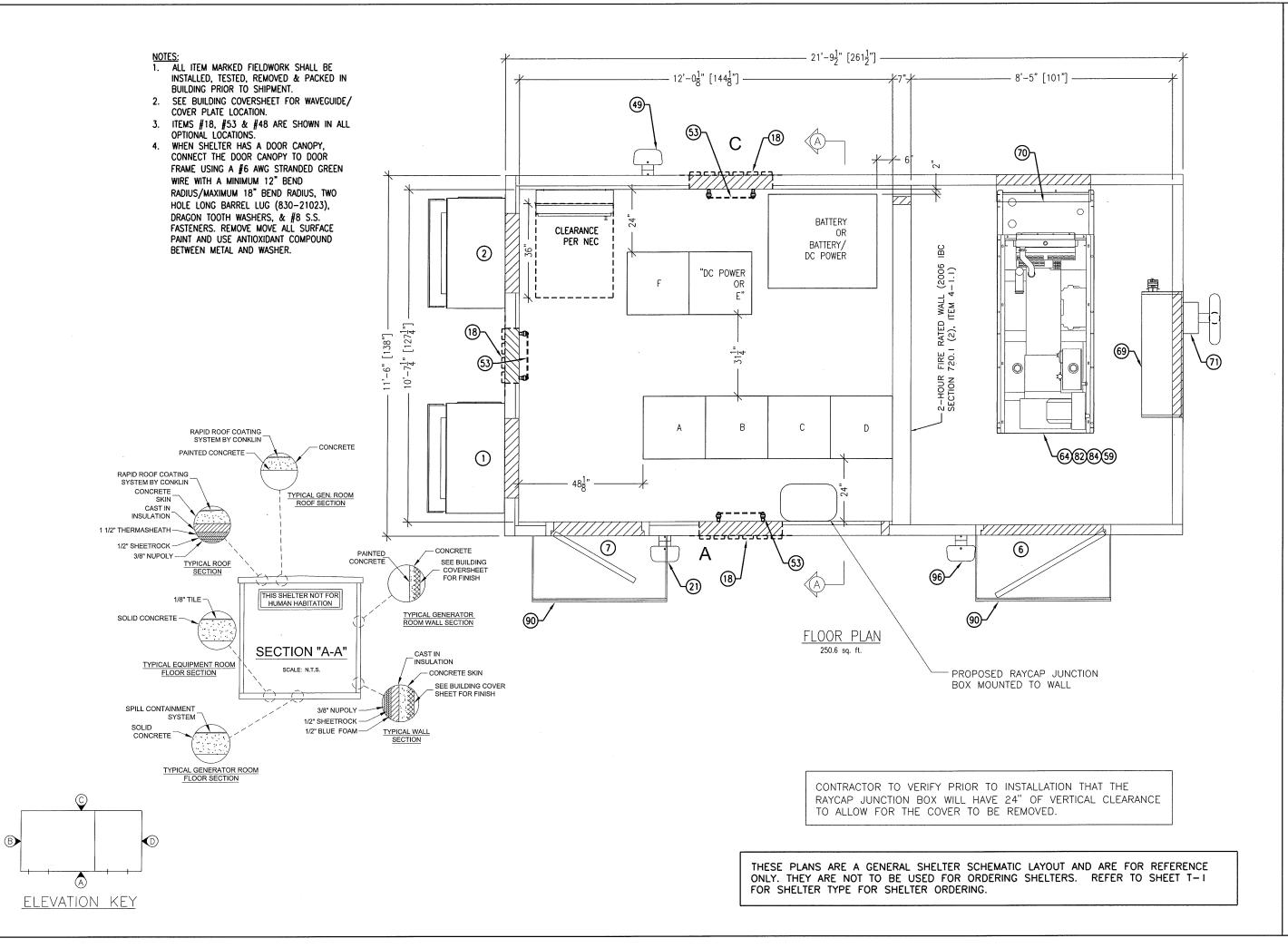
CRYSTAL LAKE SOUTH

SHEET NAME

SITE PHOTOS

SHEET NUMBER

JOB NUMBER



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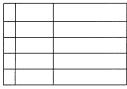
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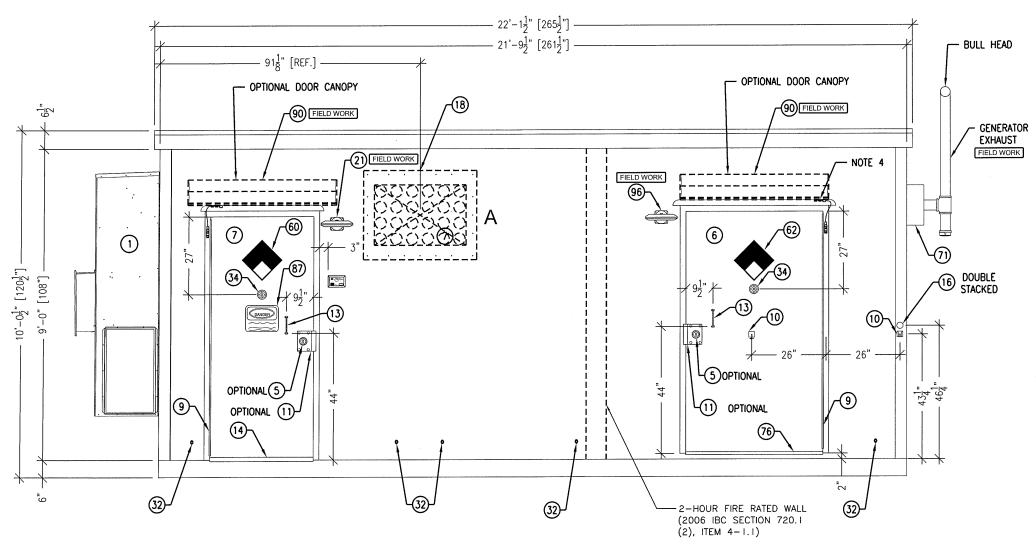
CRYSTAL LAKE SOUTH

SHEET NAME

SHELTER DETAILS

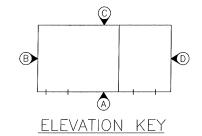
SHEET NUMBER

JOB NUMBER



NOTE: SEE FLOOR PLAN SHEET FOR NOTES.

ELEVATION "A"



