

TOWER LEASE

THIS TOWER LEASE ("Lease") is by and between **The Village of Orland Park**, an Illinois home rule municipal corporation ("Landlord") and **ClearWireless, LLC**, a Nevada limited liability company ("Tenant").

1. Lease of Premises and Use

In consideration of the mutual covenants and agreements herein contained and for other good and valuable consideration, the sufficiency of which is hereby acknowledged, Landlord hereby leases to Tenant a portion of the real property described in the attached Exhibit A (the "Property"), together with the right to use the tower located thereon ("Tower") on the terms and conditions set forth herein. Landlord agrees to cooperate with Tenant in obtaining, at Tenant's expense, all licenses and permits or authorizations required for Tenant's use of the Premises (as hereinafter defined) from all applicable government and/or regulatory entities.

Subject to the following terms and conditions, Landlord hereby leases to Tenant the use of that portion of the Tower and Property, together with easements for access and utilities, generally described and depicted in the attached Exhibit B (collectively referred to hereinafter as the "Premises"). The Premises, located at 14593 S. 88th Ave (Water Tower 4), Orland Park, Illinois, comprises approximately 49 square feet. Tenant's location on the Tower shall be at 166 feet above ground level.

2. Term. This Agreement shall be effective as of the date of full execution hereof (the "Effective date"). The initial term of the Lease shall be five (5) years commencing on the earlier of the date tenant starts construction of the premises or sixty (60) days following the Effective Date (the "Commencement Date"), and terminating at midnight on the last day of the initial term (the "Initial Term").

3. Permitted Use. The Premises may be used by Tenant only for the transmission and reception of radio communication signals and for the construction, installation, operation, maintenance, repair, removal or replacement of related facilities, tower and base, antennas, microwave dishes, equipment shelters and/or cabinets and related activities.

4. Rent. For the first year (12 months) of the Initial Term of this Lease, Tenant shall pay Landlord, as rent, the sum of THIRTY-SIX THOUSAND AND 00/100 (\$36,000.00) DOLLARS in twelve (12) monthly installments of THREE THOUSAND AND 00/100 (\$3,000.00) DOLLARS per month ("Rent"). For each of the remaining four (4) years of the Initial Term of this Lease, the said Rent shall be increased by three percent (3%) of the Rent paid for the preceding year. Rent shall be payable in advance beginning on the Commencement Date prorated for the remainder of the month in which the Commencement Date falls and thereafter Rent will be payable monthly in advance by the fifth day of each month to the Village of Orland Park at Landlord's address specified in Section 12 below. If this Lease is terminated at a time other than on the last day of a month, Rent shall be prorated as of the date of termination for any reason other than a default by Tenant, and all prepaid Rent shall be immediately refunded to Tenant.

5. Renewal. Tenant shall have the right to extend this Lease for three (3) additional, five-year terms ("Renewal Term"). Each Renewal Term shall be on the same terms and conditions as set forth herein, except that Rent for each year of a Renewal Term shall be increased by three percent (3%) of the Rent paid for the preceding year.

6. Interference. Tenant shall not use the Premises in any way, which interferes with the use of the Premises by Landlord, or lessees or licensees of Landlord, with rights in the Premises prior in time to Tenant's (subject to Tenant's rights under this Lease, including without limitation,

non-interference). Tenant's radio communication activities on the Premises shall not in any way interfere with Landlord's (or that of the Orland Fire Protection District) public services and public safety radio transmissions and communications. Similarly, except for necessary (in Landlord's sole discretion) repairs, maintenance and improvements to be performed by Landlord, Landlord shall not use, nor shall Landlord permit its lessees, licensees, employees, invitees or agents to use, any portion of the Property in any way which interferes with the operations of Tenant. Such interference by either party shall be deemed a material breach by the interfering party, who shall, upon written notice from the other, be responsible for terminating said interference. In the event any such interference does not cease promptly, the parties acknowledge that continuing interference may cause irreparable injury and, therefore, the injured party shall have the right, in addition to any other rights that it may have at law or in equity, to bring a court action to enjoin such interference or to terminate this Lease immediately upon written notice. Any of Landlord's equipment located at the top of the Tower, temporarily moved by Tenant during installation of Tenant's equipment, must be re-installed by Tenant above Tenant's equipment.

7. Improvements; Utilities; Access.

- (a) Upon prior review and written approval of Landlord,
 - (i) Tenant shall have the right, at its expense, to erect and maintain on the Premises improvements, personal property and facilities necessary to operate its communications system, including, without limitation, radio transmitting and receiving antennas, microwave dishes, tower and base, equipment shelters and/or cabinets and related cables and utility lines (collectively the "Antenna Facilities"). Tenant shall have the right to replace or enhance the Antenna Facilities at any time during the term of this Lease. Tenant shall cause all construction to occur lien-free and in compliance with all applicable laws and ordinances. The Antenna Facilities shall remain the exclusive property of Tenant. Tenant shall have the right to remove the Antenna Facilities at any time during and upon termination of this Lease, subject to any of Landlord's lien rights. All

fabrication and penetrations to the Tower should be completed during initial installation to avoid recutting when later improvements are made.

- (ii) Tenant, at its expense, may use any and all appropriate means of restricting access to the Antenna Facilities, provided all Village of Orland Park Codes are complied with and the Landlord has given prior approval.
- (iii) Any contractors performing work for Tenant on the Premises shall be licensed and bonded and shall apply for and obtain all required building permits.

(b) Tenant shall, at Tenant's expense, keep and maintain the Antenna Facilities now or hereafter located on the Property in commercially reasonable condition and repair during the term of this Lease, normal wear and tear and casualty excepted. Upon termination or expiration of this Lease, the Premises shall be returned to Landlord in substantially the same condition as it was upon commencement of this Lease, reasonable wear and tear excepted. Landlord represents that it has the right and responsibility to repair and maintain the Tower. If the Tower is damaged for any reason, other than a negligent or wrongful act or omission of Tenant or its contractors, so as to render it substantially unusable for Tenant's intended use, Base Rent shall abate for such period until Landlord, at Landlord's expense, restores the Tower to its condition prior to such damage; provided, however, in the event Landlord fails to repair the Tower within thirty (30) days following the date of such damage, Tenant may install a cell-on-wheels ("COW") on the Site (provided the COW complies with all applicable codes and ordinances of the Landlord) until such time as Landlord completes repair of the Tower and Tenant's equipment is reinstalled on the Tower. In the alternative, Tenant shall have the right to terminate this Lease by giving Landlord written notice thereof, provided Tenant is not operating a COW on the Site. Tenant agrees to pay any additional reasonable incremental cost incurred by Landlord for normal maintenance interval painting of the Tower that is caused by the presence of Tenant's Equipment

on the Tower over and above what the estimated cost of painting the Tower would be without Tenant's Equipment.

(c) Tenant shall have the right to install utilities, at such location(s) approved in advance by Landlord, at Tenant's expense, and to improve the present utilities on the Property. Individual utilities routed across the Property must not penetrate radius established by containment curtain perimeter more than once. Landlord agrees to use reasonable efforts in assisting Tenant to acquire necessary utility service. Tenant shall install separate meters for utilities used on the Property.

(d) If deemed by Landlord to be necessary and appropriate, as partial consideration for Rent paid under this Lease, Landlord shall grant Tenant an easement in, under and across the Property for ingress, egress, utilities and access (including access for the purposes described in Section 1) to the Premises adequate to install and maintain utilities, which include, but are not limited to, the installation of power and telephone service cable, and to service the Premises and the Antenna Facilities at all times during the Initial Term of this Lease or any Renewal (collectively, "Easement"). Any Easement provided hereunder shall have the same term as this Lease.

(e) Tenant shall have 24-hours-a-day, 7-days-a-week access to the Premises during the Initial Term of this Lease and any Renewal Term. However, Tenant must obtain a key for entrance from the Landlord's Police Department or Public Works Department during the hours of 8:00 AM – 4:30 PM Monday – Friday, or the Landlord's Police Department all other times. The key should be returned as soon as reasonably possible to the location from which it was obtained. When picking up the key, proper identification to the Public Works Department (708-403-6350) must be received from the Tenant. Upon completion of work or when leaving a site,

all doors and hatches must be secured. If the Premises are accessed after normal business hours for emergency or other purposes, Tenant must notify Landlord's Public Works Department by the next business day, by contacting the Landlord's Police Department's non-emergency telephone number, i.e. (708) 349-4111.

(f) Tenant shall provide 24 hours a day, 7 days a week contact information in the event of any need by the Landlord to communicate regarding the Site. The phone number of the responsible Tenant employee/officer is _____.

(g) In addition, Tenant shall comply with the following requirements:

(i) Screening Requirement. Ground equipment cabinet enclosures shall be screened using a 100% solid opaque fence of either masonry or non-white vinyl fence. The ground equipment enclosure shall be further screened by native landscaping that is low cost, low-maintenance. The Tenant shall be responsible for landscaping maintenance.

(ii) Tree Mitigation Bank. Where screening by native landscaping cannot be accommodated, the Tenant shall pay TWO THOUSAND FIVE HUNDRED AND NO/100 (\$2,500.00) DOLLARS to the Landlord's Tree Mitigation Bank in lieu of the required landscaping. The funds shall be used by the Landlord to plant or maintain trees in Landlord's parkways, parks, open lands, and other public lands and facilities in the same impact fee districts established by the Landlord as the Premises.

(iii) Ground Equipment Shelter. Special use permits which may be issued by the Landlord for ground equipment shelters or buildings shall require a masonry building designed similar to existing Landlord-owned utility substations or pump housing facilities. The shelter shall be screened by native landscaping;

(iv) Multi-Tenancy. The Tenant must provide an assessment for multiple tenants or co-locations and determine if other carriers or providers can fit/co-locate on the Premises following their installation in accordance with Section 6-311 of the Landlord's Land Development Code. If more co-locations can fit, Tenant must build the ground equipment enclosure or shelter to accommodate at least one future additional tenant;

(v) Maintenance Fee and Site Access. The Tenant must pay one-time site maintenance or impact fee of TWO THOUSAND AND NO/100 (\$2,000.00) DOLLARS for impacts to utilities, roads, towers, screening and other infrastructure and services on public property. Site access to masonry shelters or

ground equipment enclosure shall be controlled by the Landlord's Department having jurisdiction (Building Maintenance or Public Works). No new road access to the Premises shall be allowed. In addition, any new paths or sidewalks for Premises access shall be subject to the Landlord's Department having jurisdiction (Building Maintenance or Public Works);

- (vi) Cable Installation. The installation by Tenant of underground coaxial and other cables must be at least five (5') from water mains, sanitary sewers or storm sewer lines onsite;
- (vii) Structure Locations. The construction by Tenant of buildings/shelters or cabinet equipment cannot be sited in areas needed for overflow management (water tower "overflow fields" and overflow valves) or site maintenance. Buildings/shelters or cabinet equipment must be appropriately sited outside of the water tower drip line but near acceptable base penetration areas, which are areas along the base perimeter that are clear of internal existing water tower infrastructure;
- (viii) Safety. Landlord's Public Works Department must determine that wireless communication cable conditions in each water tower are safe for crews and maintain a comfortable access-way to the bulb and top of the water tower. Cable lines that impede safe crew access shall not be permitted.

8. Termination. Except as otherwise provided herein, this Lease may be terminated, (except that Tenant shall remain liable to Landlord for Tenant's obligations under Sections 4, 5, 6, 9, 10, 11 and 16) as follows:

(a) upon ten (10) days written notice by Landlord if Tenant fails to cure a default for payment of amounts due under this Lease within that ten (10) day period;

(b) upon thirty (30) days written notice by either party if the other party commits a non-monetary default and fails to cure or commence curing such default within that thirty (30)-day period, or such longer period as may be required to diligently complete a cure commenced within that thirty (30)-day period;

(c) immediately if Tenant notifies Landlord of unacceptable results of any title report prior to Tenant's installation of the Antenna Facilities on the Premises, or if Tenant is unable to obtain, maintain, or otherwise forfeits or cancels any license (including, without limitation, an

FCC license), permit or Governmental Approval necessary to the installation and/or operation of the Antenna Facilities or Tenant's business;

(d) upon ninety (90) days written notice by Tenant if the Property, Tower or the Antenna Facilities are or become unacceptable under Tenant's design or engineering specifications for its Antenna Facilities or the communications system to which the Antenna Facilities belong. Should Tenant terminate this Lease pursuant to the provisions of this subparagraph 8(d), Tenant shall pay Landlord a termination penalty equal to two (2) months of the then current Rent;

(e) immediately upon written notice by Tenant if the Premises or the Antenna Facilities are destroyed or damaged so as in Tenant's reasonable judgment to substantially and adversely affect the effective use of the Antenna Facilities. In such event, all rights and obligations of the parties shall cease as of the date of the damage or destruction, and Tenant shall be entitled to the reimbursement of any Rent prepaid by Tenant. If Tenant elects to continue this Lease, then there shall be no abatement of Rent while the Premises and/or Antenna Facilities are restored to the condition existing immediately prior to such damage or destruction, unless the Tower is damaged or destroyed through no fault of the Tenant in which case Rent will abate while the Tower is restored. The decision whether or not to restore the Premises, or any part thereof, shall be solely that of Landlord in its discretion.

9. Taxes. Tenant shall pay any and all personal property taxes assessed on, or any portion of such taxes directly attributable to, the Antenna Facilities, and likewise Tenant shall pay any and all real property taxes or other fees and assessments attributable to the Property. In the event that Tenant fails to pay any such personal or real property taxes or other fees and assessments, Landlord shall have the right, but not the obligation, to pay such owed amounts and add such owed amounts paid by the Landlord to the Rent amounts due under this Lease.

10. Insurance and Subrogation.

(a) Tenant will provide Commercial General Liability Insurance in an aggregate amount of not less than Two Million and no/100 Dollars (\$2,000,000.00). Tenant may satisfy this requirement by obtaining the appropriate endorsement to any master policy of liability insurance Tenant may maintain. Such policy or policies of insurance shall be with a company or companies acceptable to the Landlord and shall provide primary coverage in the event of any claim or loss. Copies of all such endorsements and policies shall be provided to Landlord for examination and approval.

(b) To the extent permitted by the insurance carriers affected, Landlord and Tenant hereby mutually release each other (and their successors or assigns) from liability and waive all right of recovery against the other for any loss or damage covered by their respective first party property insurance policies for all perils insured thereunder. In the event of such insured loss, neither party's insurance company shall have a subrogated claim against the other.

