



# City of Madison

## Proposed Conditional Use

Location  
545 Zor Shrine Place

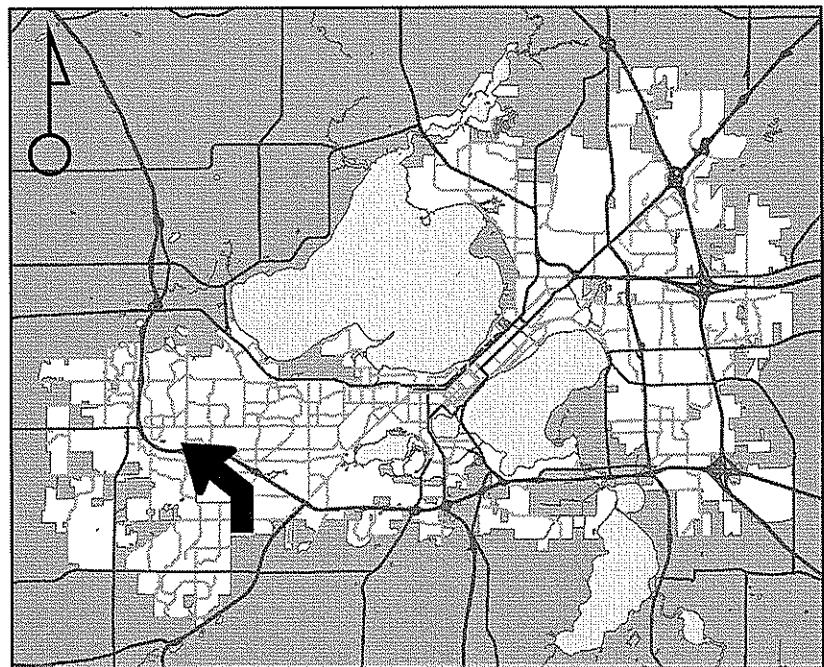
Project Name  
US Cellular: Zor

Applicant  
High Point Office Park, LLC/  
Nathan Ward – Buell Consulting

Existing Use  
Commercial Office Building

Proposed Use  
Construct Wireless  
Telecommunications Tower

Public Hearing Date  
Plan Commission  
22 February 2010



For Questions Contact: Kevin Firchow at: 267-1150 or kfirchow@cityofmadison.com or City Planning at 266-4635



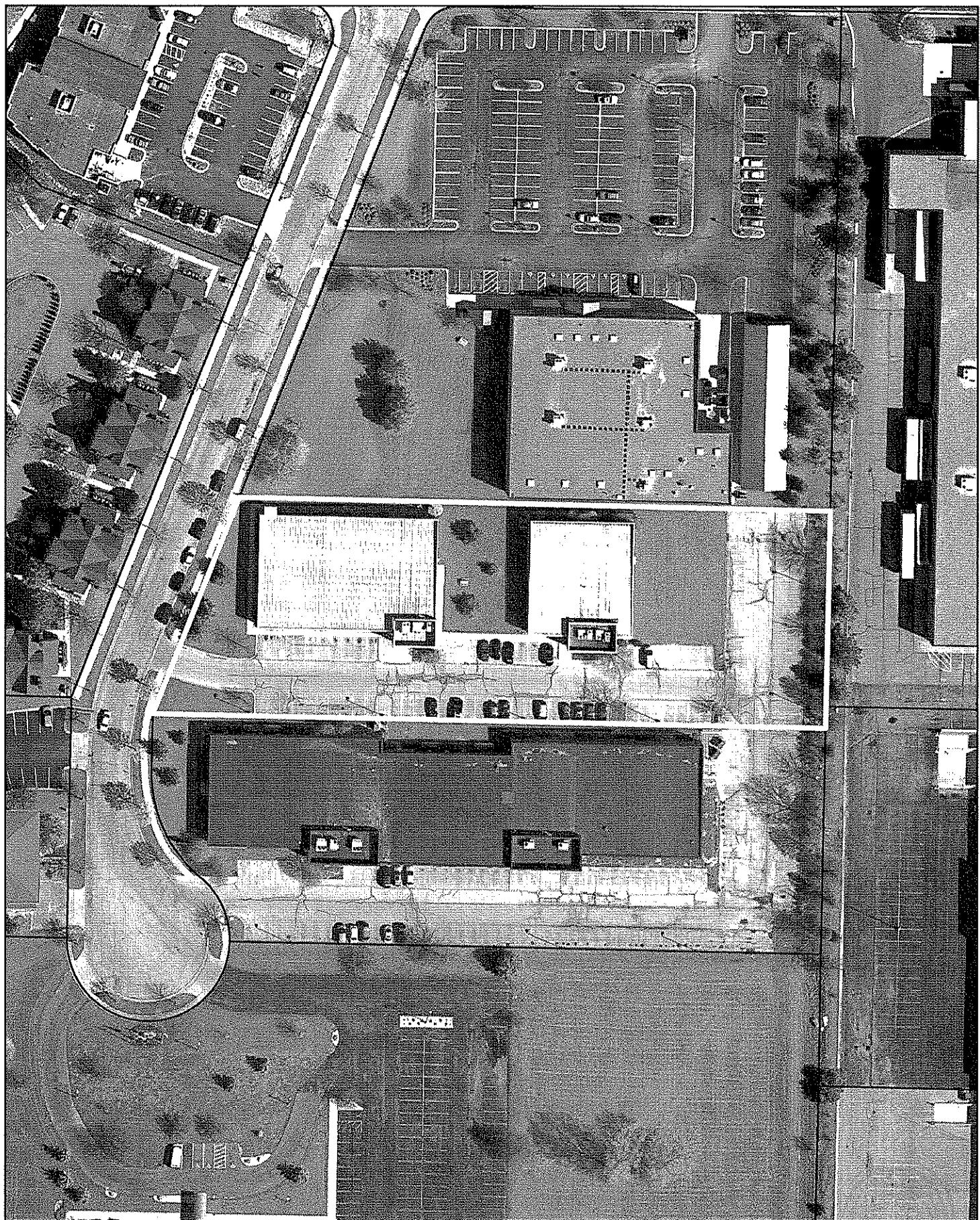
Scale : 1" = 400'

City of Madison, Planning Division : RPJ : Date : 08 February 2010



City of Madison

545 Zor Shrine Place



Date of Aerial Photography : April 2007



# LAND USE APPLICATION

## Madison Plan Commission

215 Martin Luther King Jr. Blvd; Room LL-100  
PO Box 2985; Madison, Wisconsin 53701-2985  
Phone: 608.266.4635 | Facsimile: 608.267.8739

- The following information is required for all applications for Plan Commission review except subdivisions or land divisions, which should be filed with the Subdivision Application.
- Before filing your application, please review the information regarding the **LOBBYING ORDINANCE** on the first page.
- Please read all pages of the application completely and fill in all required fields.
- This application form may also be completed online at [www.cityofmadison.com/planning/plan.html](http://www.cityofmadison.com/planning/plan.html)
- All Land Use Applications should be filed directly with the Zoning Administrator.

<b>FOR OFFICE USE ONLY:</b>			
Amt. Paid	2300	Receipt No.	105212
Date Received	11/3/05		
Received By	APF		
Parcel No.	0708.262.013.2		
Aldermanic District	9 Skidmore		
GQ	Landscape Ds After Reg.		
Zoning District	C2/C3L		
<b>For Complete Submittal</b>			
Application	Letter of Intent		
IDUP	Legal Descript.		
Plan Sets	Zoning Text		
Alder Notification	Waiver		
Ngbrhd. Assn Not.	Waiver		
Date Sign Issued	11/3/05		

**1. Project Address:** 545 Zor Shrine Place

**Project Area in Acres:** .01

**Project Title (if any):** US Cellular: Zor

### 2. This is an application for:

**Zoning Map Amendment** (check the appropriate box(es) in only one of the columns below)

<input type="checkbox"/> <b>Rezoning to a Non-PUD or PCD Zoning Dist.:</b>		<b>Rezoning to or Amendment of a PUD or PCD District:</b>	
Existing Zoning: _____ to _____		<input type="checkbox"/> Ex. Zoning: _____ to PUD/PCD-GDP	
Proposed Zoning (ex: R1, R2T, C3): _____		<input type="checkbox"/> Ex. Zoning: _____ to PUD/PCD-SIP	
		<input type="checkbox"/> Amended Gen. Dev. <input type="checkbox"/> Amended Spec. Imp. Plan	
<input checked="" type="checkbox"/> <b>Conditional Use</b>	<input type="checkbox"/> <b>Demolition Permit</b>	<input type="checkbox"/> <b>Other Requests (Specify):</b> _____	

### 3. Applicant, Agent & Property Owner Information:

Applicant's Name: US Cellular Company: Madison Cellular Telephone Company

Street Address: 5117 W. Terrace Drive City/State: Madison, WI Zip: 53718

Telephone: (608) 441-4175 Fax: (608) 441-4102 Email: michael.stafford@uscellular.com

Project Contact Person: Nathan Ward Company: Buell Consulting

Street Address: 1200 Riva Ridge City/State: Racine, WI Zip: 53402

Telephone: (414) 788-1327 Fax: (262) 639-2888 Email: nward4@wi.rr.com

Property Owner (if not applicant): High Point Office Park LLC

Street Address: 8215 Greenway Blvd., Suite 500 City/State: Middleton, WI Zip: 53562

### 4. Project Information:

Provide a brief description of the project and all proposed uses of the site: \_\_\_\_\_

Construct a two-carrier telecommunications pole/light standard and radio equipment enclosure

Development Schedule: Commencement May 1st, 2010 Completion August 31st, 2010

**5. Required Submittals:**

**Plans** submitted as follows below and depicts all lot lines; existing, altered, demolished or proposed buildings; parking areas and driveways; sidewalks; location of any new signs; existing and proposed utility locations; building elevations and floor plans; landscaping, and a development schedule describing pertinent project details:

- **7 copies** of a full-sized plan set drawn to a scale of one inch equals 20 feet (collated and folded)
- **7 copies** of the plan set reduced to fit onto 11 inch by 17 inch paper (collated, stapled and folded)
- **1 copy** of the plan set reduced to fit onto 8 1/2 inch by 11 inch paper

**Letter of Intent (12 copies):** describing this application in detail including, but not limited to: existing conditions and uses of the property; development schedule for the project; names of persons involved (contractor, architect, landscaper, business manager, etc.); types of businesses; number of employees; hours of operation; square footage or acreage of the site; number of dwelling units; sale or rental price range for dwelling units; gross square footage of building(s); number of parking stalls, etc.

**Legal Description of Property:** Lot(s) of record or metes and bounds description prepared by a land surveyor. For any application for rezoning, the description must be submitted as an electronic word document via CD or e-mail. For applications proposing rezoning to more than one district, a separate description of each district shall be submitted.

**Filing Fee:** \$ 2300 See the fee schedule on the application cover page. Make checks payable to: *City Treasurer*.

**Electronic Submittal:** All applicants are required to submit copies of all items submitted in hard copy with their application (including this application form, the letter of intent, complete plan sets and elevations, etc.) as Adobe Acrobat PDF files on a non-returnable CD to be included with their application materials, or in an e-mail sent to [pcapplications@cityofmadison.com](mailto:pcapplications@cityofmadison.com). The e-mail shall include the name of the project and applicant. Applicants unable to provide the materials electronically should contact the Planning Division at (608) 266-4635 for assistance.

**In Addition, The Following Items May Also Be Required With Your Application:**

For any applications proposing demolition or removal of existing buildings, the following items are required:
 

- Prior to the filing of an application, the applicant or his/her agent is required to notify a list of interested persons registered with the City **30 or 60 days prior to filing** their application using the online notification tool found at: <https://www.cityofmadison.com/developmentCenter/demolitionNotification/>
- A photo array (6-12 photos) of the **interior and exterior** of the building(s) to be demolished or removed. A written assessment of the condition of the building(s) to be demolished or removed is highly recommended.
- Note: A Reuse and Recycling Plan approved by the City's Recycling Coordinator is required prior to issuance of wrecking permits and the start of construction.

**Zoning Text (12 copies):** must accompany Planned Community or Planned Unit Development (PCD/PUD) submittals.

**6. Applicant Declarations:**

**Conformance with adopted City plans:** Applications shall be in accordance with all adopted City of Madison plans:
   
→ The site is located within the limits of \_\_\_\_\_ Plan, which recommends: \_\_\_\_\_ for this property.