THESE PLANS ARE A GENERAL SHELTER SCHEMATIC LAYOUT AND ARE FOR REFERENCE ONLY. THEY ARE NOT TO BE USED FOR ORDERING SHELTERS. REFER TO SHEET T-I FOR SHELTER TYPE FOR SHELTER ORDERING.

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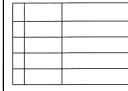
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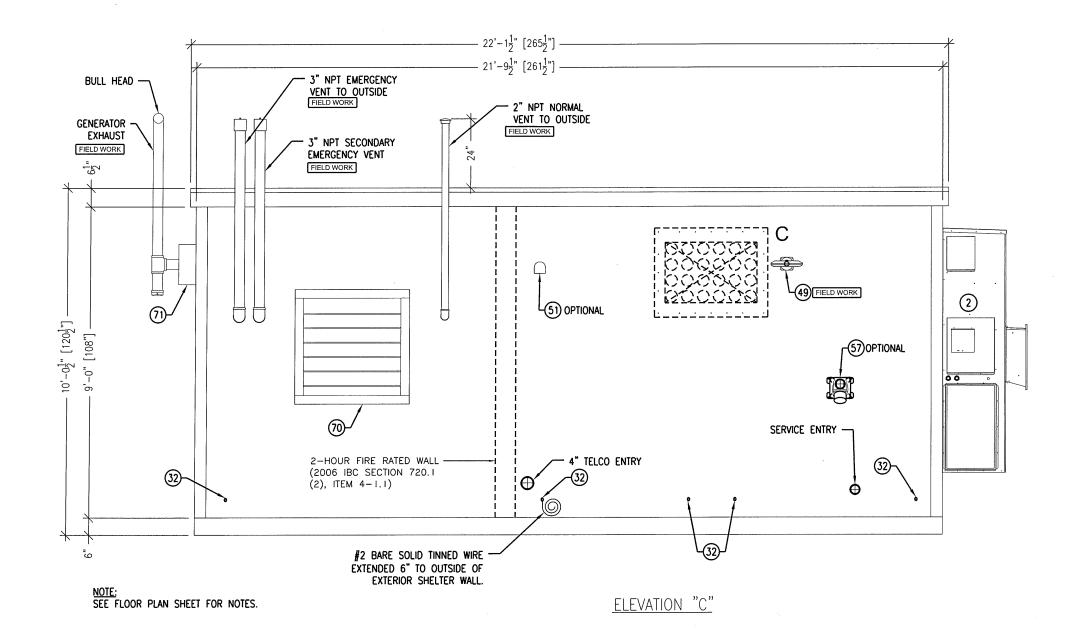
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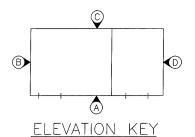
SHELTER DETAILS