11. Hold Harmless. Tenant agrees to indemnify and hold Landlord, its President, Trustees, officers, employees and agents, harmless from claims (including attorneys' fees) arising from Tenant's (including its agents, employees, contractors, licensees or other lessees) installation, use, maintenance, repair or removal of the Antenna Facilities, or any activities on or around the Property by Tenant, its agents, employees, contractors, licensees or other lessees.

12. Notices. All notices, requests; demands and other communications hereunder shall be in writing and shall be deemed given if personally delivered or mailed, certified mail, return receipt requested, or sent by for next-business-day delivery by a nationally recognized overnight carrier to the following addresses:

Copy to Tenant:

Clearwire US LLC
Attn: Site Leasing
4400 Carillon Point
Kirkland, WA 98033
Telephone: 425-216-7600
Fax: 425-216-7900
Email: Siteleasing@clearwire.com

With a copy to:

Clearwire US LLC
Attention: Legal Department
4400 Carillon Point
Kirkland, WA 98033
Telephone: 425-216-7600
Fax: 425-216-7900

Copy to Landlord:

Paul Grimes, Village Manager
Village of Orland Park
14700 South Ravinia Avenue
Orland Park, Illinois 60462
Telephone: 708-403-6159
Fax: 708-349-4859

With a copy to Village Attorney:

E. Kenneth Friker, Esq.
Klein, Thorpe & Jenkins, Ltd.
15010 S. Ravinia Avenue, Suite 10
Orland Park, Illinois 60462
Telephone: 708-349-3888
Fax: 312-984-6444

or such other addresses that any party hereto may designate in writing to the other parties pursuant to the provisions of this Section.

13. Quiet Enjoyment, Title and Authority. Landlord covenants and warrants to Tenant that (i) Landlord has full right, power and authority to execute this Lease; (ii) it has good and unencumbered title to the Property and the Tower free and clear of any liens or mortgages, except those disclosed to Tenant and which will not interfere with Tenant's rights to or use of the Premises; and (iii) execution and performance of this Lease will not violate any laws, ordinances, covenants, or the provisions of any mortgage, lease, or other agreement binding on Landlord. Landlord covenants that at all times during the term of this Lease, Tenant's quiet enjoyment of the Premises or any part thereof shall not be disturbed as long as Tenant is not in default beyond any applicable grace or cure period.

14. Assignment and Subleasing. Tenant shall have the right to assign or otherwise transfer this Lease and the Easement to any person or business entity which is authorized pursuant to an FCC licensed to, operate a wireless communications business, is a parent, subsidiary or affiliate of Tenant, is merged or consolidated with Tenant or purchases more than fifty (50) percent of either an ownership interest in Tenant or the assets of Tenant in the "Metropolitan Trading Area" or "Basic Trading Area" (as those terms are defined by the FCC) in which the Property is located. Tenant may otherwise assign this Lease upon written approval of Landlord, which approval shall not be unreasonably delayed, withheld, conditioned or denied.

Additionally, Tenant may, upon notice to Landlord, mortgage or grant a security interest in this Lease and the Antenna Facilities, and may assign this Lease and the Antenna Facilities to any mortgagees or holders of security interests, including their successors or assigns (collectively "Mortgagees"), provided such Mortgagees agree to be bound by the terms and provisions of this Lease. In such event, Landlord shall execute such consent to leasehold financing as may reasonably be required by Mortgagees. Landlord agrees to notify Tenant and Tenant's Mortgagees simultaneously of any default by Tenant and to give Mortgagees the same right to cure any default as Tenant or to remove any property of Tenant or Mortgagees located on the Premises. All such notices to Mortgagees shall be sent to Mortgagees at the address specified by Tenant. Failure by Landlord to give Mortgagees such notice shall not diminish Landlord's rights against Tenant, but shall preserve all rights of Mortgagees to cure any default and to remove any property of Tenant or Mortgagees located on the Property, subject to Landlord's lien rights therein.

15. Successors and Assigns. This Lease and the Easement granted herein shall run with the land, and shall be binding upon and inure to the benefit of the parties, their respective successors, personal representatives and authorized assigns.

16. Miscellaneous.

(a) The substantially prevailing party in any litigation arising hereunder shall be entitled to its reasonable attorneys' fees and court costs, including appeals, if any.

(b) Each party agrees to furnish to the other, within twenty (20) days after request, such truthful estoppel information as the other may reasonably request.

(c) This Lease constitutes the entire agreement and understanding of the parties, and supersedes all offers, negotiations and other agreements, with respect to the subject matter and property covered by this Lease.

(d) Each party agrees to cooperate with the other in executing any documents (including a Memorandum of Lease in substantially the form attached as Exhibit C) necessary to protect its rights or use of the Premises. The Memorandum of Lease may be recorded in place of this Lease, by either party. Tenant, at its sole expense, may obtain title insurance on its interest in the Premises. Landlord agrees to execute such documents as the title company may require in connection therewith.

(e) This Lease shall be construed in accordance with the laws of the State of Illinois, and in the event of any litigation between the parties hereto, venue shall lie in the Circuit Court of Cook County, Illinois.

(f) If any term of this Lease is found to be void or invalid, such finding shall not affect the remaining terms of this Lease, to the extent that the purpose of this Lease is not frustrated, which shall continue in full force and effect. The parties agree that if any provisions are deemed not enforceable, they shall be deemed modified to the extent necessary to make them enforceable. Any questions of particular interpretation shall not be interpreted against the draftsman, but rather in accordance with the fair meaning thereof.

(g) The persons who have executed this Lease represent and warrant that they are duly authorized to execute this Lease in their individual or representative capacity as indicated.

(h) This Lease may be executed in any number of counterpart copies, each of which shall be deemed an original, but all of which together shall constitute a single instrument.

(i) All Exhibits referred herein and any Addenda are incorporated herein for all purposes. The parties understand and acknowledge that Exhibit A (the legal description of the Property) and Exhibit B (the Premises location within the Property), may be attached to this Lease and the Memorandum of Lease, in preliminary form. Accordingly, the parties agree that upon the preparation of final, more complete exhibits, Exhibits A, and/or B, as the case may be, which may have been attached hereto in preliminary form, may be replaced by Tenant with such final, more complete exhibit(s). The terms of all Exhibits are incorporated herein for all purposes.

(j) If Tenant is represented by any broker or any other leasing agent, Tenant is responsible for all commission fee or other payment to such agent, and agrees to indemnify and hold Landlord harmless from all claims by such broker or anyone claiming through such broker.

(k) Tenant agrees that Tenant is and shall remain subject to all applicable provisions of state and federal laws and local ordinances now in force or enacted during the term of this Agreement and all Renewal Terms.

(l) Should Tenant remain in possession after the expiration or other termination of the Lease, such occupancy shall be subject to all the terms, covenants and conditions of this Lease, expressly including the right of termination, but the Rent amount shall be doubled, based on the Rent to be paid by Tenant for the month immediately preceding the Lease expiration or termination.

The effective date of this Lease is the date of execution by the last party to sign ("Effective Date").

LANDLORD:

Village of Orland Park, an Illinois home rule municipal corporation

By: _____

Name: _____

Title: _____

Taxpayer I.D.: _____

Date: _____

TENANT:

ClearWireless, LLC, a Nevada limited liability company

By: _____

Name: _____

Title: _____

Taxpayer I.D.: _____

Date: _____

EXHIBIT A

LEGAL DESCRIPTION

The North 55 feet of the West 85 feet of the South 40 acres of the Northwest quarter of Section 11, Township 36 North, Range 12 East of the Third Principal Meridian, in Cook County, Illinois.

EXHIBIT B

SITE PLAN

SHEET INDEX

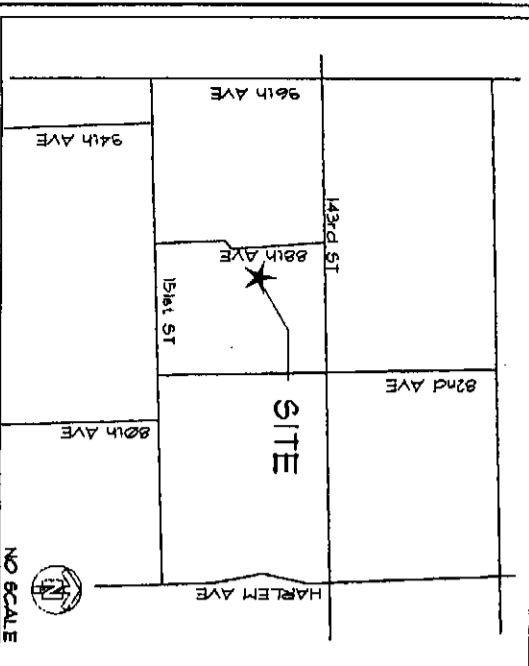
NO.	DESCRIPTION
T-1	TITLE SHEET
C-1	SITE PLAN
C-2	ENLARGED SITE PLAN
C-3	ELEVATION AND DETAIL 5
C-4	ANTENNA DETAIL 5
C-5	CABINET AND SUPPORT DETAIL 5
C-6	SITE DETAILS
C-7	SITE DETAILS
E-1	UTILITY PLAN AND DETAILS
E-2	ANTENNA/DISH DIAGRAMS AND NOTES
E-3	GROUNDING PLAN AND DETAILS
E-4	GROUNDING DETAILS

DRIVING DIRECTIONS

DEPART FROM CLEARWIRE OFFICE:
 9901 W. HIGGINS RD., ROSEMONT, IL 60018
 DEPART SR. 71 / W. HIGGINS RD. TURN RIGHT ONTO DES PLAINES RIVER RD / N. RIVER RD. TAKE RAMP FOR I-190 WEST. AT EXIT 1D, TAKE RAMP LEFT FOR I-294 SOUTH / IRL-STATE TOLLWAY TOWARD INDIANA. TAKE RAMP RIGHT FOR I-55 NORTH / STEVENSON EXPY. N. TOWARD CHICAGO. AT EXIT 275A, TAKE RAMP RIGHT AND FOLLOW SIGNS FOR US-12 EAST / US-120 EAST / US-45 SOUTH / S. LA GRANGE RD / W. 155th S. GRANT MEMORIAL HUR. TURN LEFT ONTO W. 143rd ST. TURN RIGHT ONTO S. 88th AVE. ARRIVE AT SITE

NOTE:
 UPON COMPLETION OF WORK, THE CONTRACTOR IS REQUIRED TO HAVE AN INDEPENDENT STRUCTURAL ENGINEER PERFORM AN INSPECTION OF THE COMPLETED WORK AND PROVIDE A WRITTEN AND SEALED REPORT TO THE VILLAGE THAT THE IMPROVEMENTS HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE APPROVED ENGINEERING PLANS FOR THE PROJECT. CLEARWIRE WIRELESS BROADBAND WILL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THIS INSPECTION.

VICINITY MAP



clearwire®

Wireless Broadband

ORLAND PARK UT 4

SITE NAME

SITE NUMBER

These plans and/or supporting documents have been reviewed for compliance with the applicable portions of the municipal codes of the City/Village of **Orland Park**.
 This approval does not serve to amend, modify or waive any zoning or other development related requirements.

No error, omission, or discrepancy of any sort in either the plans and/or supporting documents. Whether said plans or documents have been reviewed by the Municipal Engineer or not, shall permit or release the applicant from constructing this work in any other manner than that provided for in the ordinance of this Municipality relating thereto.

CHRISTOPHER B. BURKE ENGINEERING LTD.
 BY: *Paul Burke*
 DATE: **6-6-10**
 14593 S. 88th AVE.
 ORLAND PARK, IL 60462

NEW WIMAX/BACKHAUL ANTENNAS AND EQUIPMENT CABINET

PROJECT TYPE

clearwire®



9901 W. HIGGINS RD.
 SUITE 500
 ROSEMONT, IL 60018
 TEL: (641) 797-9951
 FAX: (641) 797-9958

120 W. 2ND ST., STE. 300
 OAK BROOK, ILLINOIS 60523
 TEL: (630) 572-9999
 FAX: (630) 572-9998



Fullerton Engineering Consultants
 9600 W. BERTN MAUR AVE., SUITE 200
 ROSEMONT, ILLINOIS 60018
 TEL: 641-797-0705
 FAX: 641-797-0705
 DESIGN FIRM NO. 184-002498

APPLICANT

REAL ESTATE

ENGINEER

- HANDICAP ACCESS REQUIREMENTS ARE NOT REQUIRED
- FACILITY IS UNPLANNED AND NOT FOR HUMAN HABITATION
- FACILITY HAS NO PLUMBING OR REFRIGERANTS
- THIS FACILITY SHALL MEET OR EXCEED ALL FAA AND FCC REGULATORY REQUIREMENTS
- ALL WORK MUST CONFORM TO CLEARWIRE "CLEARWIRE CONSTRUCTION INSTALLATION GUIDE - WIMAX"

SCOPE OF WORK:

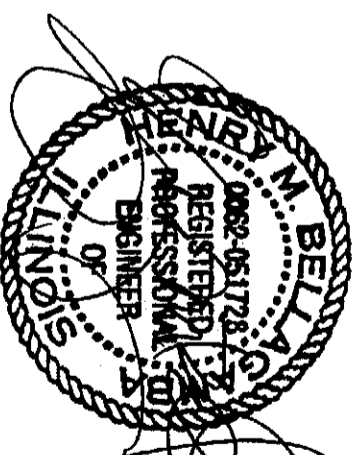
- NEW CLEARWIRE 4G PANEL AND BACKHAUL DISH ANTENNAS INSTALLED ON EXISTING WATER TOWER INSIDE WATER TOWER
- NEW CLEARWIRE CABINET ON NEW STEEL SUPPORT

PROJECT SUMMARY

SITE NAME: ORLAND PARK UT 4
 SITE NO.: IL-CH10512
 SITE ADDRESS: 14593 S. 88th AVE, ORLAND PARK, IL 60462
 COUNTY: COOK
 LANDLORD: VILLAGE OF ORLAND PARK
 ZONING: ORLAND PARK
 JURISDICTIONAL: IBC VILLAGE AMENDMENTS, 12006 EDITION
 BUILDING CODE: IBC VILLAGE AMENDMENTS, 12006 EDITION
 ELECTRICAL CODE: NEC VILLAGE AMENDMENTS, 12005 EDITION
 SITE COORDINATES (FROM CLEARWIRE):
 LATITUDE: N 4162533' (NAD 83)
 LONGITUDE: N -8129397' (NAD 83)