**Pre-application Notification:** Section 28.12 of the Zoning Code requires that the applicant notify the district alder and any nearby neighborhood & business associations in writing no later than **30** days prior to filing this request:
   
→ List below the Alderperson, Neighborhood Association(s), Business Association(s) AND dates you sent the notices:
   
Paul Skidmore was contacted via email on June 29, 2009 with subsequent phone conversations.

*NOTE: If the alder has granted a waiver to this requirement, please attach any such correspondence to this form.*

**Pre-application Meeting with staff:** Prior to preparation of this application, the applicant is required to discuss the proposed development and review process with Zoning and Planning Division staff; note staff persons and date.

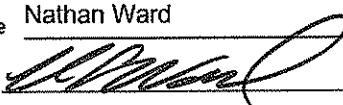
Planning Staff: Kevin Firchow Date: 07-02-09 Zoning Staff: Patrick Anderson Date: 07/02/09

**Check here if this project will be receiving a public subsidy.** If so, indicate type in your Letter of Intent.

**The signer attests that this form is accurately completed and all required materials are submitted:**

Printed Name Nathan Ward

Date 10/16/09 11-05-09

Signature 

Relation to Property Owner none

→ Authorizing Signature of Property Owner \_\_\_\_\_ Date \_\_\_\_\_

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*Planning Staff: Kevin Firchow Date: 07-02-09 Zoning Staff: Patrick Anderson Date: 07/02/09*

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**The signer attests that this form is accurately completed and all required materials are submitted:**

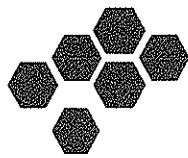
Printed Name Nathan Ward Date 10/16/09

Signature \_\_\_\_\_ Relation to Property Owner None \_\_\_\_\_

Authorizing Signature of Property Owner High Point Office Park L.L.C. Date \_\_\_\_\_

By: T. Wall Properties L.L.C., manager

By: Randall J. Guenther, President Chief Financial Officer



## ***BUELL CONSULTING, INC.***

Mr. Matthew Tucker  
Madison Department of Planning  
and Economic Development  
215 Martin Luther King Jr. Blvd.  
Madison, WI 53701

November 3<sup>rd</sup>, 2009

Re: US Cellular Application for a Conditional Use to construct a Two-Carrier Light Standard with an overall height of 70' and Radio Equipment Shelter at 545 Zor Shrine Place, property of Highpoint Office Park, LLC, with a parcel identification number of 0708.262.0113.2

Dear Mr. Tucker,

US Cellular is in need of completing a new communications facility along Hwy. 12/14 west of the West Towne Mall area. As you will see from the enclosed radio frequency diagrams and correspondence from the radio frequency engineer, the site is needed to provide additional frequencies and channels to handle the increasing customer use of the network as well as improve in-building service for the many commercial buildings in the area. A location has been chosen and a lease agreement negotiated with Highpoint Office Park LLC to incorporate a stealth installation utilizing a working light standard in the parking lot area of 545 Zor Shrine Place; an installation that will accommodate one additional telecom user should the need arise. Recognizing that the code specifies new communications structures accommodate three separate antenna arrays, it is our belief that the two carrier stealth light standard better reflects the intent of the code requirement in creating an installation that blends with the environment and still provides capacity for future use of another carrier. US Cellular requests, if the Plan Commission is in agreement, that they waive the three antenna array requirement.

In addition to the information provided in this narrative and with the attachments that follow, it is necessary to mention that Paul Skidmore, Alder for District 9 has been apprised of this proposed facility and has provided his full support.

The narrative below addresses the guidelines of the City of Madison code Section 28.04(22) and its requirements for telecommunications uses. US Cellular respectfully requests your review of the application and supporting materials for the approval of a conditional use to construct the proposed facility.

## **28.04(22) Telecommunication Facilities and Antenna**

### **(22) Telecommunication Facilities and Antennas**

(a) The purpose and intent of this ordinance is to strike a balance between the federal interest concerning the construction, modification and siting of telecommunication towers and antennas for use in providing personal wireless services, and the interest of the City of Madison (hereinafter the "City") in regulating local zoning. The regulations contained herein are designed to protect and promote the public health, safety and welfare of the community and the aesthetic quality of the City. The goals of this ordinance are to protect residential areas and land uses from the potential adverse impacts of towers and antennas; minimize the total number of towers throughout the community; encourage the joint use of new and existing tower sites as a primary siting option rather than construction of additional single-use towers; minimize the visual impact of towers and antennas; and avoid potential damage to adjacent properties from tower failure through engineering and careful siting of tower structures. It is also the intent of this section to provide a public forum to insure a balance between public concerns and private interests in establishing commercial telecommunication and related facilities.

US Cellular whenever feasible utilizes existing structures for the placement of their antennas. This is evidenced by the substantial list of collocated antennas within the City of Madison and surrounding communities on telecommunications towers owned by others, rooftops, water tanks and the like. They are also inclined to use disguised or stealth installations when warranted as in the case of this application.

### **(c) Registration of Telecommunications Carriers and Providers**

1. **Registration and Application Requirements**. All personal wireless service carriers and providers that offer or provide any telecommunications services for a fee directly to the public, either within the City or outside the corporate limits from telecommunications facilities within the City, and all Telecommunications tower owners, shall register and provide to the City, pursuant to this ordinance, on forms to be provided by the Building Inspection Division Director and shall provide with each conditional use application the following information:
  - a. The identity and legal status of the registrant, including any affiliates.
  - b. The name, address and telephone number of the officer, agent or employee responsible for the accuracy of the registration statement.
  - c. A narrative and map description of registrant's existing telecommunications facilities within the City, adjacent cities, villages and townships.
  - d. Such other information as the Building Inspection Division Director may reasonably require.

(Am. by ORD-08-00109, 10-7-08)

2. **Purpose of Registration**. The purpose of registration under this ordinance is to:
  - a. Provide the City with accurate and current information concerning personal wireless services carriers and providers and telecommunications tower owners, who offer or provide services within the City, or that own or operate telecommunication facilities within the City;
  - b. Assist the City in enforcement of this Section;
  - c. Assist the City in monitoring compliance with local, state and federal laws.

3. Enforcement. It shall be unlawful for any personal wireless services carrier or provider who offers or provides services within the City, or any telecommunications tower owner who owns or operates telecommunications facilities within the City, to fail to register and provide the information required in subdivision (c)1. above within thirty (30) days of such a request by the City.

This application includes identification of the existing US Cellular sites immediately surrounding the proposed installation. If staff is uncertain if a complete list of US Cellular's facilities is on file, a comprehensive inventory can be provided upon request and prior to the public hearing.

The legal entity requesting the conditional use is Madison Cellular Telephone Company (US Cellular). Their local project manager responsible for the Madison market is Mike Stafford, 5117 W. Terrace Drive, Madison, WI. Mike can be reached at 608-441-4175.

4. Conditional Use Application Requirements. In addition to the requirements contained in subdivision (c)1. above, the conditional use application shall address the following:
  - a. The requirements contained in subdivisions (e), (f), (g), (h) and (i) below, including a narrative and map description of the applicant's system-wide plan describing existing and applied for facilities to serve the community;
  - b. A visual analysis, which may include photo montage, field mockup, or other techniques shall be prepared by or on behalf of the applicant which identifies the potential visual impacts and the design capacity of the proposed facility to the satisfaction of the Plan Commission. Consideration shall be given to views from public areas as well as from private residences. The analysis shall assess the impacts of the proposed facility and other existing telecommunication facilities in the area, and shall identify and include all feasible mitigation measures consistent with the technological requirements of the proposed personal wireless services. All costs for the visual analysis, and applicable administrative costs, shall be borne by the applicant.

As part of the Plan Commissions continuing jurisdiction over conditional uses, each registrant shall inform the City, within sixty days, of any change in the information set forth in subdivision (c)1.

Items e, f, g, h and i are addressed individually below.

A photo simulation has been provided at the end of this narrative showing the proposed light standard and radio equipment enclosure from three on-site and two off-site views. The simulation also includes an aerial reference map identifying the photo simulation vantage point locations.

5. Minor Alterations. Antennas affixed to an existing telecommunications tower or structure, together with the related support facilities and equipment buildings, or the replacement of a previously approved telecommunications tower and related antennas, support facilities and equipment buildings, may be authorized by issuance of a permit as a minor alteration to an existing conditional use or an existing permitted use when approved by the Director of Planning and Community and Economic Development, which are compatible with the concept approved by the City Plan Commission and/or the standards in sec. 28.12(11)(g), of these ordinances. If said minor alteration is not approved, the applicant shall apply to the Plan Commission for said approval in accordance with the conditional use standards contained herein.

Although the proposed light standard is not a pre-existing structure, the intent of the proposal is to mirror the use of an existing structure for antenna placement. Please also note the stealth flush-mount antenna design to assist in blending the antennas into the light standard structure.

6. Inventory and Tracking System. The zoning administrator shall compile a list of existing telecommunications facilities within the City's jurisdiction based upon information provided by personal wireless services providers and telecommunications tower owners. The Zoning Administrator shall maintain and update said list on a regular basis. The list shall also include the location of public facilities that may be available for co-location.

As referenced in Section *(c) Registration of Telecommunications Carriers and Providers* above, if staff is uncertain if a complete list of US Cellular facilities is currently on file, a comprehensive inventory can be provided upon request prior to the public hearing.

7. A professional engineering consultant shall review each conditional use application for compliance with the requirements set out in Sec. 28.04(22)(g)1. and (h). (Cr. by Ord. 13,502, 2-10-04; Am. by ORD-08-00041, 4-4-08)

Please let me know if additional information is required by the engineering consultant in order to best provide a thorough analysis of the application.

- (d) Abandonment. If a telecommunication facility shall cease to be used for a period exceeding one year and a day, the owner or operator of said facility shall remove the facility upon the written request of the City Building Inspection Division Director at no cost to the City within 90 days of said request. Prior to the issuance of any building or zoning permits, a performance bond shall be provided to guarantee that a facility that has ceased being used for telecommunication purposes is removed. The bond amount shall be the lesser of twenty thousand dollars (\$20,000) or an amount based on a written estimate of a person qualified to remove such structures. (Am. by Ord. 13,502, 2-10-04; ORD-08-00109, 10-7-08)

US Cellular agrees to abide by the removal requirements of the abandonment provision and shall provide the removal bond in an amount of \$20,000 prior the public hearing.

(e) Structural Requirements. Every telecommunication facility shall be designed and constructed so as to comply with the requirements of Secs. Comm 62.35 to 62.41, Wisconsin Administrative Code, as amended from time to time. If, upon inspection, the Building Inspection Division Director concludes that a tower fails to comply with such codes, in effect at the time of construction, and constitutes a danger to persons or property, then upon notice being provided to the owner of the tower, the owner shall have 30 days or such time as determined by the Building Inspection Division Director to bring such tower into compliance with said codes. Failure to bring such tower into compliance within said 30 days or such time as determined by the Building Inspection Division Director shall constitute grounds for the removal of the tower or antenna at owner's expense. (Am. by ORD-08-00109, 10-7-08)

US Cellular agrees to abide by the requirements of this provision.

(f) Basic Tower and Building Design. All new telecommunication facilities, except exempt facilities as defined in subdivision (i), below, shall be designed to blend into the surrounding environment to the greatest extent feasible. To this end all the following measures shall be implemented.

1. Telecommunications towers shall be constructed out of metal or other nonflammable material, unless specifically permitted by the City to be otherwise.
2. Telecommunication support facilities (i.e., equipment rooms, utilities, and equipment enclosures) shall be constructed out of nonreflective materials (visible exterior surfaces only) to all extent possible and, where possible, shall be sited below the ridge line or designed to minimize their impact.
3. Telecommunication equipment buildings, shelters and cabinets shall be treated to look like a building or facility typically found in the area.
4. The City shall have the authority to require reasonable special design (materials, architectural features and color) of the telecommunication facilities where findings of particular sensitivity are made (e.g. proximity to historic or aesthetically significant structures, views and/or community features).
5. Telecommunication facilities shall insure that sufficient anti-climbing measures have been incorporated into the facility, as needed, to reduce potential for trespass and injury.
6. Equipment buildings shall be located, designed and screened to reduce visual impacts to the extent feasible considering the technological requirements of the proposed personal wireless services and the need to be compatible with neighboring residences and the character of the community.
7. Antennas shall be designed to blend with its supporting structure. The color selected shall be one that in the opinion of the Plan Commission will minimize the visibility of the antennas to the greatest extent feasible

1. The proposed tower is made of metal.
2. The proposed radio equipment enclosure does not utilize reflective material. It's aggregate stone exterior is a reasonable material choice to blend with the multiple structure finishes of surrounding architecture including concrete panel, concrete block and brick.
3. The aggregate stone finish is complimentary to surrounding architecture.
4. It is our opinion that there is no adverse visual impact to historic, aesthetically significant structures or community features or views.
5. There are no climb assists associated with the light standard design.