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9468-43-8-88-03





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FAX: 309-692-3433
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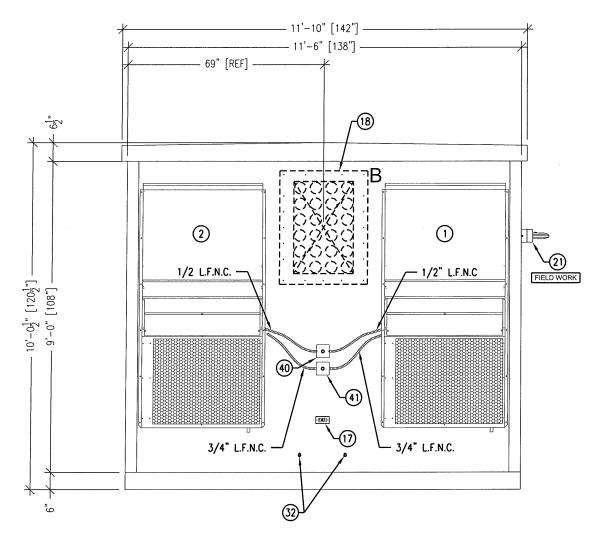
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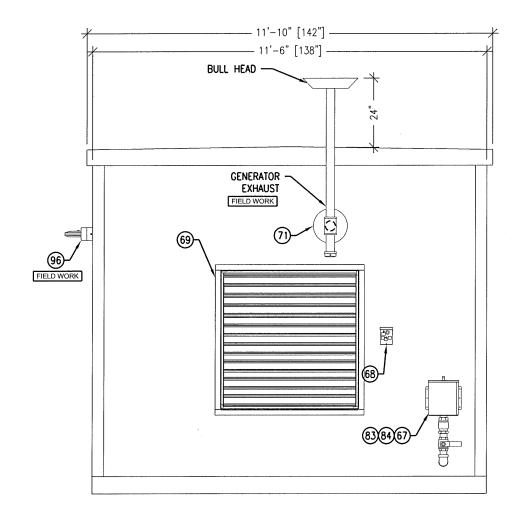
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SHEET NUMBER

B-3

JOB NUMBER



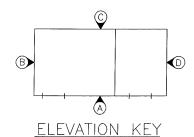


ELEVATION "B"

NOTE: SEE FLOOR PLAN SHEET FOR NOTES.

ELEVATION "D"

DUE TO THE LARGE BLOCKOUT THIS WALL HAS A O HOUR FIRE RATING. SEPARATION OF 10'-0"
REQUIRED TO CLOSEST LOT LINE, CENTERLINE OF
STREET, ALLEY, OR PUBLIC WAY OR BETWEEN TWO BUILDINGS.



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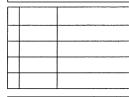
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IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME

SHELTER DETAILS

SHEET NUMBER

JOB NUMBER

ITEM LIST

ITEM FIBREBOND

MANUFACTURER

MANUFACTURER

HNAC HNAC	(OPTIONAL) (OPTIONAL) (OPTIONAL)
. 3.	(OPTIONAL)
LC PANEL	
. 5. DOOR LOCK 6 DOOR, 4070 16 GA, CALVANIZED, WITH 161 PREP 7 DOOR, 3070 16 GA, CALVANIZED, WITH 161 PREP 8. 847-11056 1130 SARGENT DOOR CLOSURE 9. 847-00224 HINGE, 83" ALUMNIUM CONTINUOUS CONCEALED P 10. 847-20271 - HOLDER, 304S, MODEL 5601 11. 847-22816 LG180Z NATIONAL GUARD LOCK GUARD, 5" X 7"	(OPTIONAL)
6 DDOR, 4070 16 GA. GALVANIZED, WITH 161 PREP 7 DOOR, 3070 16 GA. GALVANIZED, WITH 161 PREP 8. 847-11056 1130 SARGENT DOOR CLOSURE 9. 847-00224 HINGE, 83" ALUMINUM CONTINUOUS CONCEALED PI 10. 847-22371 - HOLDER, 304S, MODEL 5601 11. 847-22816 LÖIBÖZ NATIONAL GUARD LOCK GUARD, 5" X 7"	
7 DOOR, 3070 16 GA. GALVANIZED, WITH 161 PREP 8. 847-11056 1130 SARGENT DOOR CLOSURE 9. 847-00224 HINGE, 83" ALUMINUM CONTINUOUS CONCEALED P 10. 847-22371 HOLDER, 304SS, MODEL 5601 11. 847-22816 LG180Z NATIONAL GUARD LOCK GUARD, 5" X 7"	
8. 847-11056 1130 SARGENT DOOR CLOSURE 9. 847-00224 - HINGE, 83* ALUMINUM CONTINUOUS CONCEALED P 10. 847-22371 - HOLDER, 304Ss, MODEL 5601 11. 847-22816 LOCK GUARD, 5* X 7*	POLYSTYRENE INSULATION, 1.5 HOUR FIRE RATED
9. 847-00224 HINGE, 83" ALUMINUM CONTINUOUS CONCEALED P. 10. 847-22371 HOLDER, JOHSS, MODEL 5601 11. 847-22816 LÖTBÖZ NATIONAL GUARD LÖCK GUARD, 5" X 7"	POLYSTYRENE INSULATION, 1.5 HOUR FIRE RATED
10. 847-22371 HOLDER, 304Ss, MODEL 5601 11. 847-22816 LG180Z NATIONAL GUARD LOCK GUARD, 5 * X 7*	
11. 847-22816 LG180Z NATIONAL GUARD LOCK GUARD, 5" X 7"	PIANO
1184722816	
12 831-00123 vcrwlrc	ERS_WHITE_BOX
13. 847-11050 0382 KASON PULL HANDLE	
14. 847-12347 198N-42 NATIONAL GUARD DOOR SWEEP, 42	
	R SIELDED PVC LOW VOLTAGE CABLE - VERIZON USE
	,-,,,
	<u>x 4 W.P.J.B.</u>
18. 818-00032 - HARGER WAVEGUIDE, 4" 24 PORT WITH PVC CAPS 19. 831-00119/831-00120 T82014132MVN TEXAS FLOURESCENTS FIXTURE, INTERIOR LIGHT, 32W, W/A 1 BULB 201	CORRIGOR CUREICE HOURT WASHE COVER
13: 031-0018/031-0018/ 021/ 021/ 021/ 021/ 021/ 021/ 021/ 021	CORRIDOR SURFACE MOUNT WYLENS COVER