ENGINEER'S LICENSE

I CERTIFY THAT THESE DRAWINGS WERE PREPARED BY ME OR UNDER MY DIRECT SUPERVISION AND CONTROL, AND TO THE BEST OF MY KNOWLEDGE AND BELIEF COMPLY WITH THE REQUIREMENTS OF THE INTERNATIONAL BUILDING CODE, 12006 EDITION VILLAGE AMENDMENTS
 LICENSED ENGINEER - STATE OF ILLINOIS



APPROVALS

	DATE
CLEARWIRE CONST.	
CLEARWIRE RF	
CLEARWIRE OPS	
LANDLORD	

EXPIRES: 11/30/11
 SIGNED: 1/21/10

clearwire®
 WIRELESS BROADBAND
 9901 W. HIGGINS RD.
 SUITE 500
 ROSEMONT, IL 60018
 TEL: (641) 797-9951
 FAX: (641) 797-9958



Fullerton Engineering Consultants
 9600 W. BERTN MAUR AVE.
 SUITE 200
 ROSEMONT, ILLINOIS 60018
 TEL: 641-797-0705
 FAX: 641-797-0705
 DESIGN FIRM NO. 184-002498

CHECKED BY:	JP		
APPROVED BY:	TMB		
#	DATE	DESCRIPTION	INT.
06/29/09		50% REVIEW	AZ
07/09/09		FINAL	JC
09/09/09		REV. FINAL	CG
07/5/10		VILLAGE REVISIONS	JC
03/09/10		VILLAGE REVISIONS	JC
04/27/10		VILLAGE REVISIONS	JC
06/11/10		REVISIONS	JC
07/10/10		REVISIONS	JC

DATE SIGNED: *Christopher B. Burke*

SITE NAME: ORLAND PARK UT 4

SITE NO.: IL-CH10512

SITE ADDRESS: 14593 S. 88th AVE, ORLAND PARK, IL 60462

SHEET NAME: TITLE SHEET

SHEET NUMBER: T-1

THIS DRAWING IS THE PROPERTY OF FULLERTON ENGINEERING CONSULTANTS, INC. IT IS FOR THE EXCLUSIVE USE OF THIS PROJECT. ANY RE-USE OF THIS DRAWING WITHOUT THE EXPRESSED WRITTEN CONSENT OF FULLERTON ENGINEERING CONSULTANTS, INC. IS PROHIBITED.

clearwire
 FULLERTON ENGINEERING CONSULTANTS, INC.
 9601 W. HIGGINS RD.
 SUITE 150
 ROSEMONT, IL 60018
 TEL: (847) 792-9851
 FAX: (847) 792-9958

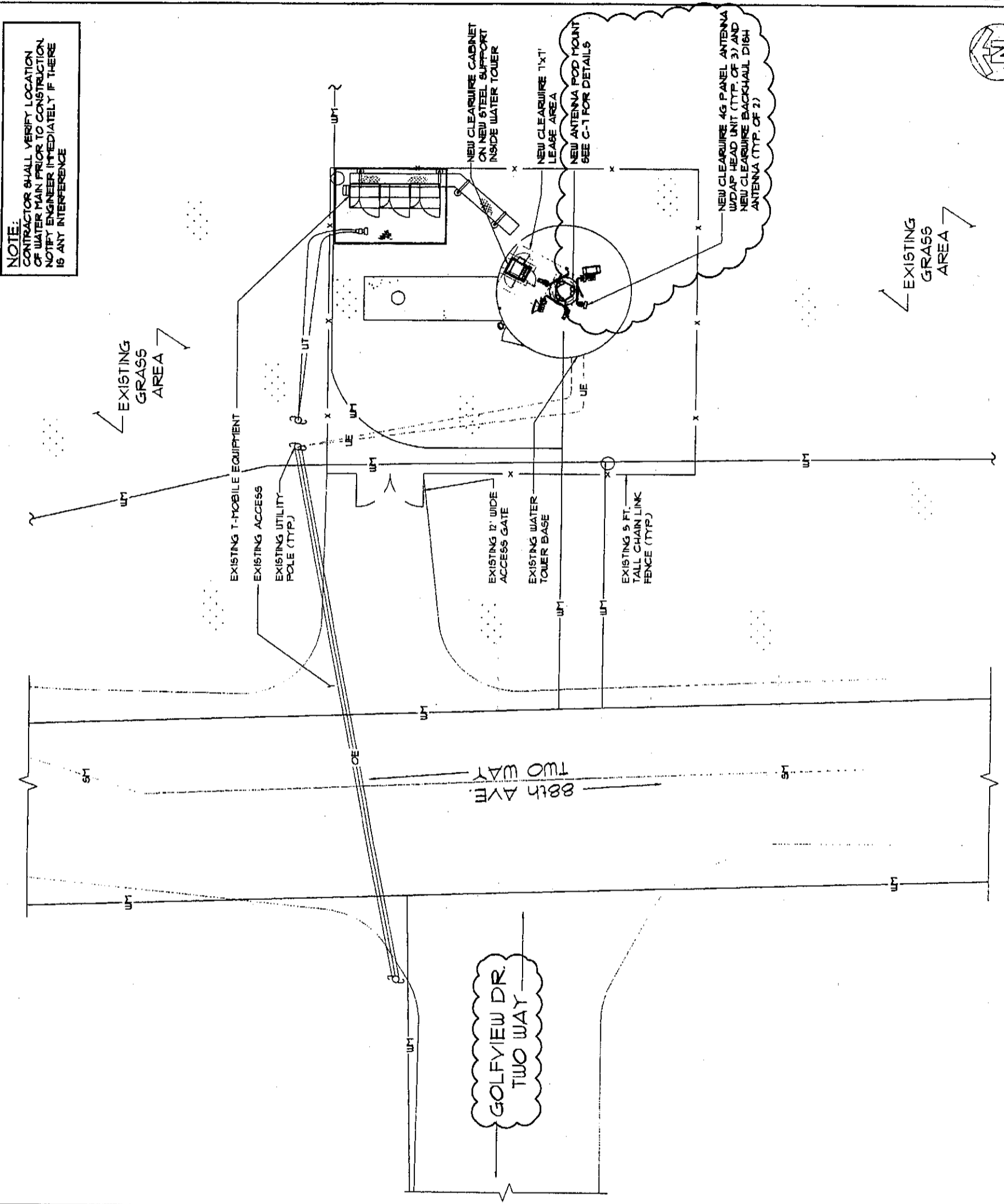
FE
 Fullerton Engineering Consultants
 9601 W. BRYN MAUR AVE.
 SUITE 200
 ROSEMONT, ILLINOIS 60018
 TEL: 847-792-0200
 FAX: 847-792-0206
 DESIGN FIRM NO. 184-002498

CHECKED BY:		JP	
APPROVED BY:		MB	
#	DATE	DESCRIPTION	INT.
	06/29/09	50% REVIEW	AJ
	07/09/09	FINAL	JC
	08/04/09	REV. FINAL	BG
	07/15/10	VILLAGE REVISIONS	JC
	03/09/10	VILLAGE REVISIONS	JC
	04/27/10	VILLAGE REVISIONS	JC
	06/17/10	REVISIONS	JC
	07/21/10	REVISIONS	JC

DATE SIGNED: *[Signature]*

SITE NAME ORLAND PARK UT 4
SITE NO. IL-CHI0512
SITE ADDRESS 14593 S. 80th AVE. ORLAND PARK, IL 60462
SHEET NAME SITE PLAN
SHEET NUMBER C-1

NOTE:
 CONTRACTOR SHALL VERIFY LOCATION OF WATER MAIN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IMMEDIATELY IF THERE IS ANY INTERFERENCE



SCALE: 1" = 40'-0"

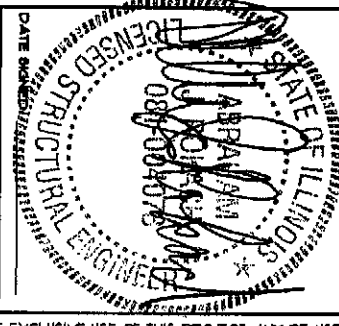
SITE PLAN

ABBREVIATIONS		SYMBOLS	
A/C	AIR CONDITIONER	—	CENTERLINE
AFF	ABOVE FINISHED FLOOR	—	FLATE
AGL	ABOVE GRADE LEVEL	△	REVISION
AMS	ABOVE MEAN SEA LEVEL	●	WORK POINT
APPROX	APPROXIMATE	⊙	UTILITY POLE
AUG	AMERICAN WIRE GAUGE	[Brick Pattern]	BRICK
BLDG	BUILDING	[Concrete Pattern]	COMPRESSED STONE
BTS	BASE TRANSMISSION STATION	[Earth Pattern]	CONCRETE
CAB	CABINET	[Gravel Pattern]	EARTH
COL	COLUMN	[Masonry Pattern]	GRAVEL
CNC	CONCRETE	[Steel Pattern]	MASONRY
CND	CONDUIT	—	STEEL
DAP	DIVERSE ACCESS POINT	—	CENTERLINE
DWG	DRAWING	—	PROPERTY LINE
FT	FOOT (FEET)	—	LEASE LINE
EGB	EQUIPMENT GROUND BAR	—	EASEMENT LINE
ELEC	ELECTRICAL	—	CHAIN LINK FENCE
ELEV	ELEVATION	—	WOOD FENCE
EMT	ELECTRICAL METALLIC TUBING	—	BELOW GRADE ELECTRIC
EQUIP	EQUIPMENT	—	BELOW GRADE TELEPHONE
(E)	EXISTING	—	OVERHEAD ELECTRIC/TELEPHONE
FND	FOUNDATION	—	SECTION REFERENCE
GALV	GALVANIZED		
GND	GROUND		
GFS	GLOBAL POSITIONING SYSTEM		
IN	INCHES		
LB (S)	POUNDS		
MAX	MAXIMUM		
MFR	MANUFACTURER		
MGB	MASTER GROUND BAR		
MIN	MINIMUM		
(N)	NEW		
NEC	NATIONAL ELECTRICAL CODE		
NOM	NOMINAL		
NTS	NOT TO SCALE		
OE/OT	OVERHEAD ELECTRIC/TELCO		
POS	POSITION		
RGS	RIGID GALVANIZED STEEL		
SF	SQUARE FOOT		
STL	STEEL		
T, B	TOP / BOTTOM		
T/	TOP		
TBD	TO BE DETERMINED		
TYP	TYPICAL		
UE/UT	UNDERGROUND ELECTRIC/TELCO		
UNO	UNLESS NOTED OTHERWISE		
VIF	VERIFY IN FIELD		
W/	WITH		
XFMR	TRANSFORMER		

clearwre
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 ROSEMONT, ILLINOIS 60018
 TEL: 847-292-0200
 FAX: 847-292-0206
 DESIGN FIRM NO. 184-007496

#	DATE	DESCRIPTION	INT.
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02/06/09		REV. FINAL	SG
02/06/09		VILLAGE REVISIONS	JC
02/09/09		VILLAGE REVISIONS	JC
04/22/09		VILLAGE REVISIONS	JC
06/17/09		REVISIONS	JC
06/03/10		REVISIONS	JC



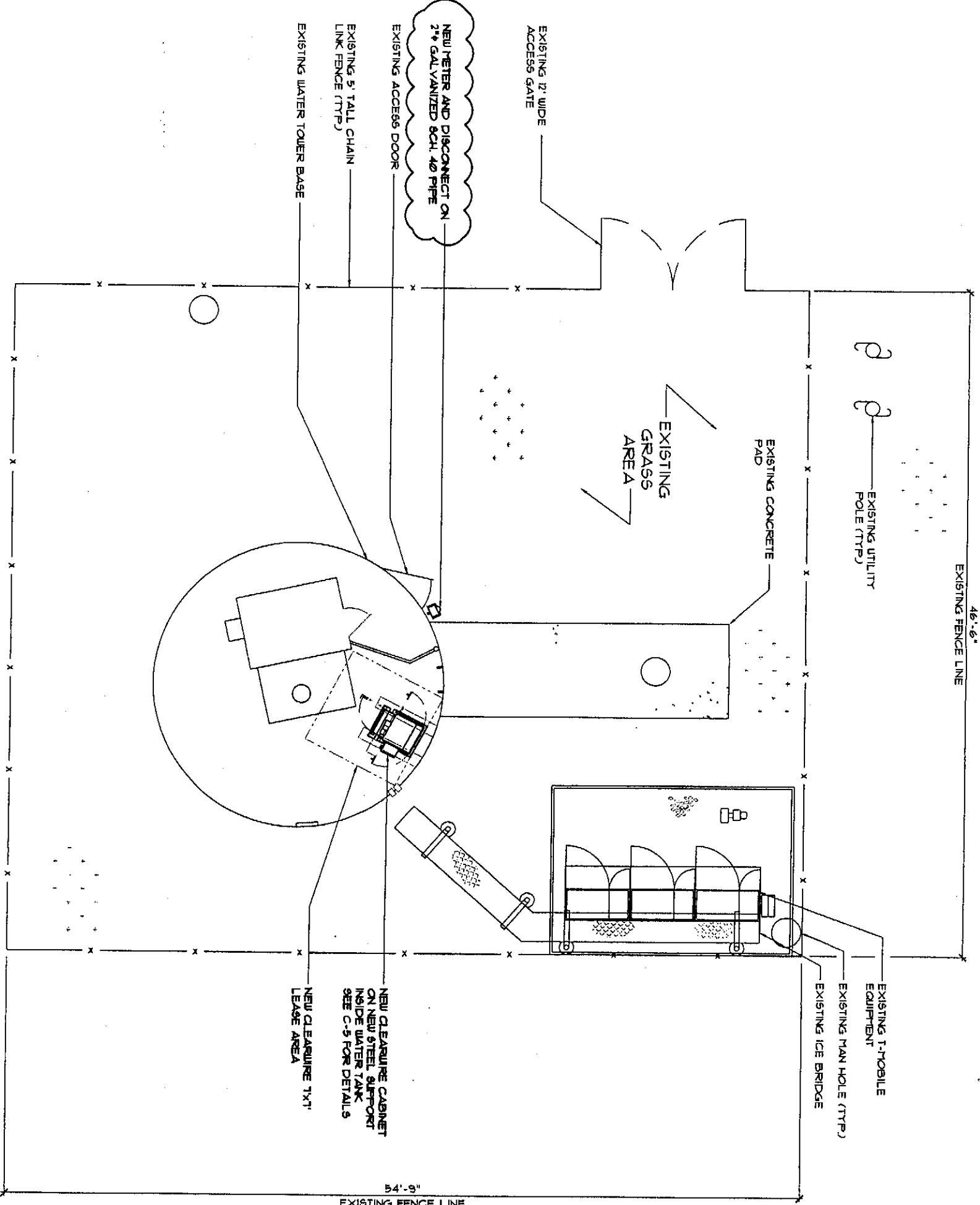
SITE NAME
ORLAND PARK UT 4

SITE NO.
IL-CHI0512

SITE ADDRESS
**4593 S. 80th AVE.
 ORLAND PARK, IL 60462**

SHEET NAME
ENLARGED SITE PLAN

SHEET NUMBER
C-2



ENLARGED SITE PLAN

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



4 OF NEW CLEARWIRE 4G PANEL ANTENNAS W/DAP HEAD UNITS AND NEW CLEARWIRE BACKHAUL DISH ANTENNAS ELEV. = 166'-0" AGL.
 EXISTING T-MOBILE ANTENNAS
 1/2 EXISTING WATER TOWER ELEV. = 150'-0" AGL.
 RELOCATED LIGHT AND ANTENNAS. SEE NOTE THIS DIAG.
 NEW GPS ANTENNA SEE C-4 FOR DETAILS
 NEW ANTENNA POD MOUNT SEE C-1 FOR DETAILS
 SEE ENLARGED ELEVATION THIS DIAG.
 EXISTING ANTENNA POD MOUNT

ORLAND PARK
WORLD'S GOLF CENTER

EXISTING PAINTER RING (TYP.)