6. The equipment shelter shall be only marginally visible from off site views as depicted in the photo simulations.
7. The antennas are a stealth, flush-mounted design painted brown to match the color of the light standard.

(g) Location. All new telecommunication facilities shall be located so as to minimize their visibility and the number of tower sites. To this end, a good faith effort in achieving co-location shall be required of the requestor and host entity, subject to existing co-location contracts; and all of the following measures shall be implemented for telecommunication facilities in addition to meeting the conditional use standards in sec. 28.12(11) of these ordinances:

1. No telecommunications tower shall be installed closer than one-quarter mile from another telecommunications tower, measured from the base of the telecommunications tower to the base of the proposed tower, unless credible evidence to a reasonable degree of certainty acceptable to the Plan Commission is submitted showing a clear need for said new tower and the infeasibility of co-locating it on an existing site. Such evidence may include a demonstration that no tower in the area that the applicant's equipment must be located is of sufficient height to meet applicant's requirements and the deficiency in height cannot be remedied at a reasonable cost; or the existing tower is not of sufficient strength to support applicant's equipment and the deficiency in structural strength cannot be remedied at a reasonable cost; or the applicant's equipment would cause electromagnetic interference with equipment on the existing telecommunications tower(s) within the area in which the applicant's equipment must be located, or the equipment on the existing telecommunications tower(s) would cause interference with the applicant's equipment and the interference, from whatever source, cannot be eliminated at a reasonable cost; or the fees, costs or contractual provisions required by the owner in order to co-locate on an existing communication tower are unreasonable relative to industry norms; or the applicant demonstrates that there are other factors that render existing communication towers unsuitable or unavailable and establishes that the public interest is best served by the placement or construction of a new telecommunications tower. For the purposes of this requirement, exempt telecommunications facilities unavailable for co-location shall not be included in the one-quarter mile computation;
2. No telecommunication tower shall be located on a lot in a residence district, unless said lot is greater than two (2) acres in area and the principal use is other than residential.
3. Telecommunications towers, guy wires, appurtenant equipment and buildings shall comply with the yard and set back requirements of the zoning district in which they are located and, in addition thereto, all telecommunications towers shall be set back at least one hundred feet (100') from any property devoted to residential use or two hundred feet (200') from any residential building, which ever is less.
  1. There are no telecommunications towers within  $\frac{1}{4}$  mile of the proposed installation. In fact, the closest telecommunications tower is the US Cellular installation called West Side Businessman at 431 County Road M. US Cellular has two additional rooftop installations even closer to this proposed facility known as West Town located at 402 Gammon Place and Gammon &

Watts at 725 South Gammon Road. These sites are included in a site inventory and map included at the end of this narrative.

2. The proposed lot is on a parcel zoned PCD.
3. The setback requirements of the district have been met and are indicated on the drawings included at the end of this narrative. There are no adjoining residential uses.

(h) Co-located and Multiple-User Facilities.

1. Unless applicant is submitting an application to locate or co-locate upon an existing tower or structure, an analysis shall be prepared by or on behalf of the applicant, subject to the approval of the Plan Commission, which identifies all subject to the approval of the Plan Commission, which identifies all reasonable, technically feasible, alternative locations and/or facilities which would be useable for the proposed personal wireless services. The intention of the alternatives analysis is to present alternative strategies which would minimize the number, size and adverse environmental impacts, including aesthetics, of facilities necessary to provide the needed services to the City and surrounding rural and urban areas. The analysis shall address the potential for co-location at an existing or a new site and the potential to locate facilities as close as possible to the intended service area. It shall also explain the rationale for selection of the proposed site in view of the relative merits of any of the feasible alternatives. Approval of the project is subject to the Plan Commission making a finding that the proposed site results in fewer or less severe environmental impacts, including aesthetics, than any feasible alternative site. The City may require independent verification by a qualified engineer of this analysis at the applicant's expense.

Facilities which are not proposed to be co-located with another telecommunication facility shall provide a written explanation why the subject facility is not a candidate for co-location.

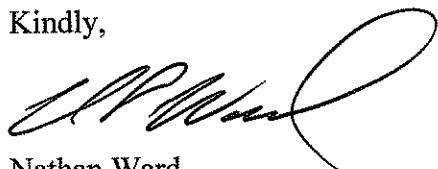
2. All new telecommunications towers shall be structurally and electrically designed to accommodate at least three (3) separate antenna arrays, unless credible evidence is presented that said construction is economically and technologically unfeasible or the Plan Commission determines that for reasons of aesthetics or to comply with the standards of sec. 28.12(11), a telecommunications tower of such height to accommodate three antenna arrays is unwarranted. Multi-user telecommunications towers shall be designed to allow for future rearrangement of antennas and to accept antennas mounted at varying heights. Parking areas, access roads, and utility easements shall be shared by site users, at fair market rates as determined by customary industry standards, when in the determination of the Plan Commission this will minimize overall visual impact to the community.

1. An evaluation of the search area yielded no existing structures that would accommodate an antenna centerline height required for the designed facility. All structures in the area consist of single story and two story commercial building yielding a maximum height of +/- 35' far below the required design height of 65.5'. If the Planning Commission should choose to have an independent analysis performed by a qualified engineer, please let me know if they require additional information for their study.

2. US Cellular and the Highpoint Office Park respectfully request your approval of the two carrier stealth design light standard. The available ground space will accommodate a 2<sup>nd</sup> carrier without negative impact on the use of the property but not for a third carrier. In addition, the light standard and flush mounted antennas are proposed in order to achieve an aesthetically unobtrusive structure. The additional height and girth needed to accommodate a third antenna array would entirely negate the stealth nature of the proposed installation.

Should you have any questions or require additional information, please let me know and it shall be provided in a timely manner. I look forward to discussing the proposal with the Planning Commission.

Kindly,



Nathan Ward  
Buell Consulting, Agent for US Cellular

Cc (via email): Kevin Firchow, Madison Planning & Economic Development  
Patrick Anderson, Madison Neighborhood Preservation & Inspection  
Paul Skidmore, Alder District 9  
Jeff Lee, T Wall Properties  
Terri Bell, T Wall Properties  
Mike Stafford, US Cellular



### **Design Discussion for the proposed Zor site**

This is a general summary of U.S. Cellular's design criteria for our proposed site near D'Onofrio Dr near the Zor Shriners building.

We are calling this site Zor on the attached map. The map shows the location of this site along with other surrounding sites in our system.

US Cellular would like to build a site for the two reasons discussed below:

- Offload existing sites
- Provide better in-building coverage

#### **Offload**

One aim of this site is to offload our existing sites in this area. As seen on the map, there are several sites surrounding this proposed Zor site. These surrounding sites are increasing in call volume, and approaching their traffic limit. This new site will help take some calls traffic from these surrounding sites and delay or eliminate them reaching their call maximum. Once a site reaches its maximum, no new calls may start until existing calls are ended, so offload is important to our system.

This offloading is only needed in high traffic areas. Features that generate large amounts of traffic in this area include: a) The Beltline, b) West Towne Mall and nearby shopping areas and c) the Condominiums and Apartments south of the Beltline.

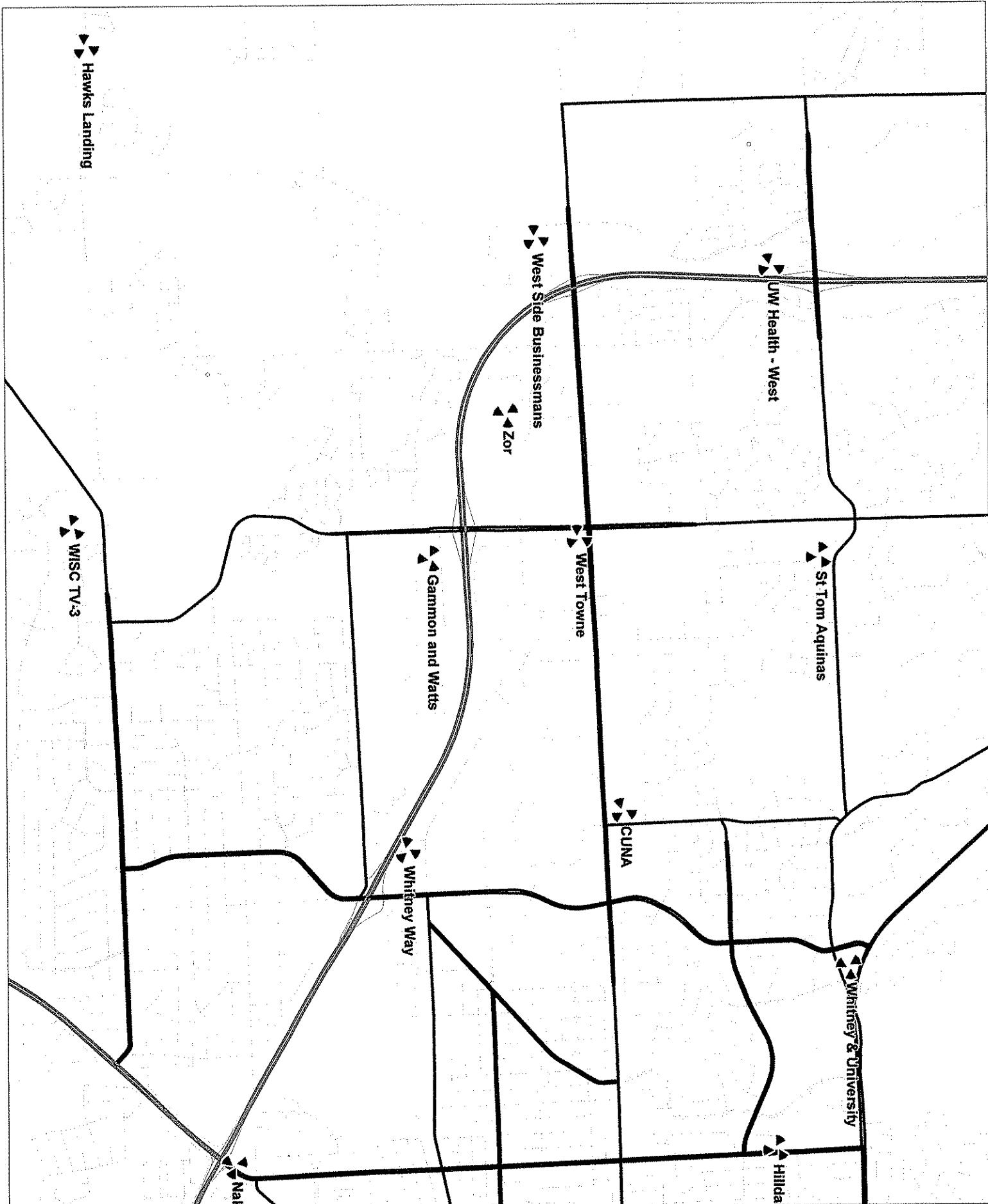
#### **In-building coverage**

Another reason for this site is to provide in-building coverage. Often, if sites are not located close to buildings with focused amounts of cellular traffic, the cellular signal cannot propagate into the building and provide adequate coverage.

Currently we receive many complaints regarding coverage for buildings in this area. This site will be close to these buildings and be able to penetrate their walls and structure much easier.