20. 831-00104 OLW14 LITHONIA EXTERIOR LIGHT, LED W/ PHOTOCELL 21. 831-00104 OLW14 LITHONIA EXTERIOR LIGHT, LED W/ PHOTOCELL	K IN 4X4 JUNCTION BUX
22. 827-00986 CSB120I HUBBELL SWITCH 20AMP 120V SINGLE POLE AC TOGGLE	
22. 827-00086 CSB1201 HUBBELL SWITCH 20AMP 120V SINGLE POLE AC TOGGLE 23. 827-00071/822-10583/822-10150 COOPER 20AMP DUPLEX RECEPTACLE / 4" x 4" J.B.	
24. 821-10553 WREWY, 6"x6"x15"	
25. 822-10150 4SDEK APPLETON 4" x 4" \ \(\) \(\	
26. 848-10128/822-10150 7100F GENTEX SMOKE DETECTOR 120VAC MOUNTED ON 4" x 4"	
27. 848-11351 7939-2CY ADMCO MACNETIC DOOR ALARM	v.o
28. 833-10877 1UHH2 DAYTON LOW TEMP ALARM	
28. 833-10877 IUHH2 DAYTON LOW TEMP ALARM 29. 833-10877 IUHH2 DAYTON HIGH TEMP ALARM	
30 827-10924/827-11704/827-13591/827-20219 - RELAY 120 VOLT 11 PIN WITH FUSES (SURGE AR	RESTOR TVSS)
31. 835-00037 (6) TERMINUL STRIPS, 12 CIRCUIT 30 AMP 300 YOLT	(ALARM TERMINAL STRIP)
32 3/4" PVC BARTEET 3/4" SCHEDULE 40 PVC CAST @ 45"	
. 33. 841-13867 63202 DEFLECTO LETTER TRAY	(OPTIONAL)
34. 847-00225 PEEP HOLE, LARGE 180 DEGREE VIEWER DOOR SC	COPE
35 835-23747/835-23801 - ALARM BLOCK W/ RRACKET "66" STAND-OFF 700	OVER 66 BLOCK CLEAR MC-4
36. 830-00153 GBI1426P HARGER GROUND BAR 1/4" X 2" X 6" COPPER	(ECPGB)
37.	
38. 847-00001 2203 SARGENT DOOR CLOSURE, 90"	
39. 827-00071/822-10583/822-10150 COOPER 20AMP DUPLEX RECEPTACLE / 4" x 4" J.B.	
40. 822-21981/822-13401 - BOX. 4 W.P.J.B. W/ 3/4 PLG W/ COVER	
41. 822-21981/822-13401/820-11838 - BOX, 4" W.P.J.B. W/ 3/4" PLG W/ 3/4" X 1/2"	REDUCING BUSHINGS W/ COVER
42. 822-10162 72171341 STEEL CITY 4 11/16" X 4 11/16" DEEP J.B.	
_43	
. 44. 827-23676	(OPTIONAL)
. 45. 849-00013EXTINGUISHER, 10 # C02 W/TAG	(OPTIONAL)
45 841-20426 IKW78 GRAINGER EYE WASH STATION, 1-q. BOTTLE	(OPTIONAL)
. 47. 841-00180 GENUINE FIRST AID KIT	(OPTIONAL)
48. 830-00144 GROUND BAR 1/4" X 4" X 24" GALY STEEL STAMPED "1 49. 831-00104 OLW14 LITHONIA EXTERIOR LIGHT, LED W/ PHOTOCELL	PROPERTY OF VERIZON" (MASTER)
50. 822-12427 - ENCLOSURE, 6"X 6" SCRWCVR NK	