NOTES:
 1. CONTRACTOR IS REQUIRED TO HAVE AN INDEPENDENT STRUCTURAL ENGINEER PERFORM AN INSPECTION OF THE COMPLETED WORK AND PROVIDE A WRITTEN AND SEALED REPORT TO THE VILLAGE THAT THE IMPROVEMENTS HAVE BEEN CONSTRUCTED IN CONFORMANCE WITH THE APPROVED ENGINEERING PLANS FOR THE PROJECT. CLEARWIRE WIRELESS BROADBAND WILL BE RESPONSIBLE FOR ALL COSTS ASSOCIATED WITH THIS INSPECTION.
 2. FIELD ADJUSTMENTS MAY BE REQUIRED BY THE VILLAGE TO AVOID OBSTRUCTIONS AND MAINTAIN APPROPRIATE CLEARANCE FOR THE PASSAGE OF MAINTENANCE PERSONNEL.
 3. OBSTRUCTION LIGHTS, PUBLIC WORKS SCADA ANTENNA, PUBLIC WORKS REPEATER ANTENNA, POLICE REPEATER ANTENNA, FIRE DISTRICT REPEATER ANTENNA, AND POLICE DATA NETWORK ANTENNAS ARE TO BE RELOCATED AS PART OF THE REQUIRED SCOPE OF WORK.

(2) NEW CLEARWIRE 2" INNERDUCT W/CABLE(S) AND (1) FULL STRING ROUTED ON INTERIOR OF TOWER ON EXISTING CABLE SUPPORTS. PROVIDE DRIP LOOP AT THE BOTTOM. SEE C-6 FOR DETAILS AND QUANTITY OF CABLE

EXISTING WATER TOWER SHAFT

EXISTING CABLE SUPPORTS

PROVIDE OPENING AT PLATFORM SEE C-6 FOR DETAILS

NEW CLEARWIRE CABINET ON NEW STEEL SUPPORT INSIDE WATER TOWER

EXISTING ICE BRIDGE

EXISTING T-MOBILE EQUIPMENT ON CONCRETE PAD

T/GRADE ELEV. = 0'-0" AGL.

EXISTING LOWER CONDENSATE PLATFORM

EXISTING 5' TALL CHAIN LINK FENCE (TYP.)

ELEVATION

SCALE: NTS. 1

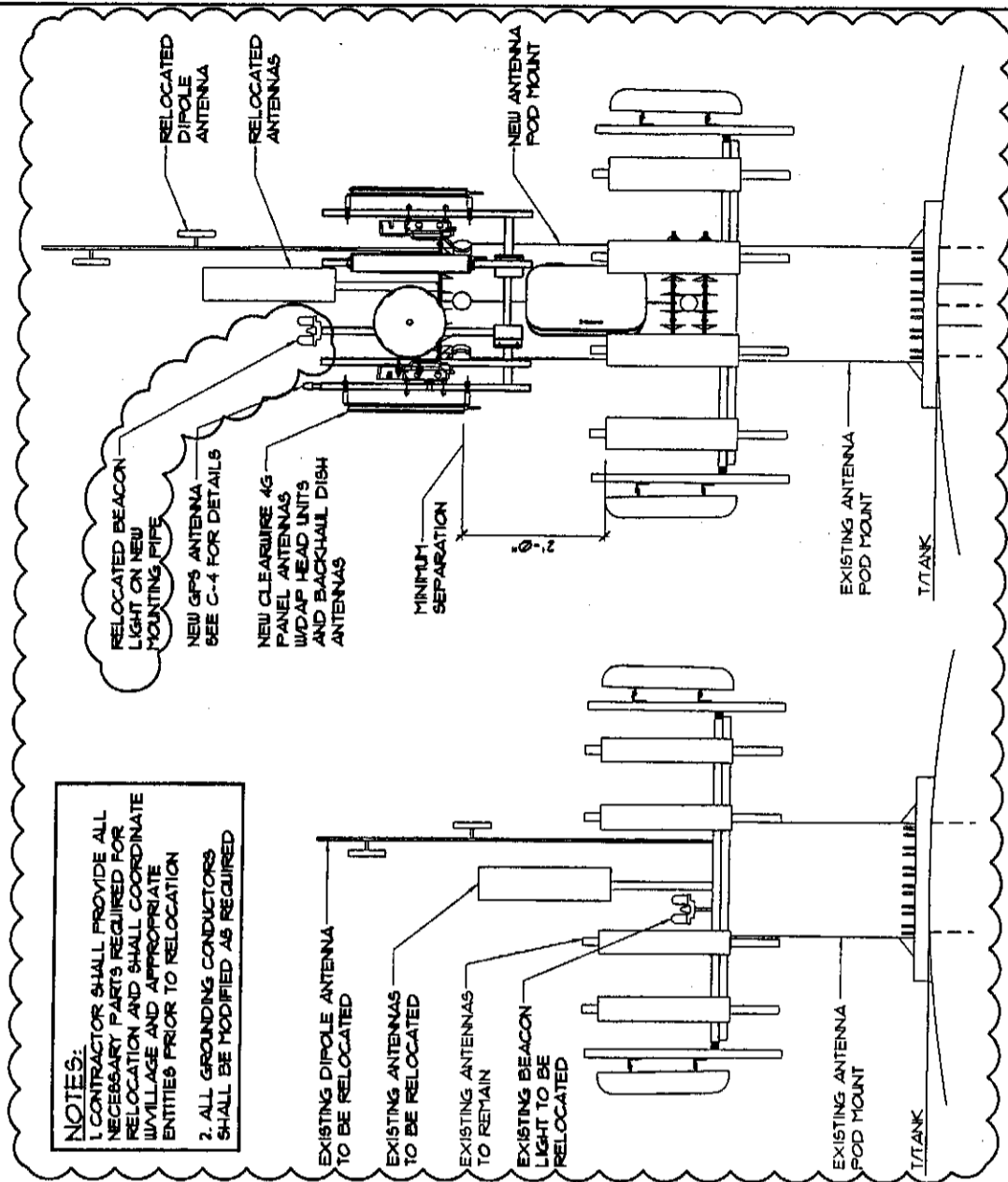
ANTENNA NOTES:
 1. THE SIZE, HEIGHT, AND DIRECTION OF THE ANTENNA SHALL BE ADJUSTED TO MEET SYSTEM REQUIREMENTS.
 2. CONTRACTOR SHALL VERIFY HEIGHT OF ANTENNA WITH CLEARWIRE REPRESENTATIVE.
 3. ALL ANTENNA AZIMUTH TO BE FROM TRUE NORTH.

STRUCTURAL NOTES:
 1. STRUCTURAL CALCULATION PREPARED BY RILLERTON ENGINEERING CONSULTANTS, CONTRACTOR TO COORDINATE WITH CLEARWIRE REPRESENTATIVE TO OBTAIN A COPY.
 2. CONTRACTOR TO REFER TO TOWER STRUCTURAL CALCULATIONS FOR ADDITIONAL LOADS. NO ERECTION OR MODIFICATION OF TOWER SHALL BE MADE WITHOUT APPROVAL OF STRUCTURAL ENGINEER.

CABLE SCHEDULE

ANTENNA TYPE	AZIMUTH	QTY.	ESTIMATED LENGTH	RADIO MODEL	TYPE	SIZE
DISH	15,4885	1 x 200	200 FT.	AIRPAIR HP	SFX500	1/2"
DISH	82,5825	1 x 200	200 FT.	AIRPAIR HP	SFX500	1/2"
PANEL	20°, 150° AND 300°	3 x 200	600 FT.	DAP	S/O CORD	1/2"
RCU	N/A	1 x 200	200 FT.	RCU	A19G CABLE	5/16"
		TOTAL:	400 FT.	OF	SFX500	1/2"
		TOTAL:	600 FT.	OF	S/O CORD	1/2"
		TOTAL:	600 FT.	OF	4-PAIR FIBER	1/2"
		TOTAL:	200 FT.	OF	A19G CABLE	5/16"

NOTES:
 1. CONTRACTOR SHALL PROVIDE ALL NECESSARY PARTS REQUIRED FOR RELOCATION AND SHALL COORDINATE WITH VILLAGE AND APPROPRIATE ENTITIES PRIOR TO RELOCATION.
 2. ALL GROUNDING CONDUCTORS SHALL BE MODIFIED AS REQUIRED



EXISTING ANTENNA ELEVATION

NEW ANTENNA ELEVATION

ENLARGED ELEVATION @ TOP OF WATER TOWER

SCALE: 3/16"=1'-0"

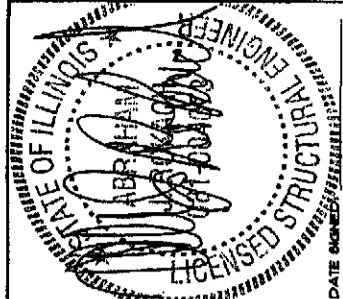
2

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 wireless broadband
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 TEL: (847) 293-9851
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 FAX: 847-293-0206
 DESIGN FIRM NO. 184-007499

APPROVED BY:	DATE	DESCRIPTION	INT.
JP	06/23/09	90% REVIEW	AL
MB	07/09/09	FINAL	JC
	09/08/09	REV. FINAL	BS
	07/15/10	VILLAGE REVISIONS	JC
	09/02/10	VILLAGE REVISIONS	JC
	04/22/10	VILLAGE REVISIONS	JC
	06/17/10	REVISIONS	JC
	08/03/10	REVISIONS	JC



DATE: 08/03/10
 SITE NAME
ORLAND PARK UT 4

SITE NO.
IL-CHI0512

SITE ADDRESS
 14535 S. 88th AVE.
 ORLAND PARK, IL 60462

SHEET NAME
ELEVATION AND DETAILS

SHEET NUMBER
C-3

GENERAL NOTES:

HEALTH AND SAFETY
 CONTRACTOR SHALL PROVIDE ALL SAFETY EQUIPMENT AND FALL PROTECTION TO INSURE THE SAFETY OF ON SITE PERSONNEL DURING CONSTRUCTION. ACCESS TO THE TANK INTERIOR WATER COMPARTMENT SHALL NOT BE PERMITTED WITHOUT THE APPROVAL OF THE WATER DEPARTMENT SUPERVISOR. PRECAUTIONS SHALL BE TAKEN TO PREVENT WATER CONTAMINATION. THE PAINT SYSTEM SHALL BE CHECKED FOR HAZARDOUS METALS. WHERE HAZARDOUS METALS ARE FOUND IN THE PAINT SYSTEM, THE ENVIRONMENT AND WORKERS MUST BE PROTECTED FROM CONTAMINATION.

GENERAL WELDING

1. ALL WELDING SHALL BE IN ACCORDANCE WITH AWS D10.00 SEC. 9.
2. ALL WELDS TO THE TANK SURFACE SHALL BE MADE WITH E7018 LOW HYDROGEN ROD AND SHALL BE SMOOTH AND FREE OF BURRS AND UNDERCUTS. UNACCEPTABLE WELDS SHALL BE REPAIRED AS REQUIRED TO MEET AWS D10.00 REQUIREMENTS.
3. NO WELDING SHALL BE DONE WHEN THE AMBIENT TEMPERATURE IS BELOW 32 DEGREE FAHRENHEIT UNLESS THE REQUIREMENTS OF AWS D10.00, SEC 10.2.1 ARE FOLLOWED.
4. WELDING MAY CAUSE BLISTERING OF THE INTERIOR PAINT OPPOSITE THE WELD. DAMAGED PAINT SURFACES SHOULD BE REPAIRED PER WATER TANK OWNER SPECIFICATIONS. CONTRACTOR SHALL COORDINATE ALL PAINT MATERIALS & METHODS WITH OWNER PRIOR TO WORK BEING DONE.
5. GALVANIZED COMPONENTS SHALL NOT BE WELDED DIRECTLY TO THE TANK SURFACE.
6. ALL WELDS IN THE TANK AND STRUCTURAL ATTACHMENTS SHALL BE MADE IN A MANNER TO ENSURE COMPLETE FUSION WITH THE BASE METAL, WITHIN THE LIMITS SPECIFIED FOR EACH JOINT, AND IN STRICT ACCORDANCE WITH THE QUALIFIED WELDING PROCEDURE SPECIFICATIONS.

1. ALL WELDS FOR ANTENNA INSTALLATION SHALL BE SEAL WELDS.
2. CONTRACTOR SHALL REPAIR ALL DAMAGED PAINT AREAS OF TANK DUE TO CUTTING, WELDING AND GRINDING, DUE TO THE GENERATION OF METAL FILINGS WHICH WILL RUST STAIN THE TANK SURFACES IF NOT CLEANED OFF IN A TIMELY MANNER. CONTRACTOR SHALL REMOVE ALL METAL FILINGS IMMEDIATELY. DAMAGED PAINT SURFACES SHOULD BE REPAIRED PER WATER TANK OWNER SPECIFICATIONS. CONTRACTOR SHALL COORDINATE ALL PAINT MATERIALS & METHODS WITH TANK OWNER PRIOR TO WORK BEING DONE.