## EXISTING US CELLULAR SITE ADDRESSES

Site ID	Custom: Address	Custom: City	Custom: State	Custom: Zip
CUNA	5710 Mineral Pt Rd	Madison	WI	53705
Gammon and Watts	725 South Gammon Road	Madison	WI	53719
Hawks Landing	7 Hawks Landing Cir	Madison	WI	53719
Hilldale	310 N. Midvale Blvd.	Madison	WI	53705
Nakoma Plaza	1324-B Midvale Blvd.	Madison	WI	53711
St Tom Aquinas	602 Everglade Dr.	Madison	WI	53717
UW Health - West	451 Junction Rd.	Madison	WI	53719
West Side Businessmans	431 County Road M	Madison	WI	53562
West Towne	402 Gammon Pl.	Middleton	WI	53719
Whitney Way	5606 Medical Circle	Madison	WI	53719
WISC TV-3	7025 Raymond Rd.	Madison	WI	53719





A. U.S. Cellular

**ZOR (#782483)  
MADISON, WISCONSIN  
CONSTRUCTION DRAWINGS  
70' LIGHT POLE  
OCTOBER 2009**

**TITLE SHEET**  
**ZDR [#782483]**  
**MADISON, WISCONSIN**





## LEASE PARCEL "A" DESCRIPTION

A PART OF LOT 3 OF ZOR PLACE, LOCATED IN THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 26, TOWNSHIP OF NORTH, RANGE OF EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN, AS DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID LOT 3; THENCE N89°07'45"E, ALONG THE NORTH LINE OF SAID LOT 3, 27.25 FEET, THENCE S00°52'00"E, 1.50 FEET, TO THE POINT OF BEGINNING, HENCE S00°52'00"E, 28.00 FEET, THENCE N89°07'45"E, 15.00 FEET, THENCE N00°54'00"E, 25.00 FEET, THENCE S00°52'00"E, 15.00 FEET, THENCE N89°07'45"E, 15.00 FEET, THENCE S00°52'00"E, 15.00 FEET, TO THE POINT OF BEGINNING. PARCEL CONTAINS 315 SQUARE FEET. PARCEL IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

## LEASE PARCEL "B" DESCRIPTION

A PART OF LOT 3 OF ZOR PLACE, LOCATED IN THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 26, TOWNSHIP OF NORTH, RANGE OF EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN, AS DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID LOT 3; THENCE N89°07'45"E, ALONG THE NORTH LINE OF SAID LOT 3, 27.25 FEET, THENCE S00°52'00"E, 1.50 FEET, THENCE S00°52'00"E, 3.71 FEET, THENCE S00°52'00"E, 1.50 FEET, THENCE N89°07'45"E, 1.50 FEET, THENCE S00°52'00"E, 1.50 FEET, THENCE S00°52'00"E, 1.50 FEET, TO THE POINT OF BEGINNING. PARCEL CONTAINS 64 SQUARE FEET. PARCEL IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

## 8' UTILITY LICENSE "A" DESCRIPTION

A PART OF LOTS 2 AND 3 OF ZOR PLACE, LOCATED IN THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 26, TOWNSHIP OF NORTH, RANGE OF EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN, AS DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID LOT 3; THENCE N89°07'45"E, ALONG THE NORTH LINE OF SAID LOT 3, 27.25 FEET, THENCE S00°52'00"E, 1.50 FEET, THENCE N89°07'45"E, 15.00 FEET, THENCE S00°52'00"E, 1.50 FEET, TO THE POINT OF BEGINNING; THENCE N89°07'45"E, 15.00 FEET, THENCE N00°52'00"E, 6.00 FEET, TO THE POINT OF TERMINATION. PARCEL IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

## 8' UTILITY LICENSE "B" DESCRIPTION

A PART OF LOTS 2 AND 3 OF ZOR PLACE, LOCATED IN THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 26, TOWNSHIP OF NORTH, RANGE OF EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN, AS DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID LOT 3; THENCE N89°07'45"E, ALONG THE NORTH LINE OF SAID LOT 3, 27.25 FEET, THENCE S00°52'00"E, 1.50 FEET, THENCE N89°07'45"E, 15.00 FEET, THENCE S00°52'00"E, 1.50 FEET, TO THE POINT OF BEGINNING; THENCE N89°07'45"E, 15.00 FEET, THENCE N00°52'00"E, 6.00 FEET, TO THE POINT OF TERMINATION. PARCEL IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

## 20' ACCESS LICENSE DESCRIPTION

A PART OF LOT 3 OF ZOR PLACE, LOCATED IN THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 26, TOWNSHIP OF NORTH, RANGE OF EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN, AS DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID LOT 3; THENCE S21°11'28"E, ALONG THE WEST LINE OF SAID LOT 3, 17.11 FEET, TO THE POINT OF BEGINNING; THENCE N89°22'45"E, 37.93 FEET, THENCE S00°52'00"E, 10.00 FEET, THENCE N00°52'00"E, 13.61 FEET, TO THE POINT OF BEGINNING; THENCE N00°52'00"E, 14.40 FEET, TO THE EXISTING ELECTRICAL TRANSFORMER. PARCEL IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

## 20' ACCESS LICENSE DESCRIPTION

A PART OF LOT 3 OF ZOR PLACE, LOCATED IN THE SOUTHEAST 1/4 OF THE NORTHEAST 1/4 OF SECTION 26, TOWNSHIP OF NORTH, RANGE OF EAST, CITY OF MADISON, DANE COUNTY, WISCONSIN, AS DESCRIBED AS FOLLOWS:

COMMENCING AT THE NORTHEAST CORNER OF SAID LOT 3; THENCE S21°11'28"E, ALONG

THE WEST LINE OF SAID LOT 3, 17.11 FEET, TO THE POINT OF BEGINNING; THENCE S21°11'28"E, 37.93 FEET, THENCE S00°52'00"E, 10.00 FEET, THENCE N00°52'00"E, 13.61 FEET, TO THE POINT OF BEGINNING; THENCE N00°52'00"E, 14.40 FEET, TO THE EXISTING ELECTRICAL TRANSFORMER. PARCEL IS SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

PARCEL 13 SUBJECT TO EASEMENTS AND RESTRICTIONS OF RECORD.

PROJECT: ZOR

SITE: #782483

SURVEYED FOR:

U.S. CELLULAR

511 W. TERRACE DRIVE

MADISON, WI 53707

PROPERTY OWNER:

HIGH POINT OFFICE

PARK, LLC

P.O. BOX 7700

MADISON, WI 53707

Zone: Property Community

Post Office Box: 5502504005

Effective Date: June 17, 2003.

TOWER

Latitude: N43° 03' 22.52"

Longitude: W083° 30' 43.74"

Ground Elevation: 1067.9'

Par: North American

Datum: NAD 1983(HARN)

Par: National Geodetic

Vertical Datum: of 1929

2

PROJECT: ZOR

SITE: #782483

SURVEYED FOR:

U.S. CELLULAR

511 W. TERRACE DRIVE

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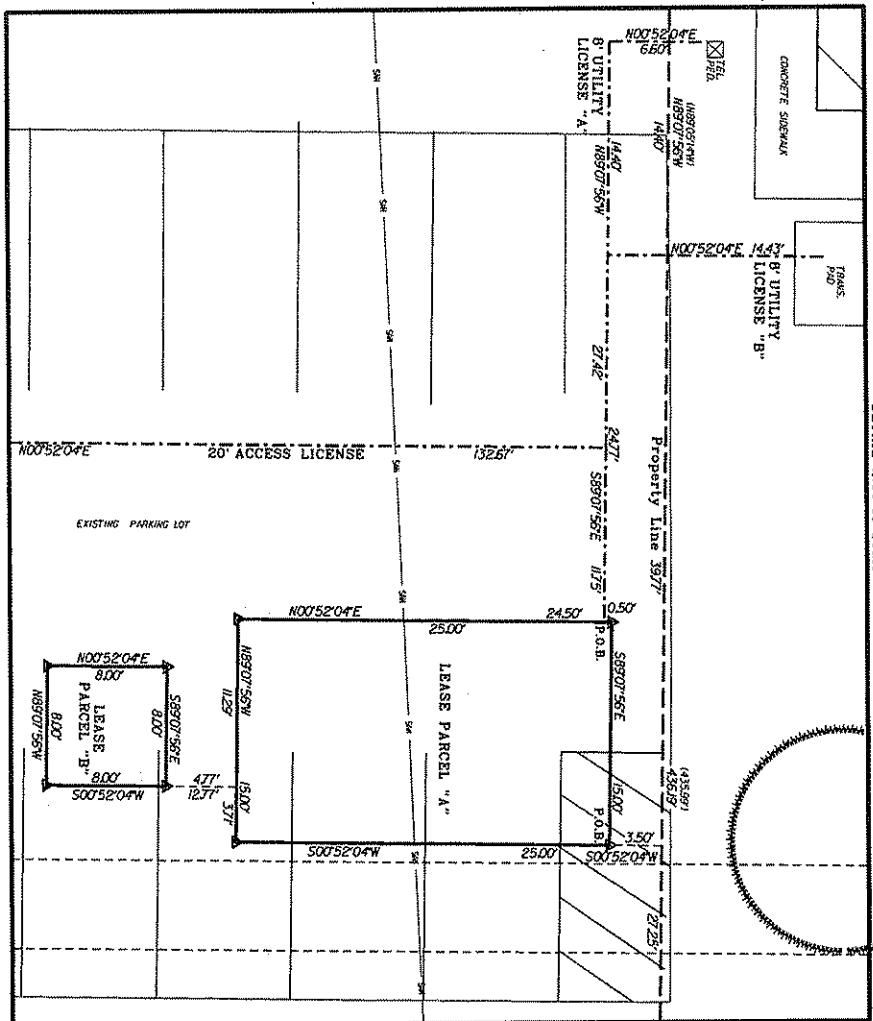
Ground Elevation: 1067.9'

Par: North American

Datum: NAD 1983(HARN)

Par: National Geodetic

Vertical Datum: of 1929



FILE PATH	DRAFTER	REVISER	REVISIONS
PROJECTS\782483\	MR	05/15/09	REMOVED LEASE PARCEL
11440900024	REIGEL	1	CHANGED LEASE PARCEL
JOB NUMBER	SURVEYING	3	CHANGED EASEMENT TO LICENSE

2-2

## GENERAL REQUIREMENTS

22. CULTURAL WELL LOGGED AND PAID FOR ANY NEEDS FOR ELECTRIC AND STEAM HEAT INSULATIONS TO THE POINT OF TRANSMISSION AS SHOWN ON THE PRINTED PLANS. CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING WITH THE OWNER TO DETERMINE THE APPROPRIATE PLACEMENT OF THESE INSULATIONS.

23. CULTURAL MAY REIN IN THE SERVICES OF A THIRD LABORATORY TO PERFORM GRAIN INSURANCE TESTS ON WHEAT/SPRING WHEAT OR THE CONTRACTOR WORK WHEN REQUESTED. THE CONTRACTOR SHALL INFORM THE TESTING LABORATORY AND ASK THEM TO COMMENCE TESTS.

24. THE CONTRACTOR SHALL PROVIDE ANY SUPPORTS OR ACCESSORIES AS NECESSARY TO COMPLETE THE WORK. EQUIPMENT, IF NOT PROVIDED BY THE OWNER, SHALL BE PROVIDED BY THE CONTRACTOR.

25. EQUIPMENT, IF NOT PROVIDED BY THE OWNER, SHALL BE PROVIDED BY THE CONTRACTOR.

**SPECIFICATIONS**  
**ZDR [#7824B3]**  
**MADISON, WISCONSIN**



Consulting Engineers, Inc.  
624 Water Street  
P.O. Box 500, WI 53573  
608-644-1649 voice  
202-344-3000 fax

2

9. THE CONTRACTOR SHALL VERIFY APPROVAL OF CONSTRUCTION OF THE PROJECT IS OBTAINED.  
AND ALL APPROVED PLANS, SPECIFICATIONS, DRAWINGS AND TECHNICAL REQUIREMENTS ARE CONTRACTED AS INDICATED ON THE PLANS.  
10. TOWER, TOWER FOUNDATIONS, TOWER, BIM, MODULAR BUILDINGS, AND ELECTRICAL AND MECHANICAL FEATURES  
ARE TO BE DESIGNED AND SPECIFIED BY CIBEL.  
11. PRODUCTION - ALL MEASURES SHALL BE INSPECTED DAILY AND BIWEEKLY FOLLOWING:  
ALL RAILROAD WORKS. ALL OPERATIONS SHALL BE MONITORED AND REPAIRS MADE DAILY.  
12. PILES OF STAINLESS STEEL, STEEL, AND ALUMINUM SHALL BE ACCORDING TO THE RECOMMENDED PLAN. THE CONTRACTOR SHALL  
INSPECT THE USE OF THESE MATERIALS AND ASSEMBLE THE RECOMMENDED PLAN. THE CONTRACTOR SHALL  
SHALL SET UP THE PLATE TO ENSURE A BIAS IS PREVENTED DURING CONSTRUCTION.