NO.	PART NO.	PART NO.	MANOPACTORER	DESCRIPTION
. 51.	843-00061/841-00310	1TDN3	GRAINGER	BLOWER, PSC 29CFM 115V/SCREEN, 1/8" x 1/8" GALVANIZED (OPTIONAL)
<u>• 52</u> .	848-00034/822-23634	099141	ARRCH MANUFACTURING	DETECTOR, HYDROGEN 12-48VDC/BOX, 2 GANG SWITCH - 1" 5/8" D (OPTIONAL)
53.	830-00143			GROUND BAR 1/4" X 4" X 20" GALV STEEL STAMPED "PROPERTY OF VERIZON"
54.	822-10150	4SDEK	APPLETON	4" x 4" J.B. (1/2" & 3/4" KNOCKOUT) (DC PULL BOX)
55.	827-00086/822-11860/822-	10150/827-15427	HUBBELL	SWITCH 20AMP 120V TOGGLE W/ SINGLE SWITCH COVER IN 4X4 JUNCTION BOX/SWITCH GUARD
<u>• 56.</u>	813-00045			TELCO BOARD 3/4"X49"X97" MDF 813-10967 PAINTED 851-11887 FIRE RETARDANT BLACK (OPTIONAL)
57.	826-23325/826-13163	AR20044RS/AJA620	APPLETON	RECEPTACLE, APLTN 200A 4W4P RS, REV. SERVICE W/ MOUNTING BOX (OPTIONAL)
58.	827-12064/827-11704/822-			RELAY 24 VDC W/ 11 PIN SOCKET MOUNTED IN 6" X 6"X 4" JUNCTION BOX
59.	840-00139	33SF1020C	R&S	ELBOW, 2" STREET 45 DEGREE - BLACK
60.	SEE PACKING LIST			
61.	SEE PACKING LIST			
62.	SEE PACKING LIST			
• 63.	841-22775			CORK BULLETIN BOARD, 3'X2' (OPTIONAL)
64.				60kw MAX (CUSTOMER SUPPLIED)
65.	822-12740	MALB-6	KILLARK	2" LB, NEC, MOGUL W/ COVER
66.	827-00021/827-24445			SWITCH, EMERGENCY STOP/SAFETY GUARD AND ENCLOSURE
67.	938-00096		GENERAC	TANK EXTERIOR 5 GALLON FILL/SPILL CONTAINMENT CUSTOMER SUPPLIED
68.	938-00097		GENERAC	ALARM BOX REMOTE OVERFILL CUSTOMER SUPPLIED
69.	844-00082/844-00155/844-23888	VCD-18	GREENHECK	DAMPER INTAKE 48" X 48", SPRING OPEN, 14" SLEEVE, 2" FLANGE, INSECT SCREEN, 2" FILTER RACK/INTAKE LOUVER 48" X 48"/ACTUATO
70.	844-13658/844-00154	ESD-435X	GREENHECK	DAMPER EXHAUST 36" X 36", 14" SLEEVE, INSECT SCREEN,/LOUVER, EXHAUST 36" X 36", STATIONATY DRAINABLE BLADE, GRAVITY
71.	838-13090	_x	x	THIMBLE
72.	827-00098/822-00062/822-	10159		RECEPTACLE 20AMP 120V SINGLE W/ COVER IN 2X4 JUNCTION BOX (BATTERY CHARGER)
73.	827-00098/822-00062/822-			RECEPTACLE 20AMP 120V SINGLE W/ COVER IN 2X4 JUNCTION BOX (BLOCK HEATER)
74.	827-00086/822-10148/822-	10159	HUBBELL	SWITCH 20AMP 120V TOGGLE W/ COVER IN 2X4 JUNCTION BOX
75.	827-00098/822-00062/822-			RECEPTACLE 20AMP 120V SINGLE W/ COVER IN 2X4 JUNCTION BOX (OIL HEATER)
76.	847-12301	198N-48	NATIONAL GUARD	DOOR SWEEP, 48"
- 77	848-00049		SHOCK WATCH	INDICATOR, RESETTABLE IMPACT MAG 2000 SHOCK WATCH
- 70. —	848-00050	M21-6GW	SHOCK WATCH	INDICATOR, RESETTABLE IMPACT MAG 2000 SHOCK WATCH
- /9	827-13416/827-11704	_MZ1-0GW	SHOCK WAICH	12 VDC RELAY WITH 11 PIN RELAY BASE (LOUVER CONTROL RELAY MOUNTED IN GENERATOR)
- <u>80.</u> —	_ 62/-13416/62/-11/04			12 VOC RELAT MITH 11 PIN RELAT BASE (LOUVER CONTROL RELAT MOUNTED IN GENERATOR)
82.	840-00131	179-0100AC	MORRISON BROTHERS	CAP, 2" HINGED STYLE LOCAKABLE ALUMINUM FILL
- 83 . —	838-00102		SMITH COOPER	CHECK VALVE 2" VERTICAL
84.	838-00105		SMITH COOPER	BALL VALVE 2" FULL PORT
85.				
86.	831-00121/831-00122	S132MV/S48WG	TEXAS FLUORESCENTS	FIXTURE, TEXAS FLUORESCENTS SERIES S STRIP LIGHT, SURFACE MOUNT T8 & WIREGUARD
87.	841-00250			SIGN NFPA "DIESEL FUEL, NO SMOKING NO OPEN FLAMES"
88.	848-11351	7939-2GY	ADEMCO	MAGNETIC DOOR ALARM
89.	848-00053		FENWAL	DETECTOR, THERMAL HEAT 22 DEGREE, VERTICAL MOUNT BRASS, NORAMLLY CLOSED
90.	846-00701		PONDER	52" POWDER COATED MESA TAN 22 GA DOOR CANOPY (OPTIONAL)
- <u>91</u>	848-00055/822-10159/822-		BARD	SENSOR, TEMPERATURE (35' coble)/2" x 4" x 2 1/8" DEEP J.B. W/ BLANK COVER (OPTIONAL)
	848-00055/822-10159/822-	10143	BARU	SENSUR, TEMPERATURE (35 CODIE)/2 x 4 x 2 1/8 DEEP J.B. W/ BLANK COVER (OPTIONAL)
- 93				
- 94. —				
- 96. —				
97.				
98.	840-00125			TEE, BULL HEAD EXHAUST 3" SCHEDULE 40 PIPE 3 1/2" SQUARE TUBE 50"
99.	198491			KIT HVAC BLOCKOUT FRAMING MARVAIR/BARD HVAC UNITS (3 1/2-5 TON)
100.				