PAINTING

SURFACE PREPARATION (EXTERIOR & DRY INTERIOR)

- ABRASIVE BLAST CLEAN ALL NEW STEEL COMPONENTS TO AN SSPC-SP6 "COMMERCIAL BLAST CLEANING" CONDITION PRIOR TO APPLICATION OF PRIMER COAT.
- AFTER WELDING OR CUTTING, CLEAN ALL DAMAGED SURFACES IN ACCORDANCE WITH SSPC-SP3 "POULER TOOL CLEANING" CONDITION PRIOR TO APPLICATION OF PRIMER COAT.

COATING (EXTERIOR)

- THE EXTERIOR PAINT REPAIR SYSTEM WILL BE ONE PRIME COAT OF TNEPEC SERIES 20, ONE INTERMEDIATE COAT OF TNEPEC SERIES 20, AND ONE COAT OF TNEPEC SERIES 1074. PAINT THE EXTERIOR TO MATCH THE EXISTING TOPCOAT COLOR.
- THE THREE-COAT SYSTEM WILL BE APPLIED AT 20 - 30 MILS PER COAT, TO A THICKNESS OF 60 - 90 MILS.

COATING (DRY INTERIOR)

- THE DRY INTERIOR PAINT REPAIR SYSTEM WILL BE TWO COATS OF TNEPEC SERIES 20. PAINT THE DRY INTERIOR TO MATCH THE EXISTING TOPCOAT COLOR.
- THE TWO-COAT SYSTEM WILL BE APPLIED AT 30 - 40 MILS PER COAT, TO A THICKNESS OF 60 - 80 MILS.

NOTES

1. ALL STEEL ANTENNA INSTALLATION COMPONENTS MUST BE PAINTED TO MATCH EXISTING PAINT SYSTEMS ON THE EXTERIOR AND DRY INTERIOR.
2. NO COMPONENTS CAN REMAIN GALVANIZED OR STAINLESS STEEL. THE SPECIFIED PAINT SYSTEMS WILL NOT HAVE GOOD ADHESION ON GALVANIZED OR STAINLESS STEEL SURFACES.
3. CONTACT TNEPEC TO OBTAIN A SUITABLE SURFACE PREPARATION SYSTEM FOR GALVANIZED AND STAINLESS STEEL SURFACES. THE SYSTEM MUST MAKE PREVIOUSLY GALVANIZED AND STAINLESS STEEL SURFACES COMPATIBLE WITH THE SPECIFIED PAINT SYSTEMS THAT WILL BE APPLIED.
4. IF APPLICABLE, PAINT ALL NEW STEEL IN A SHOP SETTING, PRIOR TO DELIVERY TO THE SITE.
5. WELDING ON ONE SIDE OF A STEEL SHEET MAY RESULT IN BURNED PAINT ON THE OPPOSITE SIDE. IF THIS OCCURS, THE BURNED PAINT ON THE OPPOSITE SIDE WILL NEED TO BE PAINT REPAIRED.
6. FOLLOW ALL PAINT MANUFACTURERS' RECOMMENDATIONS WHEN USING THEIR PRODUCTS.

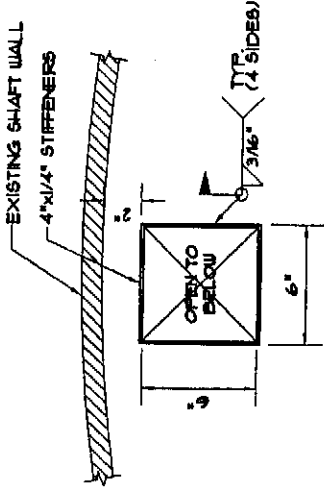
CABINET DETAIL

SCALE: N.T.S.

1

NOTE

4"x1/4" STIFFENER PLATES TO BE INSTALLED AROUND NEW FLOOR PENETRATIONS AND ENTIRE HEIGHT OF THE PLATES TO BE ABOVE THE EXISTING PLATFORM/LANDING, PER OSHA REQUIREMENTS.

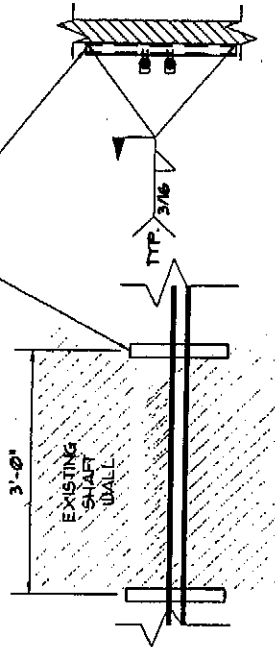


PENETRATION @ PLATFORM

SCALE: N.T.S.

2

Z-BRACKET ANDREW PART # ZB-H4 OR APPROVED EQUAL, FURNISHED & INSTALLED BY CONTRACTOR



PLAN VIEW

ELEVATION

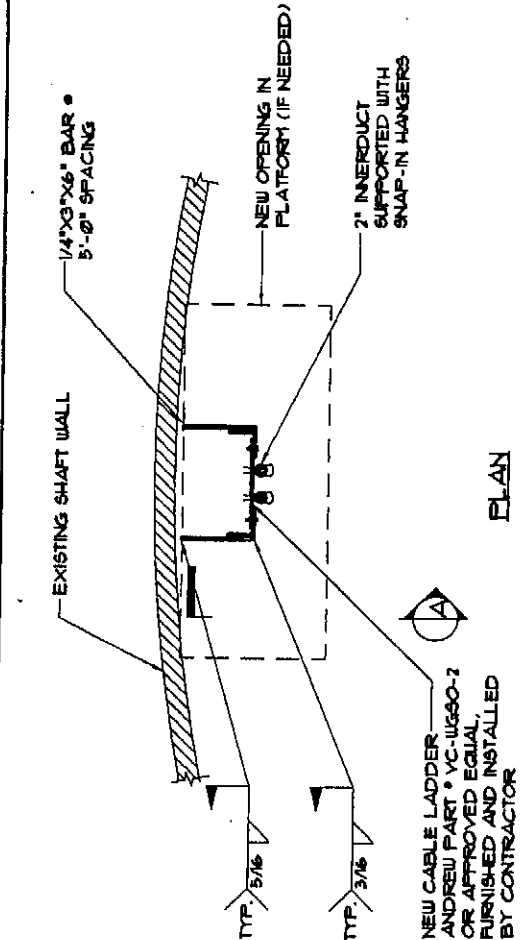
HORIZONTAL CABLE SUPPORT

SCALE: N.T.S.

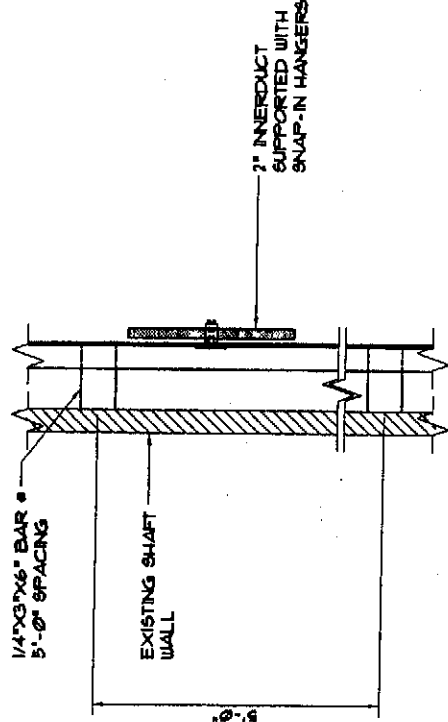
3

NOTES:

- 1) REDUCE TANK CONTENTS BY 50% OR MORE BEFORE CUTTING SHELL FOR PENETRATIONS. A 12-HOUR NOTICE TO THE VILLAGE IS REQUIRED BEFORE MAKING THE TOWER PENETRATION SO THAT THE VILLAGE CAN SCHEDULE THE TANK DRAWDOWN AS PART OF ITS NORMAL OPERATIONS.
- 2) WELD STIFFENERS BEFORE ANY PENETRATION.
- 3) CUT SLEEVE HOLE AND WELD PIPE SLEEVE IN PLACE.



PLAN

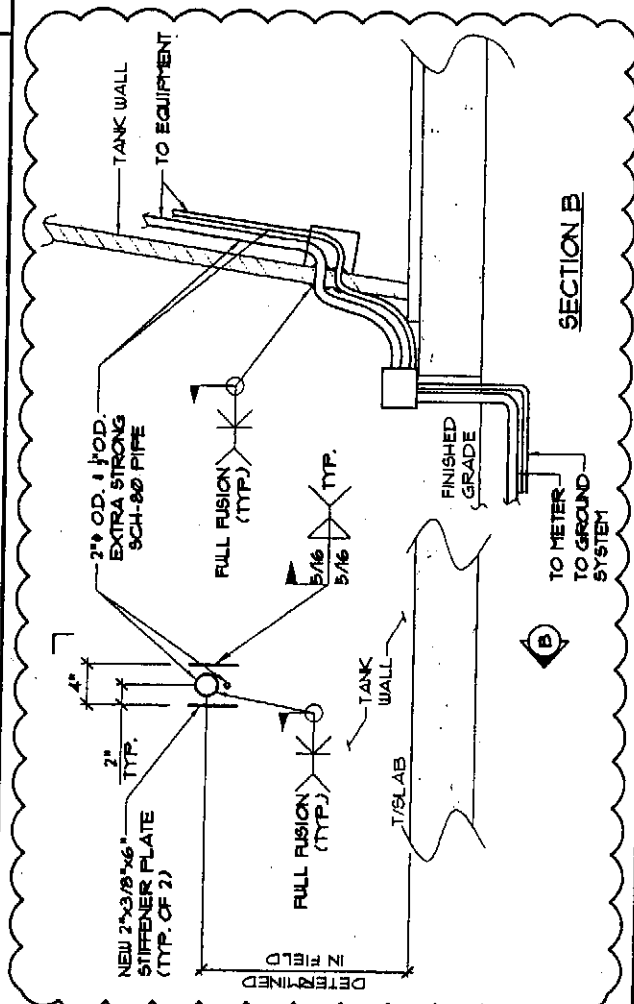


VIEW A-A

VERTICAL CABLE SUPPORT

SCALE: N.T.S.

4



TOWER PENETRATION DETAIL

SCALE: N.T.S.

5

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 FAX: 847-232-0706
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CHECKED BY:	JP		
APPROVED BY:	MS		
#	DATE	DESCRIPTION	INT.
06/23/09	06/23/09	50% REVIEW	AZ
07/09/09	07/09/09	FINAL	JC
09/09/09	09/09/09	REV. FINAL	SG
07/16/10	07/16/10	VILLAGE REVISIONS	JC
03/09/10	03/09/10	VILLAGE REVISIONS	JC
04/27/10	04/27/10	VILLAGE REVISIONS	JC
06/11/10	06/11/10	REVISIONS	JC
07/21/10	07/21/10	REVISIONS	JC

DATE SIGNED: _____

SITE NAME
ORLAND PARK WT 4

SITE NO.
IL-CHI0572

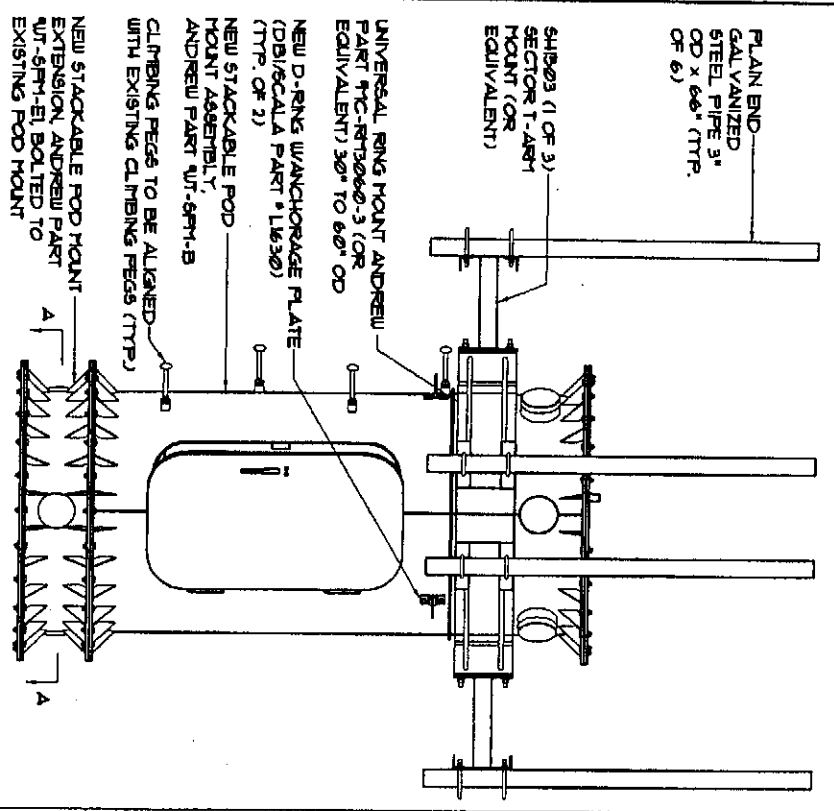
SITE ADDRESS
 1493 S. 80th AVE.
 ORLAND PARK, IL 60467