#### EROSION CONTROL

1. CONTRACTOR SHALL PROVIDE EROSION CONTROL MEASURES IN ACCORDANCE WITH THE MOST RECENT  
CITY PLANS, SPECIAL PROVISIONS, THE WISCONSIN DEPARTMENT OF NATURAL RESOURCES  
WISCONSIN CONSTRUCTION SITE MANAGEMENT PRACTICE HANDBOOK, OR LOCAL ORDINANCES.  
2. EROSION CONTROL MEASURES SHALL BE ACCORDING TO THE WISCONSIN CONSTRUCTION SITE MANAGEMENT PRACTICE HANDBOOK AND LOCAL ORDINANCES.  
3. EROSION CONTROL MEASURES SHALL BE ACCORDING TO THE WISCONSIN CONSTRUCTION SITE MANAGEMENT PRACTICE HANDBOOK AND LOCAL ORDINANCES.

#### ROAD AND PARKING AREA CONSTRUCTION

1. REPAIRS TO EXISTING ROADWAYS AND PARKING AREAS IN ACCORDANCE WITH THE ROADWAY SECTION.

2. PAVING OF NEW ROAD TO SATISFY USEABLE MATERIAL. RECOMMENDED MATERIAL, RECOMMENDED MATERIAL, SHALL  
BE APPROVED BY THE CONTRACTOR.

3. PAVING OF NEW ROAD TO SATISFY USEABLE MATERIAL. RECOMMENDED MATERIAL, RECOMMENDED MATERIAL, SHALL  
BE APPROVED BY THE CONTRACTOR.

4. PAVING OF NEW ROAD TO SATISFY USEABLE MATERIAL. RECOMMENDED MATERIAL, RECOMMENDED MATERIAL, SHALL  
BE APPROVED BY THE CONTRACTOR.

5. PLACE, REMOVE AND REUSE EXISTING MATERIALS. RECOMMENDED MATERIAL, RECOMMENDED MATERIAL, SHALL  
BE APPROVED BY THE CONTRACTOR.

6. USE OF EXISTING MATERIALS SHALL MEET THE REQUIREMENTS OF ASTM C292, WATER RESISTANCE, AND OTHERS SHALL  
MEET THE REQUIREMENTS OF ASTM C307, WATER RESISTANCE, AND OTHERS.

7. CONCRETE SHALL BE MADE OF CEMENT, AGGREGATE, WATER, AND AIR. CONCRETE, NORMAL TYPE, PORKLAND,  
FINE AND COARSE AGGREGATES FOR CONCRETE OR AGGREGATE, NORMAL TYPE, PORKLAND,  
PORKLAND CONCRETE, AND OTHERS. RECOMMENDED MATERIAL, RECOMMENDED MATERIAL, SHALL BE  
MADE OF CEMENT, AGGREGATE, WATER, AND AIR. CONCRETE, NORMAL TYPE, PORKLAND, OR OTHERS SHALL  
MEET THE REQUIREMENTS OF ASTM C307, WATER RESISTANCE, AND OTHERS.

8. CONCRETE BASES SHALL BE 6 INCH THICK, PORKLAND, METRIC BE REQUIREMENTS OF ASTM C307.

9. CONCRETE FLOORING SHALL BE 6 INCH THICK, PORKLAND, METRIC BE REQUIREMENTS OF ASTM C307.

10. ALL CONSTRUCTION AND DEMOLITION WASTE SHALL BE RECYCLED FOR THE FLOWDOWN.

11. ALL CONCRETE CONSTRUCTION SHALL BE CHARGED FOR "LABELED CONCRETE".

12. ALL CONCRETE CONSTRUCTION SHALL BE CHARGED FOR "LABELED CONCRETE".

13. INHIBITORS, CEMENT, AND OTHERS SHALL BE USED IN CONCRETE, AND OTHERS SHALL BE USED IN CONCRETE.

14. ALL CONCRETE CONSTRUCTION SHALL BE CHARGED FOR "LABELED CONCRETE".

15. CONCRETE CONSTRUCTION SHALL BE CHARGED FOR "LABELED CONCRETE".

16. REPAIRS TO EXISTING CONCRETE IN ACCORDANCE WITH PROJECT PLANS AND BID DOCUMENTS. DO NOT PLACE  
CONCRETE ON FROZEN SURFACE.

17. PROVIDE CEMENT, AGGREGATE, AND OTHERS TO ALLOW CONCRETE TO ALLOW FOR INSPECTION.

18. AND CONCRETE SETTING.

19. INHIBITORS, CEMENT, AND OTHERS SHALL BE USED IN CONCRETE, AND OTHERS SHALL BE USED IN CONCRETE.

20. AND CONCRETE CONSTRUCTION SHALL BE CHARGED FOR "LABELED CONCRETE".

21. INHIBITORS, CEMENT, AND OTHERS SHALL BE USED IN CONCRETE, AND OTHERS SHALL BE USED IN CONCRETE.

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39. INHIBITORS, CEMENT, AND OTHERS SHALL BE USED IN CONCRETE, AND OTHERS SHALL BE USED IN CONCRETE.

PIPE SIZE	% INHIBITORS
3"	100
1 1/2"	0.00
1 1/4"	0.00
1 1/8"	0.00

PIPE SIZE	% INHIBITORS
2"	100
1 1/2"	0.00
1 1/4"	0.00
1 1/8"	0.00

PIPE SIZE	% INHIBITORS
2"	100
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1 1/4"	0.00
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PIPE SIZE	% INHIBITORS
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1 1/2"	0.00
1 1/4"	0.00
1 1/8"	0.00

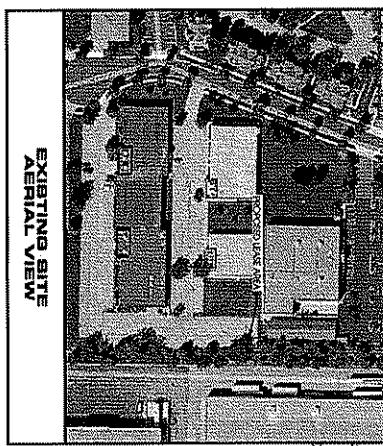
PIPE SIZE	% INHIBITORS
2"	100
1 1/2"	0.00
1 1/4"	0.00
1 1/8"	0.00

PIPE SIZE	% INHIBITORS
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PIPE SIZE	% INHIBITORS
2"	100
1 1/2"	0.00
1 1/4"	0.00



**EXISTING SITE  
AERIAL VIEW**



10

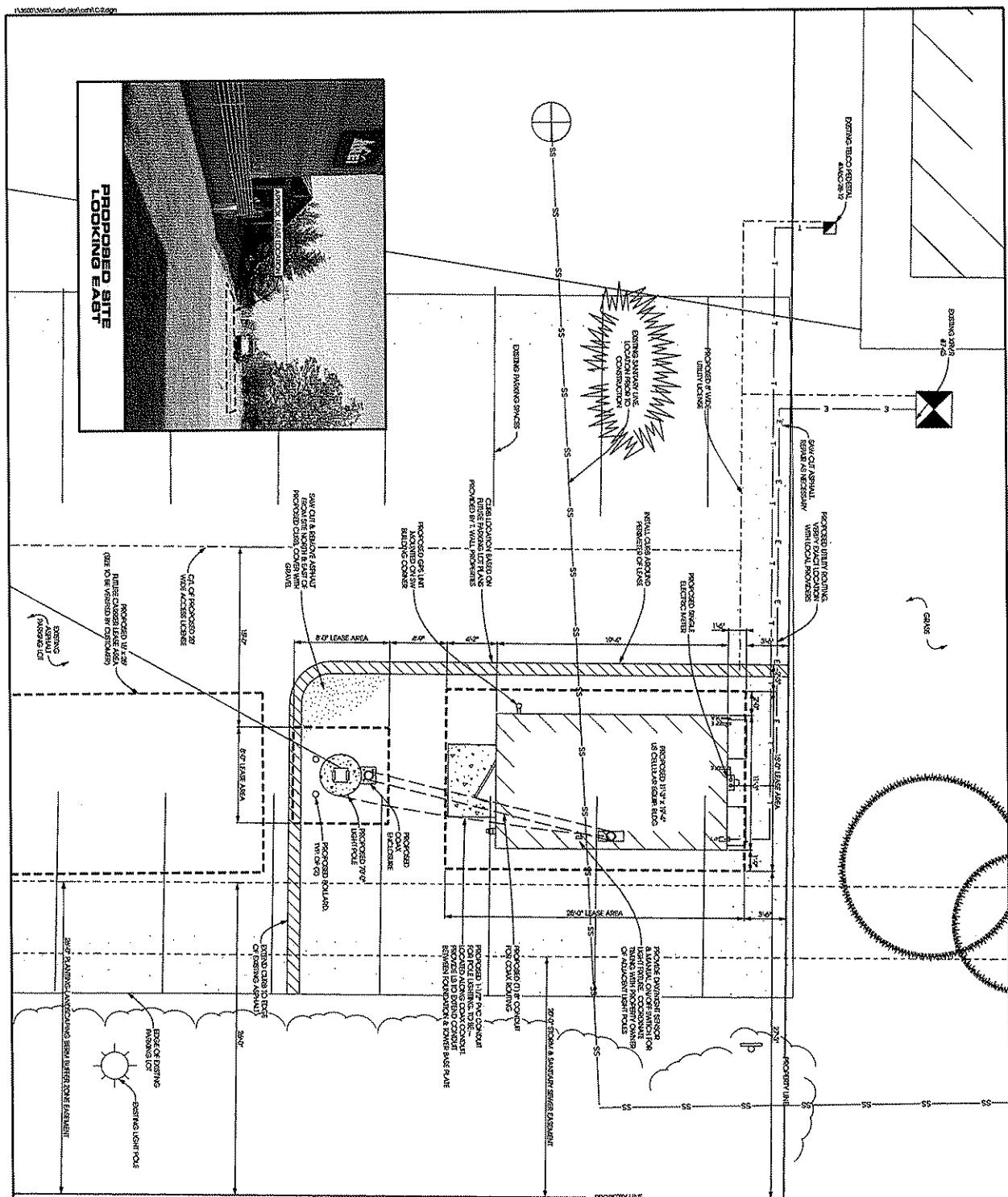
**SITE PLAN  
ZOR [#782483]  
MADISON, WISCONSIN**



913



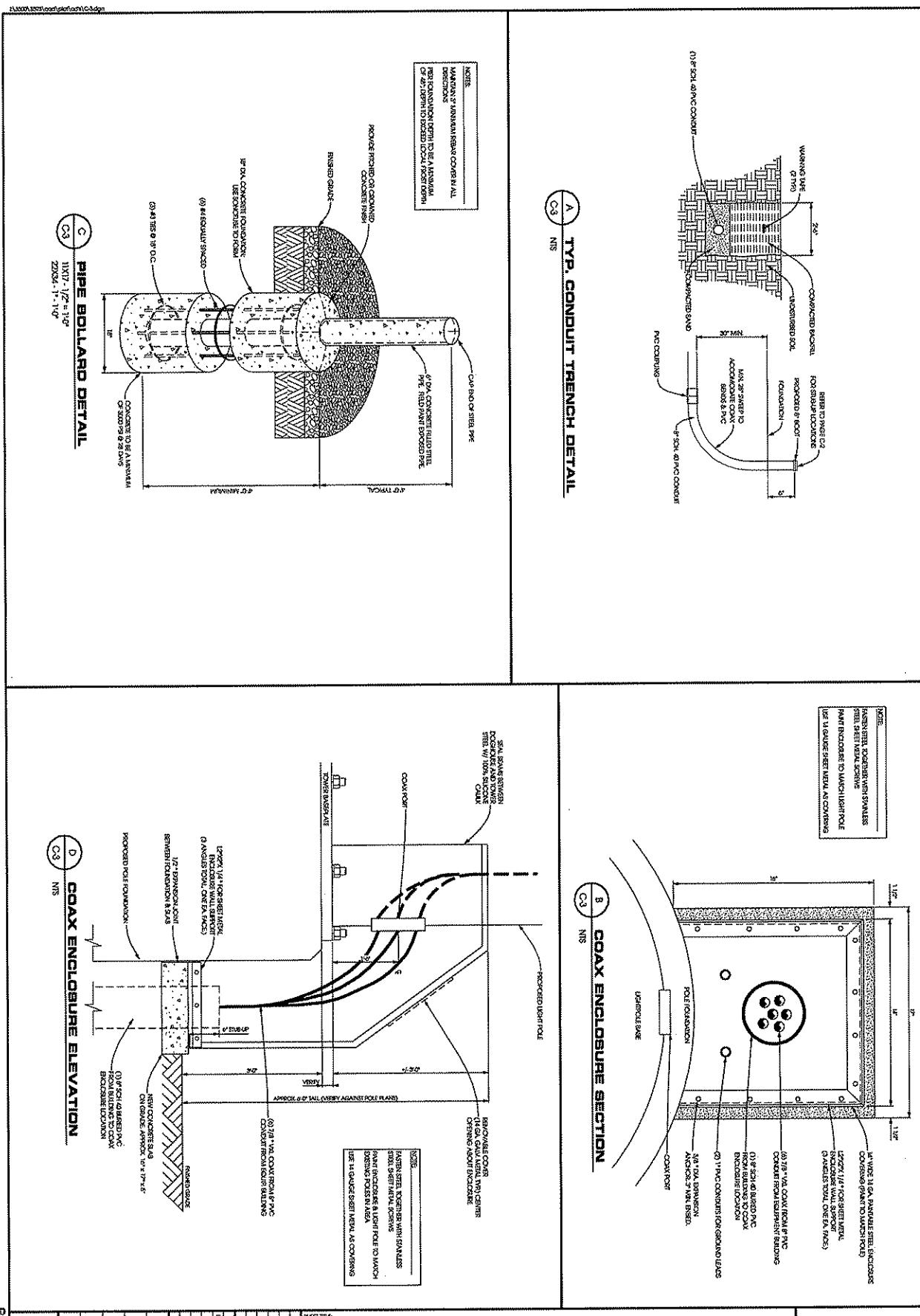
2



**COMPOUND PLAN  
ZOR (#782483)  
MADISON, WISCONSIN**

**Edge**  
Consulting Engineers, Inc.  
624 Water Street  
Pratiro du Sac, WI 53578  
608.844.1449 voice  
262.364.5000 fax  
[www.edgeconsult.com](http://www.edgeconsult.com)