DESCRIPTION

				PACKING	G LIST	
ITEM NO.	QTY.	FIBREBOND PART NO.	MFG'S. PART NO.	MANUFACTURER	DESCRIPTION	
	1	841-50030	474	-	BRUSH, 1" PAINT	
-	.25 gal	851-00263		-	THOROLASTIC, MESA TAN	
-	*	850-00226	K-73650P-4.0	SILAPRENE	CAULK, TAN	
- 1	8	197786	FB#197786	FIBREBOND	PLATE, TIEDOWN - 3/8" X 9" X 12"	
-	16	854-12970	_	-	ANCHOR, SLEEVE - 3/4" X 2 1/2"	
60	1	841-00282	_	-	SIGN NFPA "SULFURIC ACID (BATTERIES)" MSDS HZRD BLU	JE 3, RED 0, YELLOW 2, WHITE BLANK
61	1	841-00187	_	-	SIGN, NO SMOKING 14" X 10" ALUMINUM	,
62	2	841-00017	-	-	SIGN NFPA "DIESEL" MSDS HZRD, BLUE O, RED 2, YELLOW O, WH	IITE BLANK
	1	841-00248	-	-	SIGN NFPA "DIESEL" MSDS HZRD, "ELECTRICAL HAZARD"	
	1	841-00249	_	-	SIGN NFPA DANGER "CORROSIVE LIQUIDS, WEAR PROTECTIVE	VE EQUIPMENT"
	1	841-00250	-	-	SIGN NFPA "DIESEL FUEL, NO SMOKING NO OPEN FLAMES)
						•
-	1	841-23025	-	_	DESK, WALLMOUNT FOLD-UP	(OPTIONAL)
	1	841-13825	-	-	BROOM, WOOD HANDLE	(OPTIONAL)
-	1	841-22312	1-	-	DUST PAN, METAL BLACK	(OPTIONAL)
-	1	841-15433	-		TRASH CAN, 20 GA RUBBERMAID (USA)	(OPTIONAL)
-	<1 □	841-13812	141S0035GY	NOTRAX	MAT, 3' X 5' CARPET GRAY	(OPTIONAL)
-	1	841-00307	-	-	SPILL KIT, UNIVERSAL VAC PAC SPILL KIT	(OPTIONAL)
-	1	841-24100	6106	WERNER	6'-0" FIBERGLASS LADDER W/ HANGER	(OPTIONAL)
- 1	1	841-22309	2523		STOOL, 2-STEP W/ROLLERS #300 (USA)	(OPTIONAL)

^{*} VARIES WITH SIZE OF BLDG., SEE SEQUENCE 120

CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A. VERIZON WIRELESS

REAL ESTATE MANAGER: OCTAVIO HERRERA 1515 EAST WOODFIELD RD. SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142

CONSTRUCTION MANAGER: RON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63304 OFFICE: (636) 793—9278

CLS CONSOLIDATED LAND SURVEYING

1300 W. COMMERCE DR. STE. 700 PEORIA, ILLINOIS 61615 LAND SURVEYORS AND PROFESSIONAL ENGINEERS

PHONE: 309-692-3434 FAX: 309-692-3433

PROFESSIONAL DESIGN FIRM NO. 184-002756

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PREPARED BY: HRH 5-12-15



IL 00-5777

SITE NAME:

CRYSTAL LAKE SOUTH

SHEET NAME

SHELTER ITEM LIST

SHEET NUMBER

JOB NUMBER

9468-43-8-88-03

NOTES: ITEMS ARE SUBJECT TO CHANGE DUE TO AVAILABILITY AND EQUAL SUBSTITUTES WILL BE USED. ELECTRICAL OR MECHANICAL REQUIREMENTS MAY CHANGE DUE TO MANUFACTURERS SPECIFICATIONS.

	 	 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
		CHICAGO SMSA LIMITED PARTNERSHIP, D.B.A. VERIZON WIRELESS
		REAL ESTATE MANAGER: OCTAVIO HERRERA 1515 EAST WOODFIELD R SCHAUMBURG, IL 60173 OFFICE: (847) 619-4142
		CONSTRUCTION MANAGER RON PAULY 500 TECHNOLOGY DRIVE 2ND FLOOR WELDON SPRING, MO 63: OFFICE: (636) 793-927
		CLS
		1300 W. COMMERCE DR. STE. 1 PEORIA, ILLINOIS 61615 LAND SURVEYORS AND PROFESSIONAL ENGINEER
		PHONE: 309-692-3434 FAX: 309-692-3433 PROFESSIONAL DESIGN FIRM NO. 184-022 THIS DRAWING IS COPYRIGHTED ANI THE SOLE PROPERTY OF CONSOLID. LAND SURVEYING, INC. REPRODUCT
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		PREPAREO BY: HRH 5-12-1
		(CST)
		IL 00-5777
		SITE NAME: CRYSTAL
		LAKE SOUTH
		NOTICE TO CONTRACTORS
		SHEET NUMBER