SHEET NAME
SITE DETAILS

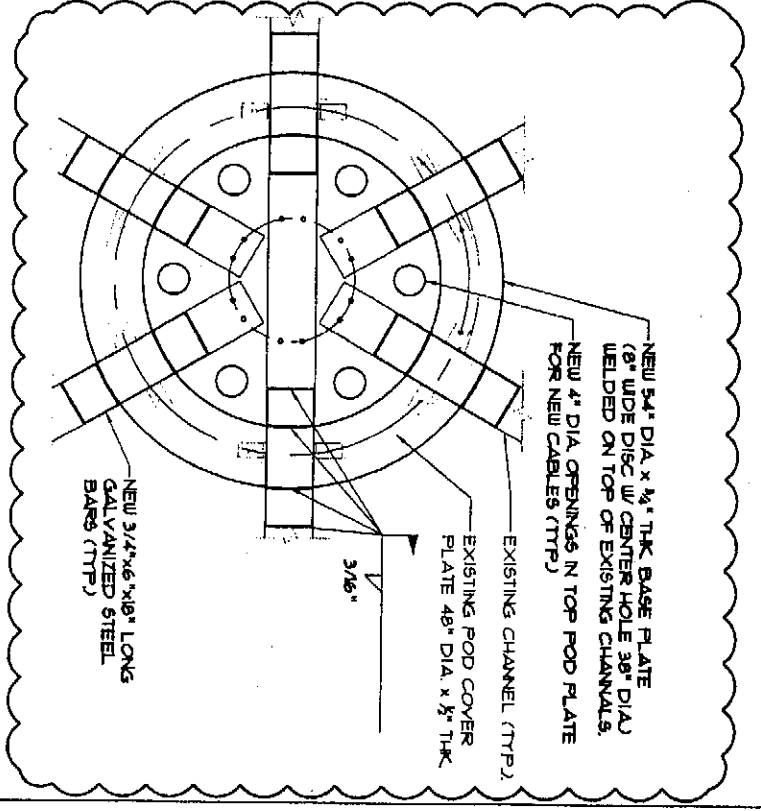
SHEET NUMBER

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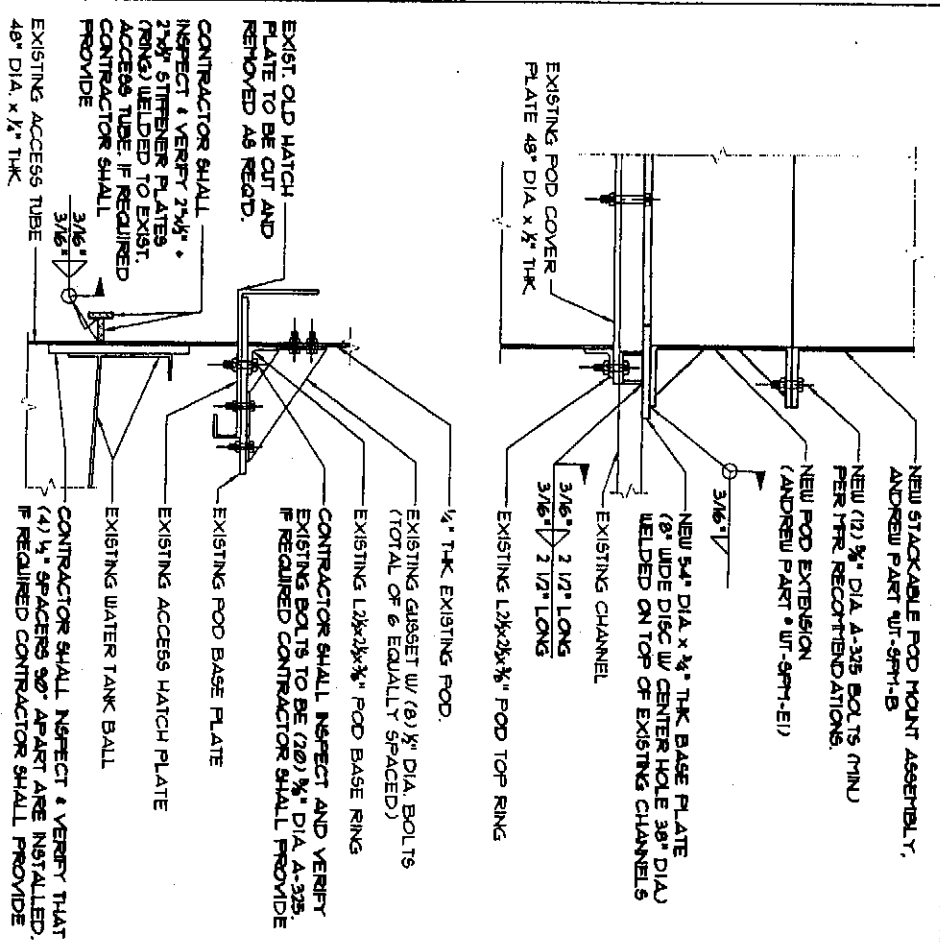
NOTE:
ANTENNAS/DISHES/RELOCATED
APERTURES NOT SHOWN FOR CLARITY



STACKABLE POD MOUNTING DETAIL SCALE: NTS, 1



NEW BASE PLATE - SECTION A-A SCALE: NTS, 3



DETAILS SCALE: NTS, 2

NOT USED

NOT USED

clearw're
Fullerton Engineering Consultants
3600 W. HIGGINS RD.
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TEL (841) 232-9951
FAX (841) 232-9958

Fullerton Engineering Consultants
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ROSEMONT, ILLINOIS 60018
TEL: 841-232-0200
FAX: 841-232-0206
DESIGN FIRM NO. 184-007499

CHECKED BY:	JP		
APPROVED BY:	MS		
#	DATE	DESCRIPTION	BY
06/29/05	50% REVIEW	AL	JP
07/05/05	FINAL	JC	JP
09/08/05	REV FINAL	CS	JP
07/01/06	VILLAGE REVISIONS	JC	JP
03/09/06	VILLAGE REVISIONS	JC	JP
04/27/06	VILLAGE REVISIONS	JC	JP
06/07/06	REVISIONS	JC	JP
07/27/06	REVISIONS	JC	JP

DATE ISSUED: _____
[Signature]

SITE NAME
**ORLAND
PARK UT 4**

SITE NO.
IL-CH10572

SITE ADDRESS
**1593 S. 90th AVE.
ORLAND PARK, IL 60462**

SHEET NAME
**SITE
DETAILS**

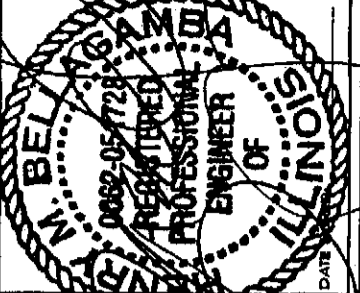
SHEET NUMBER
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clearwire
 9801 W. HIGGINS RD.
 SUITE 150
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 TEL (847) 232-9951
 FAX (847) 232-9958

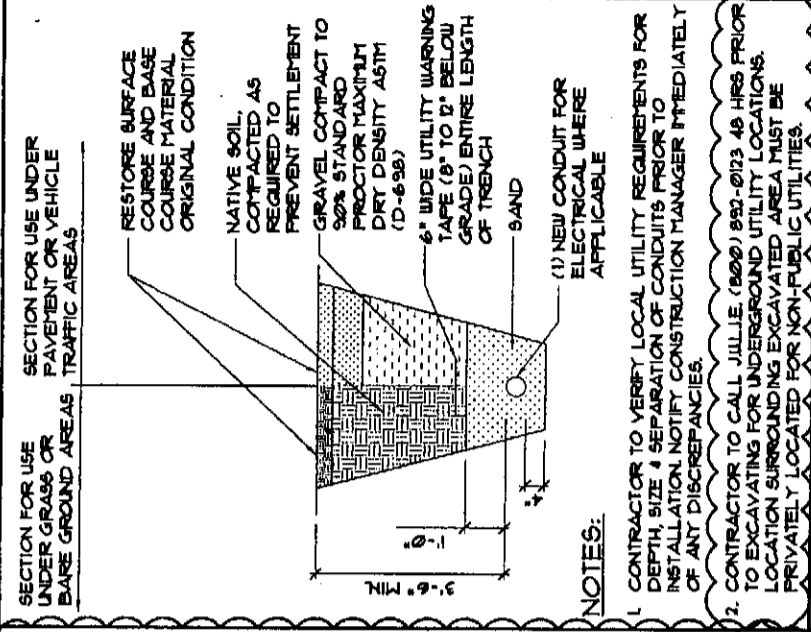
Fullerton Engineering Consultants
 9600 W. BRYN MAUR AVE.
 SUITE 200
 ROSEMONT, ILLINOIS 60018
 TEL: 847-232-0100
 FAX: 847-232-0106
 DESIGN FIRM NO. 184-0021458

#	DATE	DESCRIPTION	INT.
06/23/09		30% REVIEW	AZ
07/09/09		FINAL	JC
09/18/09		REV. FINAL	SG
09/18/09		VILLAGE REVISIONS	JC
09/18/09		VILLAGE REVISIONS	JC
04/22/10		VILLAGE REVISIONS	JC
06/11/10		REVISIONS	JC
07/12/10		REVISIONS	JC

CHECKED BY: JP
 APPROVED BY: MB

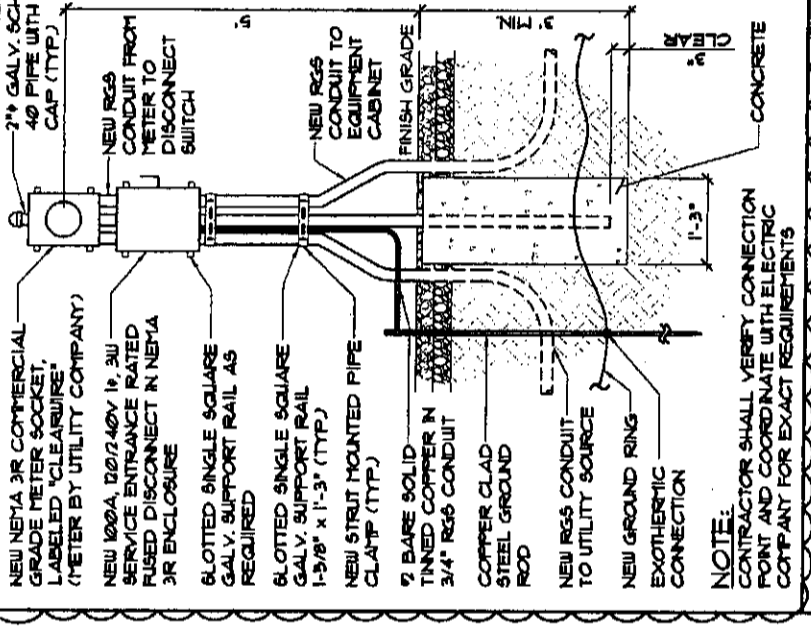
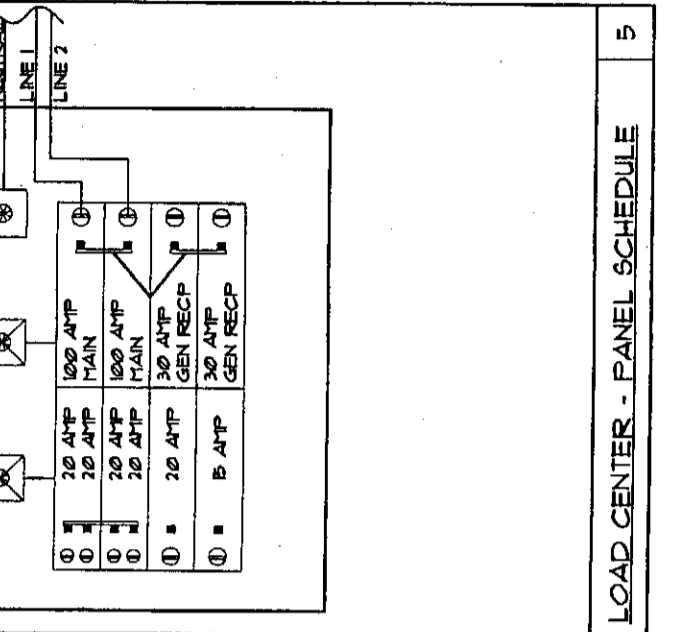
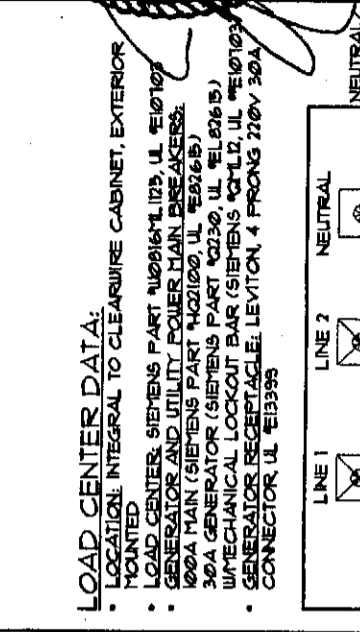


DATE	
SITE NAME	ORLAND PARK UT 4
SITE NO.	IL-CHI0572
SITE ADDRESS	1453 S. 99th AVE. ORLAND PARK, IL 60467
SHEET NAME	UTILITY PLAN AND DETAILS
SHEET NUMBER	E-1



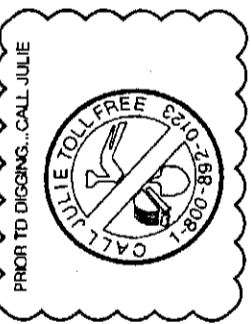
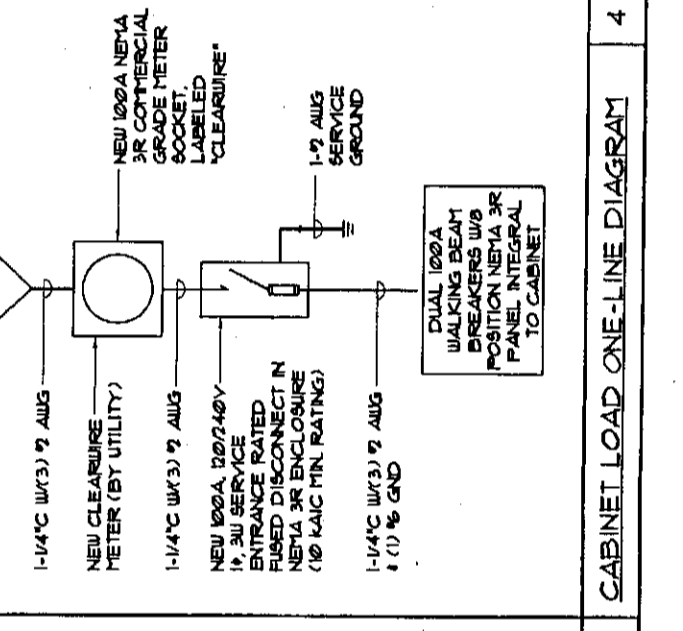
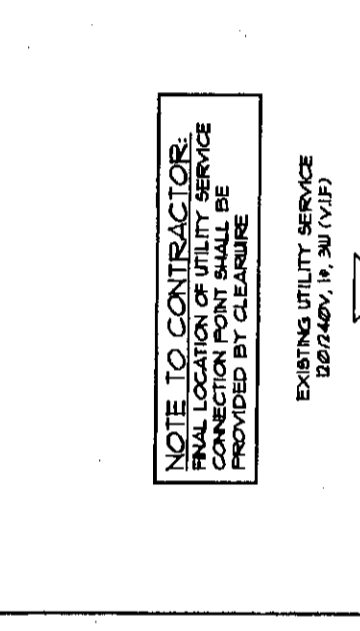
NOTES:
 1. CONTRACTOR TO VERIFY LOCAL UTILITY REQUIREMENTS FOR DEPTH, SIZE & SEPARATION OF CONDUITS PRIOR TO INSTALLATION. NOTIFY CONSTRUCTION MANAGER IMMEDIATELY OF ANY DISCREPANCIES.
 2. CONTRACTOR TO CALL JULIE (800) 892-0123 48 HRS PRIOR TO EXCAVATING FOR UNDERGROUND UTILITY LOCATIONS. LOCATION SURROUNDING EXCAVATED AREA MUST BE PRIVATELY LOCATED FOR NON-PUBLIC UTILITIES.