2



**CONSTRUCTION DETAILS**  
**ZOR (#782483)**  
**MADISON, WISCONSIN**

**Edge**  
Consulting Engineers, Inc.  
624 Water Street  
Portof the Sac, WI 53576  
608.644.1499 voice  
262.344.3000 fax  
[www.edgeconsult.com](http://www.edgeconsult.com)









#### ANTENNA AND COAXIAL CABLE INSTALLATION

##### LOSSES

THE SECTION COVER THE SPECIFICATIONS FOR ANTENNA AND COAXIAL CABLE INSULATION AND COLOR.

##### ANTENNA

ANTENNA SHALL BE TURNED AND INSULATED SO THAT IT CAN NOT SWING ABOVE.

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**MANUFACTURERS**

A. ALL CONNECTIONS AND GROUNDS SHALL BE MADE PROPERLY AND SECURELY.

NOTE: NO PORTION OF CONDUCTOR SHALL BE EXPOSED TO THE ELEMENT.

B. COAXIAL CABLE SHALL BE GROUNDED USING GROUNDS WIRE ATTACHED TO THE GROUNDED GROUND BOLT AND SPACED 12 INCHES FROM THE GROUNDED GROUND BOLT AND SPACED 12 INCHES FROM THE GROUNDED GROUND BOLT.

C. GROUNDED GROUNDS SHALL BE TIGHTLY ATTACHED TO THE GROUNDED GROUND BOLT AND SPACED 12 INCHES FROM THE GROUNDED GROUND BOLT.

D. GROUNDED GROUNDS SHALL BE TIGHTLY ATTACHED TO THE GROUNDED GROUND BOLT AND SPACED 12 INCHES FROM THE GROUNDED GROUND BOLT.

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www.edgeconsult.com

#### ANTENNA COLOR CODING

1. **WHITE** (SOUTH, SOUTHEAST, SOUTHWEST, SOUTHEAST)

2. **BLACK** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

3. **RED** (EAST, EASTNORTH, EASTSOUTH, EASTSOUTH)

4. **GREEN** (WEST, WESTNORTH, WESTSOUTH, WESTSOUTH)

5. **BLUE** (NORTHWEST, NORTHEAST, EASTNORTH, EASTSOUTH)

6. **ORANGE** (NORTHEAST, EASTNORTH, EASTSOUTH, EASTSOUTH)

7. **YELLOW** (NORTH, NORTHWEST, WESTNORTH, WESTSOUTH)

8. **PURPLE** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

9. **PINK** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

10. **TEAL** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

11. **WHITE** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

12. **BLACK** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

13. **RED** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

14. **GREEN** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

15. **BLUE** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

16. **ORANGE** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

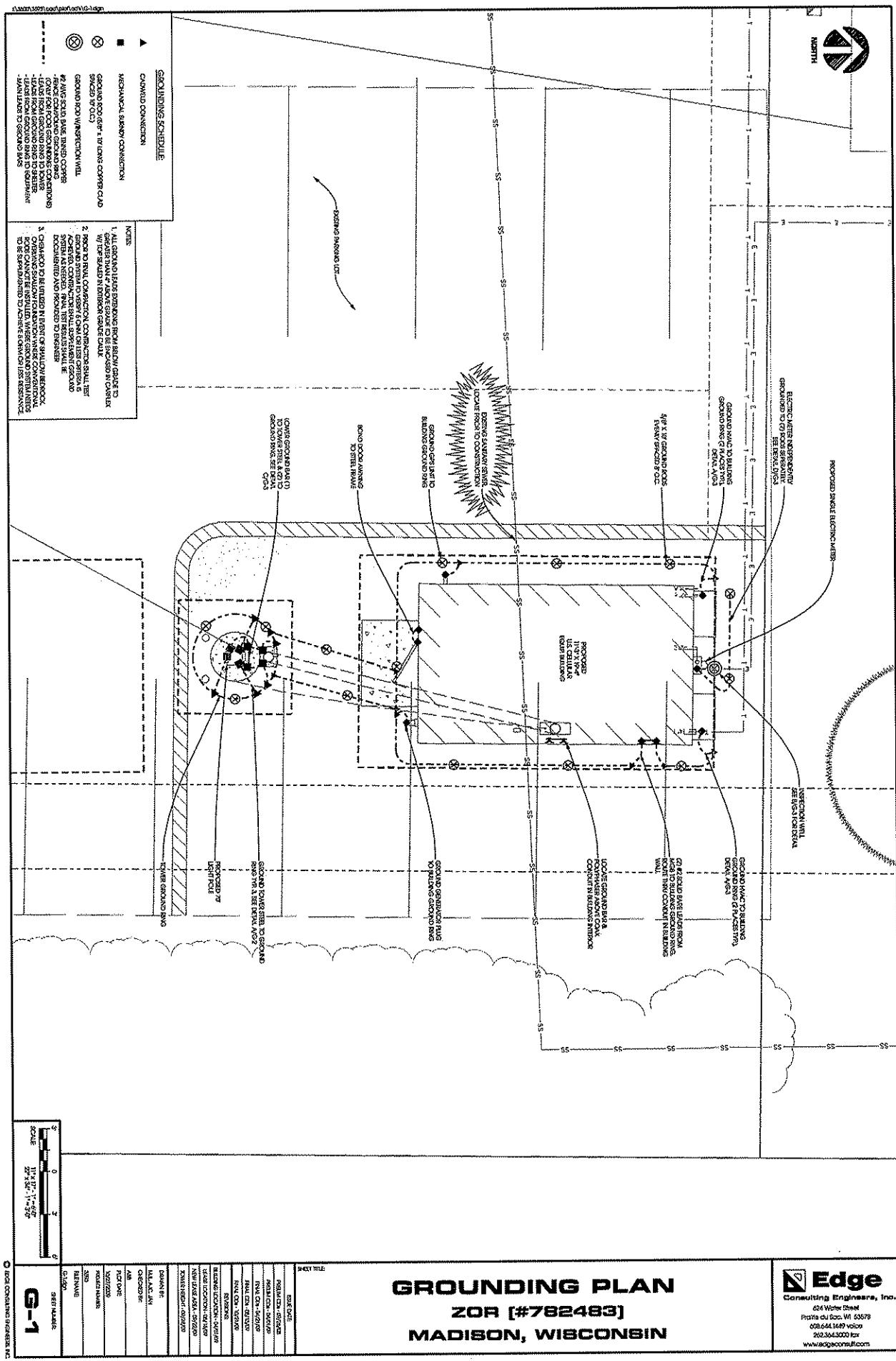
17. **YELLOW** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

18. **PURPLE** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

19. **PINK** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

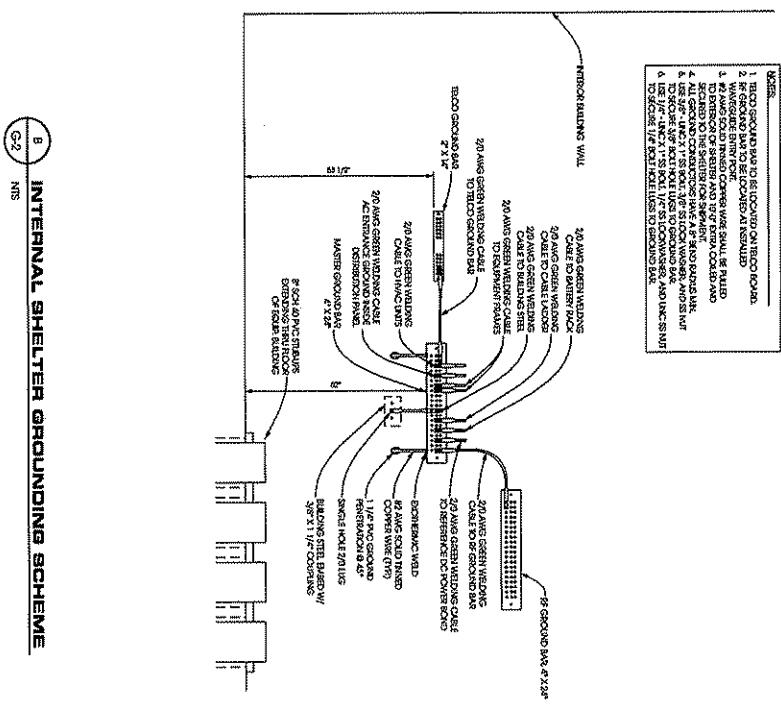
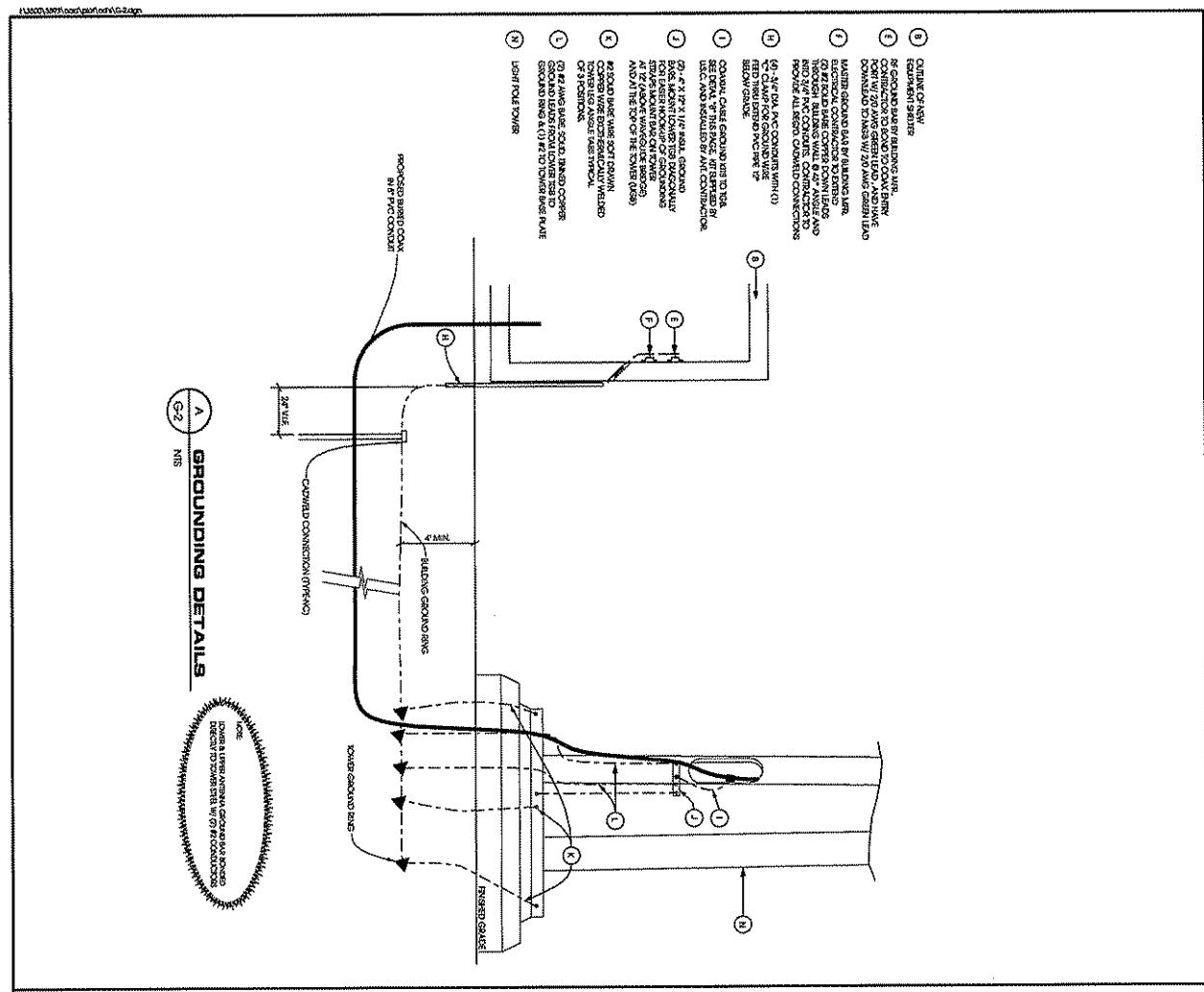
20. **TEAL** (NORTH, NORTHWEST, NORTHEAST, NORTHEAST)