DATED CTION OR REIN N OF



JOB NUMBER

200 North Glebe Road, Suite 1000 Arlington, VA 22203-3728

June 5, 2015

FDH Velocitel
Attn: Jennifer Young
Regulatory Compliance Manager – E. PA/S. NJ/DE
570 Colonial Park Drive Suite 307
Roswell, GA 30076

Re: Potential Interference from site RO534, 902 Patrick Henry Drive, Blacksburg, VA 24060.

Dear Mr. Mayo:

Based on the AT&T Mobility, LLC application, dated Aug. 7, 2014, AT&T Mobility, LLC will be operating UMTS and LTE equipment at this site on the basis of FCC licenses which exclusively entitles the company to transmit within their assigned frequency ranges. Their operating frequencies should not cause interference issues with public safety, broadcast or other communications service users in the vicinity of this site.

In the unlikely event that interference is created, AT&T Mobility, LLC, as a condition of their FCC licenses, assumes full responsibility to take necessary measures to resolve these issues.

Please feel free to contact me at any time if additional information or clarification on interference issues is needed.

Sincerely,

David C. Cotton, Jr, PE (VA 45496)

Director, RF Compliance

Site Safe, Inc.
743 Gold Hill PI S, PMB 307
Woodland Park CO 80863-1101
719.434.0700 mobile
719.687.4514 office
719.629.7020 home
dcotton@sitesafe.com
www.sitesafe.com



October 30, 2015

To whom it may concern,

Regarding the proposed Crystal Lake South cell site:

Operating Frequencies (MHz):

700 MHz:

Tx 746-757 MHz, Rx 776-787 MHz

AWS:

Tx 2110-2130 MHz, Rx1710-1730 MHz

Power Levels:

700 MHz:

40W

AWS:

60W

Azimuths: 90, 210, 330

Antenna Type:

PANEL

Verizon Wireless (VZW) Regulatory Compliance Department complies with all applicable Federal, State and Local laws, statutes and regulations governing the design, construction, operation and maintenance of the VZW network. The VZW Network Regulatory Department completes formulation, administration and distribution of Regulatory Compliance Policies to reference and highlight specific filing, notification and other compliance requirements for the proposed Crystal Lake South cell site.

Sincerely,

Shoaib Nagi

Engr. III Cslt-RF, NET-System Performance

Common Name: Verizon / Lease ID: L000008514

Frequency Band (MHz): 746-757, 776-787

Expiration Date 06/13/2019 Lessee FRN 0002846962

Lease Classifications Spectrum Manager Lease - Long Term

Lessee Details Chicago SMSA Limited Partnership

1120 Sanctuary Pkwy #150, GASA5REG

Alpharetta, GA 30009 Attn: Regulatory Phone: (770) 797-1070 Fax: (770) 797-1036

Email:

licensingcompliance@verizonwireless.com

Market REA003 - Great Lakes

Frequency Band (MHz) 746-757, 776-787

Licensee Cellco Partnership - WQJQ691

Radio Service WU -700 MHz Upper Band (Block C)

Contact Details Verizon Wireless

1300 I Street, NW - Suite 400 West

Washington, DC 20005 Phone: (202) 589-3764 Fax: (202) 589-3750

Email: sarah.trosch@verizonwireless.com

Market Details

* Population is based on 2010 Census figures (Note: US territories are based on 2000 Census figures)

1. Spectrum (MHz):

746-757, 776-787

State/County

Illinois 9 of 102 Counties

County	Population *	Geographic Coverage (%)
1. Cook County	5,194,675	100
2. DuPage County	916,924	100
3. Grundy County	50,063	100
4. Kane County	515,269	100
5. Kankakee County	113,449	100
6. Kendall County	114,736	100
7. Lake County	703,462	100
8. McHenry County	308,760	100
9. Will County	677,560	100
Indiana		

3 of 92 Counties

3 of 92 Counties			
County	Population *	Geographic Coverage (%)	
1. LaPorte County	111,467	100	
2. Lake County	496,005	100	
3. Porter County	164,343	100	