SCALE: N.T.S. 3



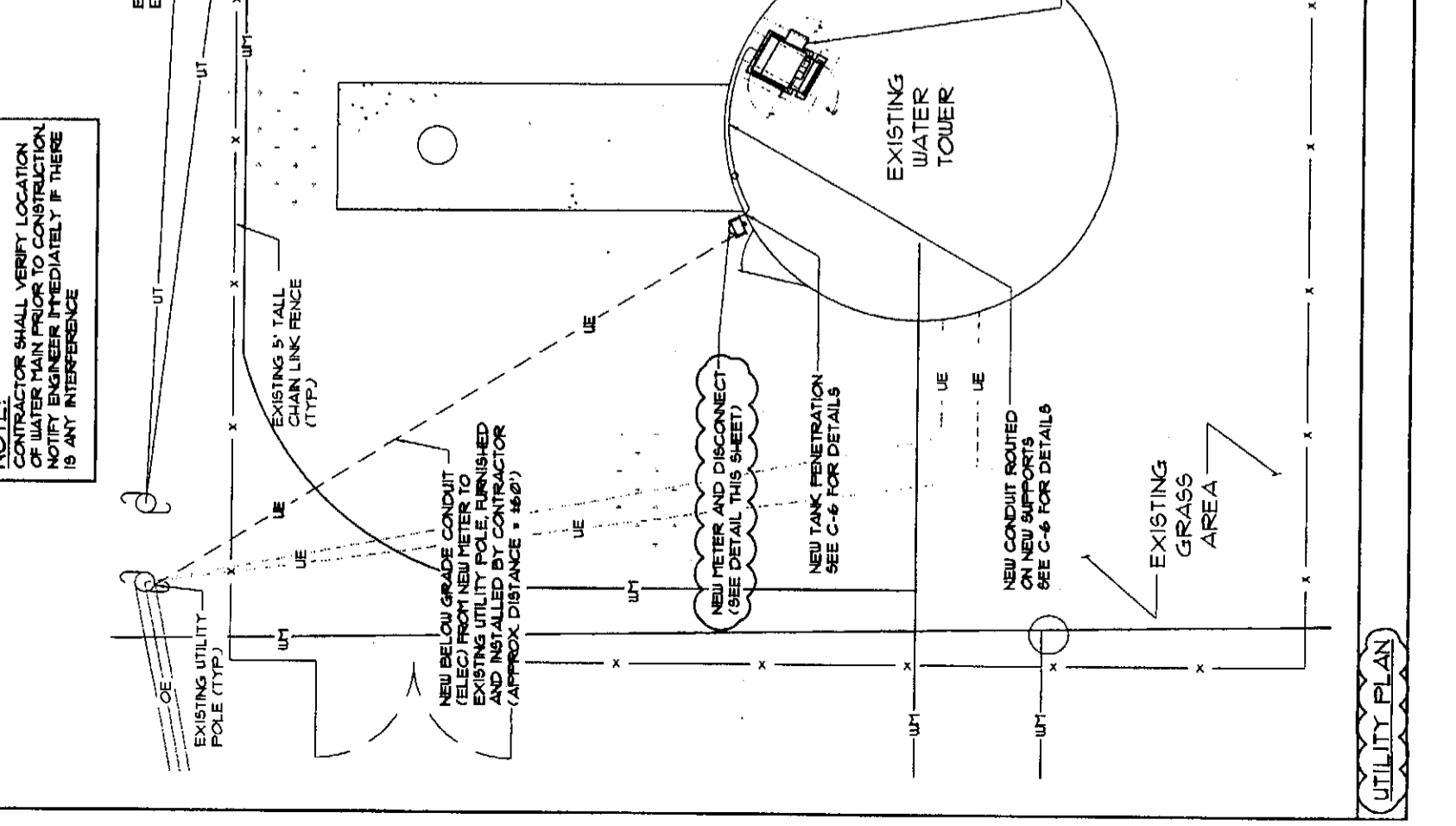
SECTION FOR USE UNDER PAVEMENT OR VEHICLE TRAFFIC AREAS:
 RESTORE SURFACE COURSE AND BASE COURSE MATERIAL ORIGINAL CONDITION
 NATIVE SOIL, COMPACTED AS REQUIRED TO PREVENT SETTLEMENT
 GRAVEL COMPACT TO 90% STANDARD PROCTOR MAXIMUM DRY DENSITY ASTM (D-698)
 6" WIDE UTILITY WARNING TAPE (9" TO 12" BELOW GRADE) ENTIRE LENGTH OF TRENCH
 9" SAND

SECTION FOR USE UNDER GRASS OR BARE GROUND AREAS:
 RESTORE SURFACE COURSE AND BASE COURSE MATERIAL ORIGINAL CONDITION
 NATIVE SOIL, COMPACTED AS REQUIRED TO PREVENT SETTLEMENT
 GRAVEL COMPACT TO 90% STANDARD PROCTOR MAXIMUM DRY DENSITY ASTM (D-698)
 6" WIDE UTILITY WARNING TAPE (9" TO 12" BELOW GRADE) ENTIRE LENGTH OF TRENCH
 9" SAND

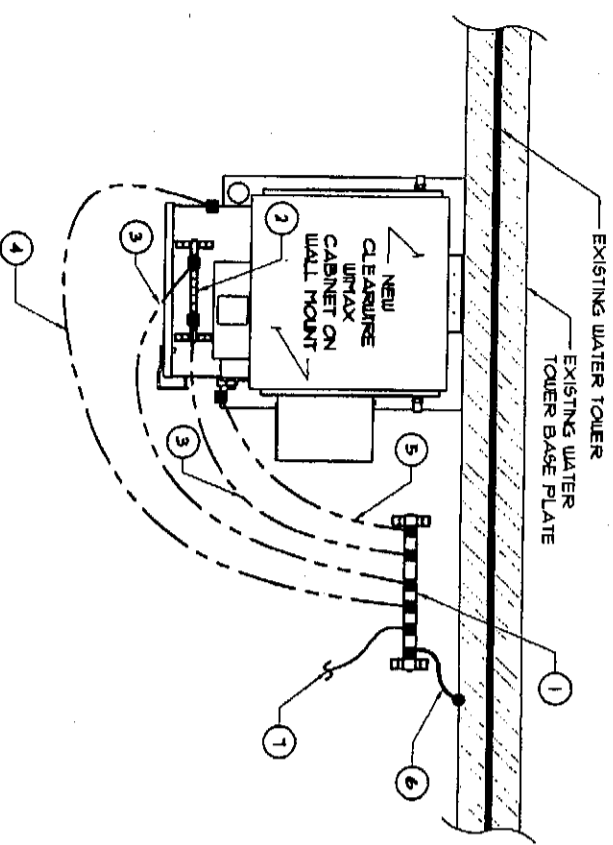


NOTE:
 1. LOCATION OF PROPERTY LINES AND ANY EXISTING EASEMENTS ARE NOT VERIFIED ON PLANS. CONTRACTOR SHALL COORDINATE WITH PROPERTY OWNER/CLEARWIRE CONSTRUCTION MANAGER PRIOR TO ANY CONSTRUCTION OUTSIDE OF EXISTING FENCED COMPUND TO ENSURE THAT NO WORK IS DONE ON INCORRECT PROPERTY OR WITHIN ANY EXISTING EXCLUSIVE EASEMENTS.
 2. IT SHALL BE THE CONTRACTORS RESPONSIBILITY TO COORDINATE WITH THE LOCAL UTILITY COMPANY FOR FINAL POWER MEET POINT AND ROUTE.

NOTE:
 CONTRACTOR SHALL VERIFY LOCATION OF WATER MAIN PRIOR TO CONSTRUCTION. NOTIFY ENGINEER IMMEDIATELY IF THERE IS ANY INTERFERENCE



NOTE:
ALL GROUND WIRES TO BE ROUTED TO AVOID TRIP HAZARDS



- LEGEND:**
- ① NEW EQUIPMENT GROUND BAR EXACT LOCATION T.B.D. IN FIELD. SEE DETAIL 3 THIS SHEET.
 - ② GROUND BAR LOCATED INSIDE TELCO ENCLOSURE
 - ③ 7/0 GREEN STRANDED INSULATED COPPER GROUND WIRE TO GROUND BAR INSIDE TELCO ENCLOSURE FOR THIS CONNECTION. (2) 3/8" HOLES WILL BE DRILLED INTO THE TELCO ENCLOSURE. THIS CONNECTION OF THIS LEAD SHOULD NOT INTERFERE THE DOOR SWING OR ANY ITEMS WITHIN THE TELCO ENCLOSURE. (2) PLACES TYP. SEE DIAG. E-4/DETAIL 1.
 - ④ 7/0 GREEN STRANDED INSULATED COPPER GROUND WIRE TO THE CHASSIS OF THE TELCO ENCLOSURE. SEE DIAG. E-4/DETAIL 2.
 - ⑤ 7/0 GREEN STRANDED INSULATED COPPER GROUND WIRE TO THE CABINET WALL MOUNT SUPPORT. SEE DIAG. E-4/DETAIL 2.
 - ⑥ 7/0 GREEN STRANDED INSULATED COPPER GROUND WIRE FROM EQUIPMENT GROUND BAR TO WATER TOWER BASE PLATE.
 - ⑦ 7/0 GREEN STRANDED INSULATED COPPER GROUND WIRE TO SECTOR GROUND BAR

SYMBOL LEGEND:

—	GROUND WIRE
●	EXOTHERMIC CONNECTION
■	MECHANICAL CONNECTION
▲	EXOTHERMIC OR MECHANICAL CONNECTION

TYPICAL GROUNDING PLAN

SCALE: 1/2" = 1'-0"

1

GROUNDING NOTES:

1. GROUNDING SHALL COMPLY WITH ARTICLE 250 OF THE NATIONAL ELECTRICAL CODE
2. ALL CONDUCTORS SHALL BE 7/0 GREEN STRANDED INSULATED COPPER GROUND WIRE UNLESS NOTED OTHERWISE.
3. ALL CONNECTIONS TO THE COPPER LEG BARREL WITH 1/2" SPACING SHALL BE CRIMPED USING THE PROPER CRIMPING TOOL TO THE GROUND WIRE AND HEAT-SHRINKED.
4. ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE HELD INSPECTED AND HOOFED TO ENSURE PROPER CONTACT. PRIOR TO EXOTHERMIC CONNECTION, GALVANIZING SHALL BE REMOVED BY SPRAYING THE SURFACE TO BARE METAL. SLUGS FROM EXOTHERMIC CONNECTION MUST BE REMOVED AND SHALL BE SPRAYED WITH COLD GALVANIZATION OR TOUCH UP WITH GALVANOX OR EQUIVALENT AFTER COMPLETION.
5. EXOTHERMIC WELDS SHALL USE APPROPRIATE MOLDS AND 90° WELD METAL.
6. MECHANICAL CONNECTIONS SHALL BE MADE WITH STAINLESS STEEL BOLTS, NUTS AND LOCK WASHERS, 3/8" MINIMUM. BI-METAL RATED LUGS ARE TO BE USED WHERE THE CONNECTION IS MADE.
7. USE NOALOX OR APPROVED EQUAL CONNECTIVE MATERIAL FOR ALL MECHANICAL CONNECTIONS.
8. FERROUS METAL CLIPS WHICH COMPLETELY SURROUND THE GROUNDING CONNECTOR SHALL NOT BE USED. CLIPS OF THE FOLLOWING MATERIALS AND TYPES MAY BE USED TO SUPPORT GROUNDING CONNECTORS:
 - STAINLESS STEEL
 - PLASTIC CLIPS
 - FERROUS METAL CLIPS WHICH DO NOT COMPLETELY SURROUND THE GROUNDING CONNECTORS.
9. INSTALL ALL GROUND WIRES IN AN ORGANIZED MANNER. C-TAPPING WHERE POSSIBLE TO REDUCE THE NUMBER OF GROUND WIRES. AVOID CROSSING OF WIRES WHEREVER POSSIBLE.
10. INSTALL ALL GROUND IN A DOWNWARD SLOPE FOR MAXIMUM LIGHTING PROTECTION.
11. MAINTAIN ALL MINIMUM BENDING RADIUS IN THE GROUNDING WIRES.
12. DO NOT REMOVE MORE INSULATION FROM THE GROUND WIRES THAN NECESSARY WHEN EXOTHERMIC WELDING OR CRIMPING. IF EXCESS INSULATION IS REMOVED, THE CONNECTION WILL BE CONSIDERED UNACCEPTABLE AND WILL BE CORRECTED PER THE CLEARWIRE REPRESENTATIVE'S DIRECTION.
13. THE CONTRACTOR SHALL SELF-PERFORM OR ENGAGE AN INDEPENDENT ELECTRICAL TESTING FIRM TO TEST AND VERIFY THAT RESISTANCE TO EARTH NOT EXCEED 100 OHMS. PROVIDE A COPY OF TESTING REPORT, INCLUDING THE METHOD AND INSTRUMENTS USED TO VERIFY TO CLEARWIRE REPRESENTATIVE. CLEARWIRE STANDARD IS TO PERFORM A THREE POINT FALL-OF-POTENTIAL TEST PRODUCE ALSO REFERRED TO AS A 10 OHM 3 POINT 67% METHOD TEST.