**ANTENNA INSTALLATION NOTES**  
ZOR (#782483)  
MADISON, WISCONSIN



**GROUNDING PLAN  
ZOR [#782483]  
MADISON, WISCONSIN**

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## INTERNAL SHELTER GROUNDING SCHEME

10

**GROUNDING DETAILS**

**GROUNDING DETAILS**  
**ZOR [#782483]**  
**MADISON, WISCONSIN**

**GROUNDING DETAILS**  
**ZOR (#782483)**  
**MADISON, WISCONSIN**

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**CABLE GROUNDING AT TOWER**

**ELEC. METER GROUND DETAIL**

GROUNDING SYSTEM NOTES

1.1 INSULATED COUPLERS SHALL BE USED FOR GROUNDING. THE AREA OF COUPLERS ARE DETERMINED BY THE LENGTH OF THE GROUND WIRE. THE COUPLERS ARE TO BE USED IN PAIRS.

1.2 GROUNDING WIRE SHALL BE 10 GAUGE COPPER OR STEEL, 15 FT LONG. GROUND COUPLERS SHALL BE EQUALLY SPACED ALONG THE LENGTH OF THE GROUND WIRE. GROUND COUPLERS AND COUPLED WIRE ARE TO BE USED IN PAIRS.

2.1 ALL GROUNDED COUPLERS SHALL BE GROUNDED IN A COUPLED POSITION AND NOT COUPLED IN A GROUNDED POSITION.

2.2 GROUNDED COUPLERS SHALL BE GROUNDED IN A COUPLED POSITION TO USE THE COUPLERS AS GROUND RESISTANCE.

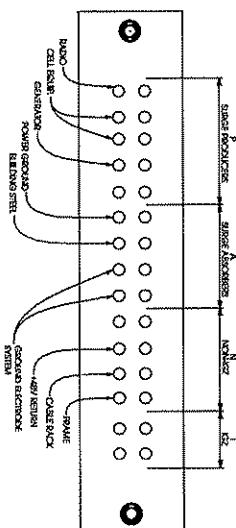
2.3 ALL COUPLED COUPLERS ARE TO BE GROUNDED IN A COUPLED POSITION. IF PROBLEMS ARE TO EXIST, A COUPLED COUPLER IS TO BE USED AS A GROUNDED COUPLER. THE COUPLED COUPLER IS TO BE COUPLED WITH COUPLED GROUNDED COUPLERS.

2.4 CONSTRUCTION SHALL PROVIDE PHOTO DOCUMENTATION OF THE GROUND SYSTEM BY PROVIDING A COPY IN CELIAAD.

2.5 REQUIRED PHOTO'S SHALL INCLUDE:

- ALL BOND WIRE AND COUPLED GROUND CONNECTIONS.
- TOWER COUPLED POSITION.
- BONDING COUPLER.
- CONDUIT COUPLER (TECO AL, FRIGIDAIR, GE, SINGER, ETC).

2.6 CONSTRUCTION SHALL PROVIDE A BONDING PLATE SHOWING COUPLES AND DIMENSIONS OF BOND COUPLES.



**GROUNDING NOTES**  
**ZOR [#782483]**  
**MADISON, WISCONSIN**

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## ELECTRICAL NOTES

### GENERAL

#### A. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND SERVICE.

C. CONTRACTOR SHALL PROVIDE ALL LABOR, MATERIALS, AND SERVICE, EXCEPT FOR THE CONTRACTOR'S OWN LABOR, MATERIALS, AND SERVICE, WHICH ARE TO BE PROVIDED BY THE CONTRACTOR'S OWN ELECTRICAL CONTRACTOR.

D. CONTRACTOR IS TO PROVIDE AN INDIVIDUAL COMPANY FOR CONNECTION OF POWER AND AUTOMATIC COGS TO BE READ BY CONTRACTOR.

E. CONTRACTOR SHALL PROVIDE ALL NECESSARY ALLOWS, LUMPS, ETC.

F. CONTRACTOR IS TO PROVIDE AN INDIVIDUAL COMPANY FOR CONNECTION OF POWER AND AUTOMATIC COGS TO BE READ BY CONTRACTOR.

G. CONTRACTOR IS TO PROVIDE AN INDIVIDUAL COMPANY FOR CONNECTION OF POWER AND AUTOMATIC COGS TO BE READ BY CONTRACTOR.

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KK. CONTRACTOR IS TO PROVIDE AN INDIVIDUAL COMPANY FOR CONNECTION OF POWER AND AUTOMATIC COGS TO BE READ BY CONTRACTOR.

### MATERIALS, ELECTRICAL WORKS, AND SERVICES

#### A. ALL CIRCUIT BREAKERS, REED CONTACTORS, AND ELECTRICAL EQUIPMENT

SHALL HAVE AN APPROVING PLATE CASTED TO WHICH THEY ARE SELECTED AND A MANUFACTURER OF TURBINE AND POWER UNITS FOR PERFORMANCE.

B. PLASTIC PAPER, FOAM, MASONITE, REED CONTACTORS, AND ELECTRICAL EQUIPMENT

SHALL HAVE AN APPROVING PLATE CASTED TO WHICH THEY ARE SELECTED AND A MANUFACTURER OF TURBINE AND POWER UNITS FOR PERFORMANCE.

C. REED CONTACTORS, VOLTAGE AND NUMBER OF PHASES SHALL BE AS

APPROVED BY COMPANY.

D. INSULATION OF ELECTRICAL METAL TUBING (MATERIAL CONFORM WITH APPROVAL).

E. INSULATION OF WIRING, TERMINAL, CONDUIT, AND INSULATED CLOTHING

SHALL BE APPROVED BY COMPANY.

F. PLASTIC CONDUIT, PLASTIC TUBING, AND INSULATED CLOTHING

SHALL BE APPROVED BY COMPANY.

G. PLASTIC CONDUIT, PLASTIC TUBING, AND INSULATED CLOTHING

SHALL BE APPROVED BY COMPANY.

H. PLASTIC CONDUIT, PLASTIC TUBING, AND INSULATED CLOTHING

SHALL BE APPROVED BY COMPANY.

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J. PLASTIC CONDUIT, PLASTIC TUBING, AND INSULATED CLOTHING

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Q. PLASTIC CONDUIT, PLASTIC TUBING, AND INSULATED CLOTHING

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R. PLASTIC CONDUIT, PLASTIC TUBING, AND INSULATED CLOTHING

SHALL BE APPROVED BY COMPANY.

S. PLASTIC CONDUIT, PLASTIC TUBING, AND INSULATED CLOTHING

SHALL BE APPROVED BY COMPANY.

### SCOPE OF WORK

#### A. THE CONTRACTOR SHALL PROVIDE ALL ELECTRICAL WORKS AND EQUIPMENT

UNLESS OTHERWISE INDICATED, MANUFACTURERS ARE STATED AS FOLLOWS:

1. LOCAL ELECTRICAL SERVICE, INSTITUTIONAL POWER COMPANY, LOCAL TELEPHONE COMPANY AS INDICATED ON THE DRAWINGS.

2. PROVIDE THE MORE CONVENIENT WITH FULL WIRE AS INDICATED HEREIN AND ON DRAWINGS.

3. CONTRACTOR'S ELECTRICAL SERVICE, INSTITUTIONAL POWER COMPANY, LOCAL TELEPHONE COMPANY AS INDICATED ON THE DRAWINGS.

4. PROVIDE GROUNDS AS INDICATED.

5. ONE SET OF COMPLETE ELECTRICAL ASSEMBLIES OR PARTS DRAWINGS AS INDICATED ON DRAWINGS.

6. CONTRACTOR'S ELECTRICAL ASSEMBLIES OR PARTS DRAWINGS AND GROUNDS AS INDICATED ON DRAWINGS.

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34. CONTRACTOR'S ELECTRICAL ASSEMBLIES OR PARTS DRAWINGS AND GROUNDS AS INDICATED ON DRAWINGS.





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**PHOTO SIMULATION NOTES:**

-THESE PHOTO SIMULATIONS ARE AN INTERPRETATION OF THE GENERAL APPEARANCE OF THE PROPOSED INSTALLATION. EACH PHOTO SIMULATION IS BASED ON THE SCALING CRITERIA OR ASSUMPTIONS IDENTIFIED.

THE FINAL TOWER DESIGN AND DIMENSIONS WERE NOT AVAILABLE AT THE TIME THE PHOTO SIMULATION WAS PREPARED. THEREFORE, A TYPICAL TOWER/ANTENNA OF SIMILAR SIZE WAS UTILIZED FOR THE PICTURES.

AN OBJECT OF KNOWN HEIGHT WAS NOT AVAILABLE FOR REFERENCE IN THE DIRECT VICINITY OF THE TOWER LOCATION, LIMITING RELIABILITY OF THE HEIGHT INTERPRETATION

**THE HORIZON LINE AT THE PROPOSED TOWER BASE IS NOT VISIBLE.  
A HORIZON LINE HAS BEEN ESTIMATED AT THE TOWER BASE FOR THIS  
PHOTO SIMULATION.**

ARTISTIC INTERPRETATIONS UTILIZED TO ESTIMATE THE APPROXIMATE TOWER SIZE AND APPEARANCE

PHOTO SIMULATIONS GENERATED USING A SIMILAR TOWER OF SIMILAR HEIGHT AT A SIMILAR DISTANCE. ARTISTIC INTERPRETATIONS

USED TO ESTIMATE THE APPROXIMATE LOWER SIZE AND  
APPEARANCE

PHOTO LOCATION DESCRIPTION: \_\_\_\_\_  
PHOTO SIM 1  
- TAKEN FROM PARKING LOT NEAR U.W. HEALTH BUILDING

- APPROXIMATE ELEVATION OF PHOTOGRAPH LOCATION  
- GROUND ELEVATION: 1074'; TOWER ELEVATION: 1073'  
**PHOTO SIM 2**  
- TAKEN FROM PARKING LOT NEAR BEST BUY BUILDING

PHOTO SIM 3  
- TAKEN FROM THE TURN AROUND OF THE ZOR SHRINE PL.  
- GROUND ELEVATION: 1070; TOWER ELEVATION: 1073  
APPROXIMATE ELEVATION OF PHOTOGRAPH LOCATION

APPROXIMATE ELEVATION OF PHOTOGRAPH LOCATION  
- GROUND ELEVATION: 1078; TOWER ELEVATION: 1073  
**PHOTO SIM 4**  
- TAKEN FROM ZOR SHRINE ST. & POINT ST.