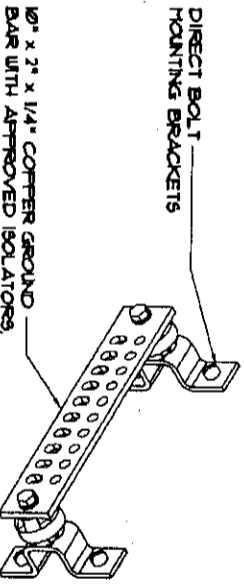
GROUNDING NOTES:

SCALE: N.T.S.

2

INSTALL THE FOLLOWING GROUND LEADS:

- a) SECTOR GROUND BAR**
 1. 1# CABLE GROUND KITS
 2. ALL MICROVAIVE GROUND/DAP HEADS
 3. ANTENNA MOUNTING PIPES
 4. GROUND TO EQUIPMENT GROUND BAR
- b) EQUIPMENT GROUND BAR**
 1. 1# CABLE GROUND KITS
 2. GROUND FROM SECTOR GROUND BAR
 3. GROUND TO WATER TOWER BASE PLATE



1/2" x 2" x 1/4" COPPER GROUND BAR WITH APPROVED ISOLATORS, BAR SHALL BE CLEANED, POLISHED AND A NON-OXIDIZING AGENT APPLIED. NO FINGERPRINTS OR DISCOLORED COPPER WILL BE PERMITTED

GROUND BAR DETAIL

SCALE: N.T.S.

3

NOT USED

SCALE: N.T.S.

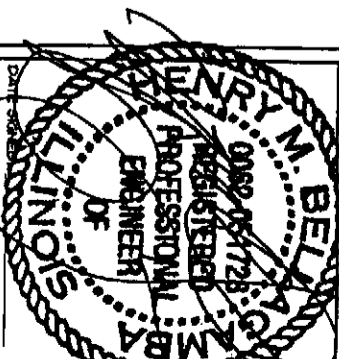
4

clearwire
wires are made

9801 W. HIGGINS RD.
SUITE 150
ROSEMONT, IL 60018
TEL: (641) 793-9957
FAX: (641) 793-9958

Fullerton Engineering Consultants
9600 W. BRYAN MAJOR AVE.
SUITE 200
ROSEMONT, IL 60018
TEL: 641-793-0700
FAX: 641-793-0706
DESIGN FIRM NO. 184-007498

CHECKED BY:	JIP		
APPROVED BY:	MB		
#	DATE	DESCRIPTION	INT.
06/29/09	50% REVIEW	AZ	
07/09/09	FINAL	JC	
09/18/09	REV. FINAL	SS	
07/15/10	VALUE REVISIONS	JC	
09/09/10	VALUE REVISIONS	JC	
04/07/10	VALUE REVISIONS	JC	
06/17/10	REVISIONS	JC	
07/10/10	REVISIONS	JC	



SITE NAME
ORLAND PARK UT 4

SITE NO.
IL-CHI0572

SITE ADDRESS
**14533 S. 86th AVE.
ORLAND PARK, IL 60467**

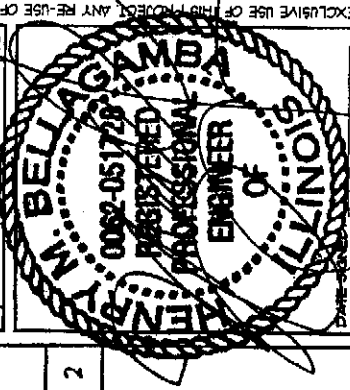
SHEET NAME
GROUNDING PLAN AND DETAILS

SHEET NUMBER
E-3

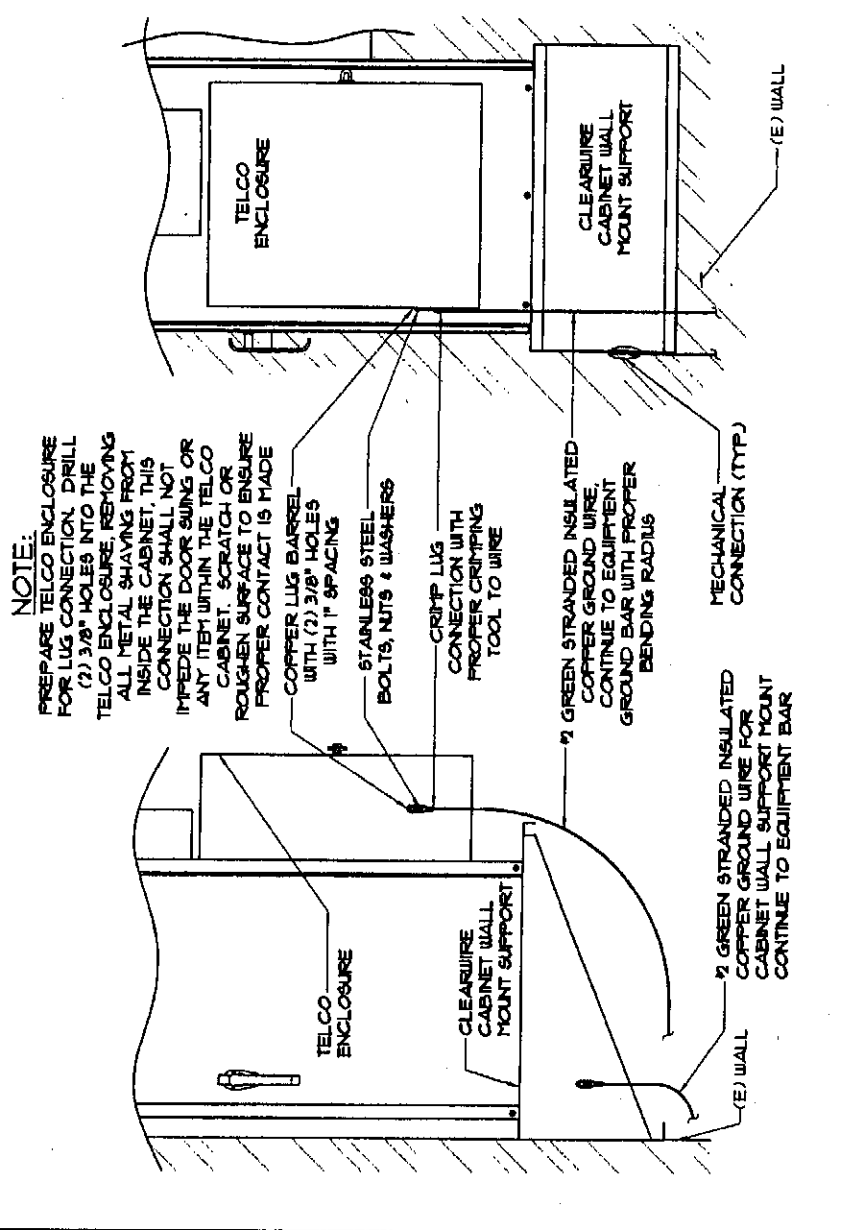
clearwire
wireless broadband
9801 W. HIGGINS RD.
SUITE 150
ROSEMONT, IL 60018
TEL (847) 292-9951
FAX (847) 292-9950

FILLERTON ENGINEERING CONSULTANTS, INC.
Fullerton Engineering Consultants
9600 W. BRYN MAUR AVE.
SUITE 200
ROSEMONT, ILLINOIS 60018
TEL: 847-292-0200
FAX: 847-292-0206
DESIGN FIRM NO. 184-002498

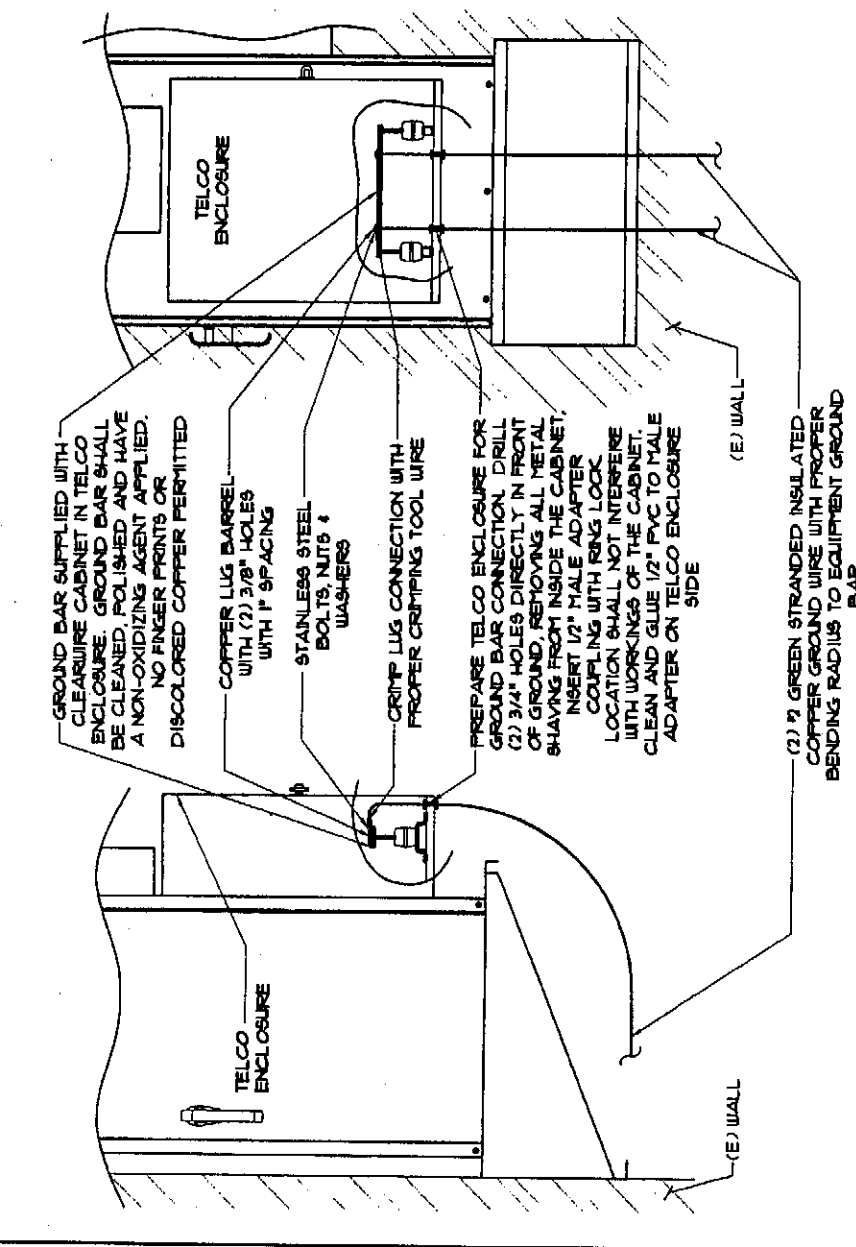
CHECKED BY: JP		APPROVED BY: MB	
#	DATE	DESCRIPTION	INT.
	06/23/09	30% REVIEW	AZ
	07/09/09	FINAL	JC
	07/16/09	REV. FINAL	SG
	07/16/09	VILLAGE REVISIONS	JC
	03/09/10	VILLAGE REVISIONS	JC
	04/22/10	VILLAGE REVISIONS	JC
	06/11/10	REVISIONS	JC
	07/01/10	REVISIONS	JC



SITE NAME ORLAND PARK WT 4
SITE NO. IL-CHI0572
SITE ADDRESS 1493 S. 80th AVE ORLAND PARK, IL 60142
SHEET NAME GROUNDING DETAILS
SHEET NUMBER E-4



2 TELCO ENCLOSURE CHASSIS/CABINET WALL MOUNT SUPPORT GROUND DETAIL



1 TELCO ENCLOSURE GROUND DETAIL

NOT USED

3

ATTACHED
EXHIBIT C

MEMORANDUM OF LEASE

SEE ATTACHED

MEMORANDUM OF AGREEMENT

APN:

This Memorandum of Agreement is entered into on _____, 2010, by the VILLAGE OF ORLAND PARK, ILLINOIS, a municipal corporation, with an address at 14700 S. Ravinia Avenue, Orland Park, Illinois 60462 (hereinafter referred to as "Owner" or "Landlord") and CLEARWIRELESS, LLC, a Nevada limited liability company, with an address at 4400 Carillon Point, Kirkland, WA 98033 (hereinafter referred to as "Clearwire" or "Tenant").

1. Owner and Clearwire entered into a Communication Site Lease Agreement ("Agreement") dated as of _____, 2010, effective upon full execution of the parties ("Effective Date") for the purpose of Clearwire undertaking certain Investigations and Tests and, upon finding the Property appropriate, for the purpose of installing, operating and maintaining a communications facility and other improvements. All of the foregoing is set forth in the Agreement.

2. The term of Clearwire's tenancy under the Agreement is for five (5) years commencing on the earlier of the date Clearwire starts construction or sixty (60) days following the Effective Date ("Term Commencement Date"), and terminating on the fifth anniversary of the Term Commencement Date with three (3) successive five (5) year options to renew.

3. The Land that is the subject of the Agreement is described in Exhibit A annexed hereto. The portion of the Land being leased to Tenant and all necessary access and utility easements (the "Premises") are set forth in the Agreement.

In witness whereof, the parties have executed this Memorandum of Agreement as of the day and year first written above.

LANDLORD:

TENANT:

VILLAGE OF ORLAND PARK, Illinois,
a municipal corporation

CLEARWIRELESS, LLC,
a Nevada limited liability company

By: _____

By: _____

Name: _____

Name: _____

Date: _____

Date: _____

Title: _____

Title: _____

THIS DOCUMENT PREPARED BY:

E. Kenneth Friker
Klein, Thorpe and Jenkins, Ltd.
15010 S. Ravinia Avenue – Suite 10
Orland Park, Illinois 60462

STATE OF ILLINOIS)
) SS.
COUNTY OF C O O K)

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he/she signed this instrument, on oath stated that he/she was authorized to execute the instrument and acknowledged it as the _____ of the VILLAGE OF ORLAND PARK, an Illinois municipal corporation, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

DATED: _____

Notary Public
Print Name _____
My commission expires _____

STATE OF _____)
) SS.
COUNTY OF _____)

I certify that I know or have satisfactory evidence that _____ is the person who appeared before me, and said person acknowledged that he signed this instrument, on oath stated that he was authorized to execute the instrument and acknowledged it as the _____ CLEARWIRELESS, LLC, a Nevada limited liability company, to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

DATED: _____

Notary Public
Print Name _____
My commission expires _____