PHOTO SIM 5  
- TAKEN FROM ZOR SHRINE PL AND BUILDING  
- GROUND ELEVATION: 1081'; TOWER ELEVATION: 1073'  
APPROXIMATE ELEVATION OF PHOTOGRAPH LOCATION

APPROXIMATE ELEVATION OF PHOTOGRAPH LOCATION  
- GROUND ELEVATION: 1081'; TOWER ELEVATION: 1073'  
PHOTO SIM 6  
- TAKEN FROM WEST BELTLINE HWY 12 / 14

APPROXIMATE ELEVATION OF PHOTOGRAPH LOCATION  
- GROUND ELEVATION: 102'; TOWER ELEVATION: 1073'

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111

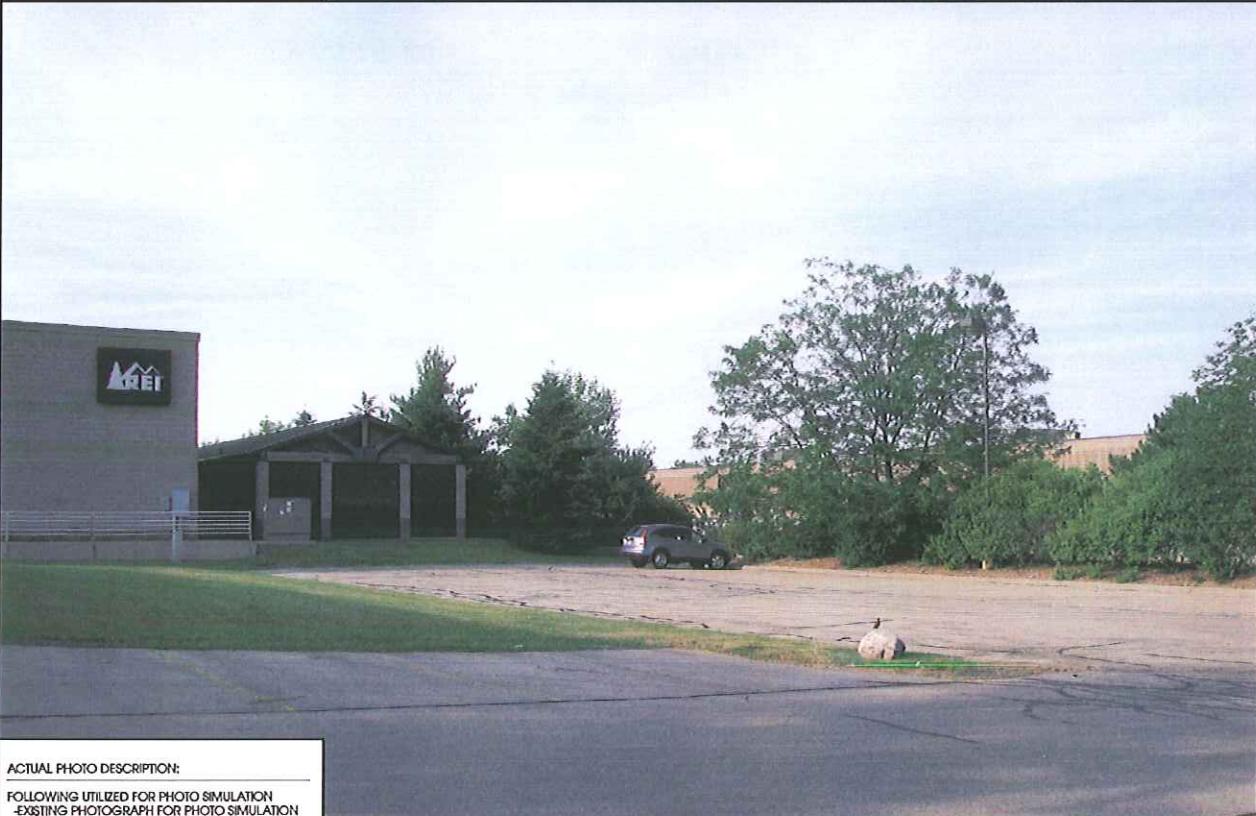
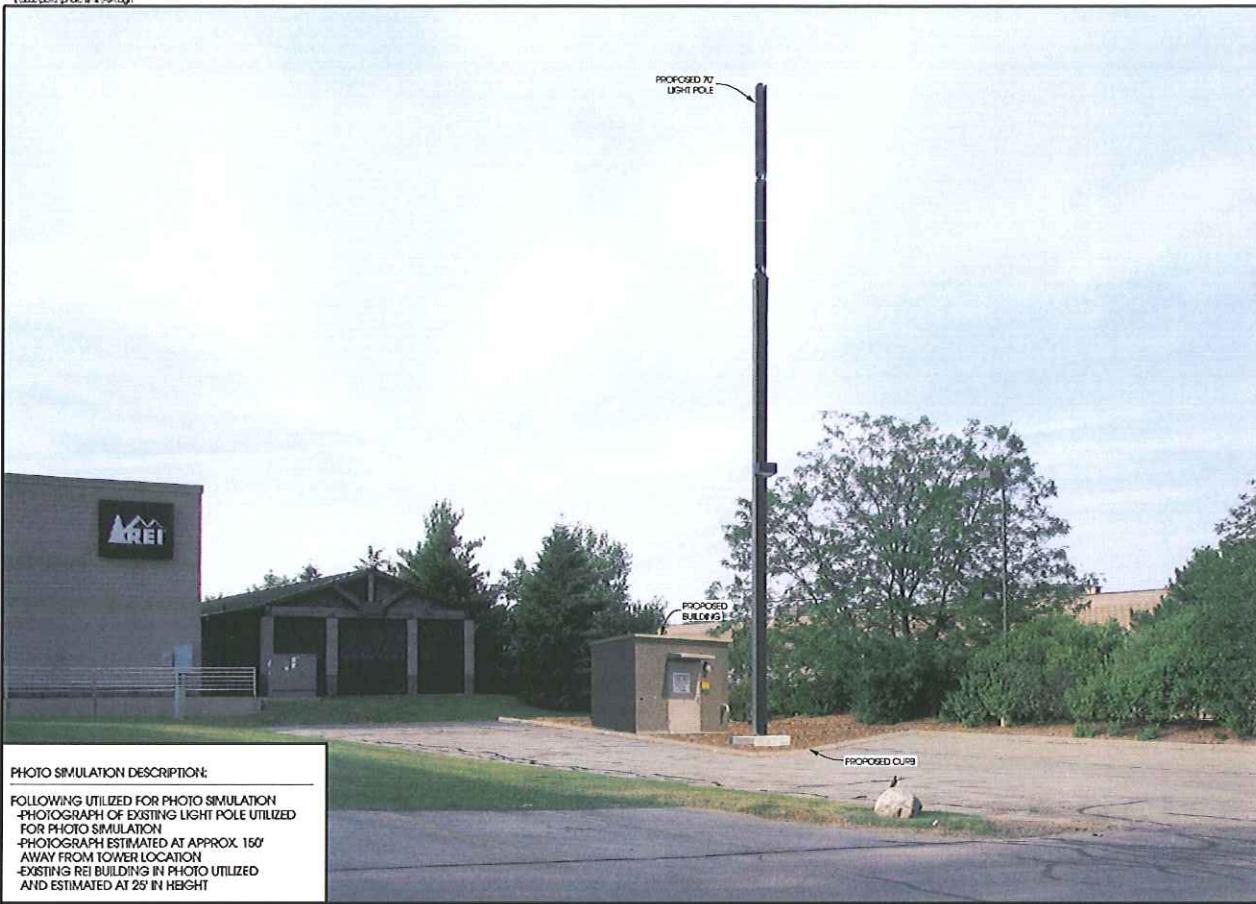


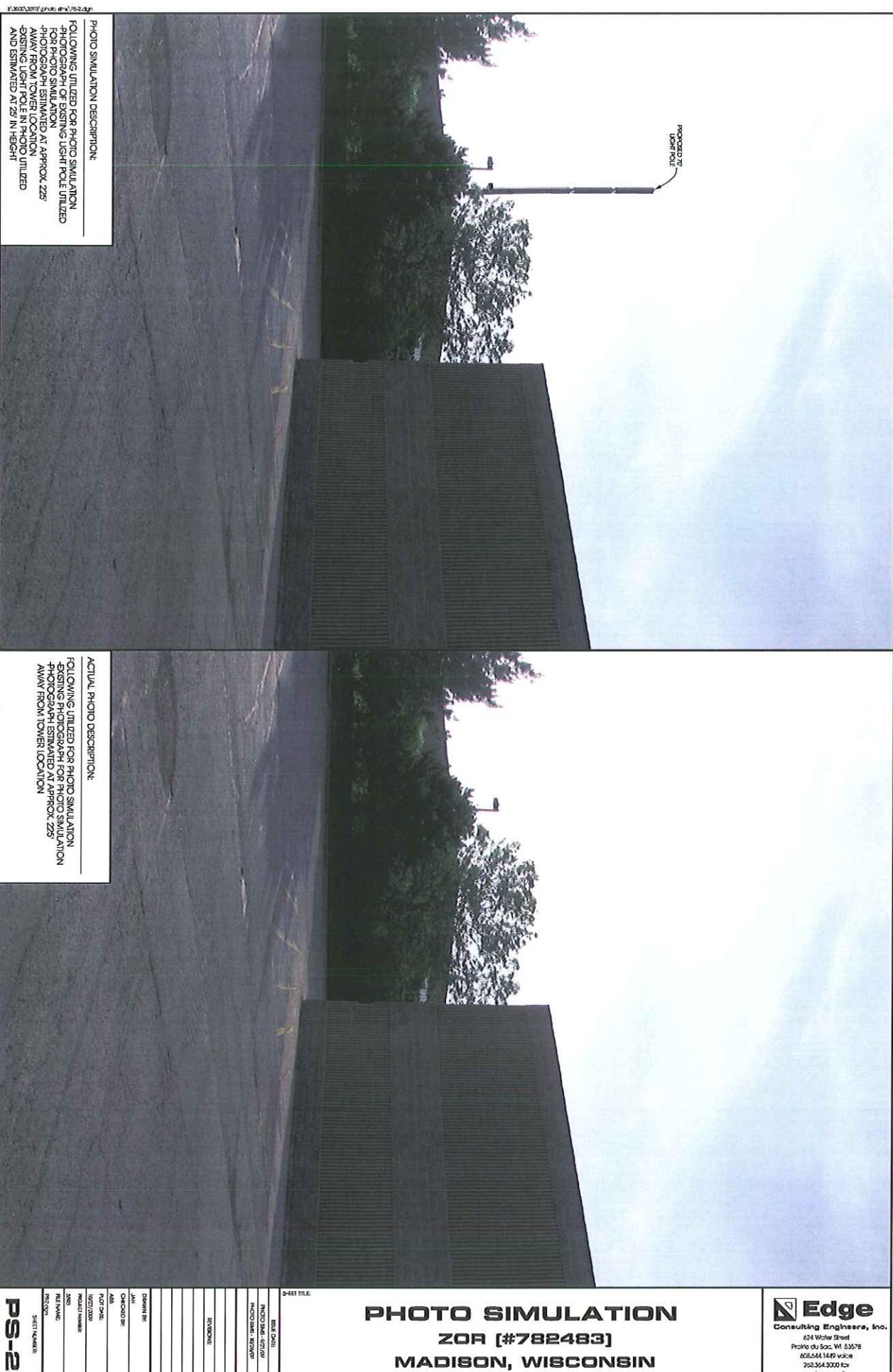
SHEET

**PHOTO SIMULATION**  
**ZOR [#782483]**  
**MADISON, WISCONSIN**

The logo for Edge Consulting Engineers, Inc. It features a stylized 'E' icon composed of a square with a diagonal line, followed by the word 'Edge' in a bold, black, sans-serif font, and 'Consulting Engineers, Inc.' in a smaller, regular black font below it.

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**ACTUAL PHOTO DESCRIPTION:**

FOLLOWING UTILIZED FOR PHOTO SIMULATION  
 -EXISTING PHOTOGRAPH FOR PHOTO SIMULATION  
 -PHOTOGRAPH ESTIMATED AT APPROX. 575'  
 AWAY FROM TOWER LOCATION

EDGE CONSULTING ENGINEERS, INC.

**PS-3**

SHEET TITLE  
 PHOTO SIMULATION  
 ZOR (#782483)  
 MADISON, WISCONSIN

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 608.544.5000 fax  
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2







**ACTUAL PHOTO DESCRIPTION:**

**FOLLOWING UTILIZED FOR PHOTO SIMULATION  
-EXISTING PHOTOGRAPH FOR PHOTO SIMULATION  
-PHOTOGRAPH ESTIMATED AT APPROX. 1125'  
AWAY FROM TOWER LOCATION**

9-911

**PHOTO SIMULATION  
ZOR (#782483)  
MADISON, WISCONSIN**

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