AGENDA

Village of Hoffman Estates Second Meeting of the Month Village Board of Trustees

1900 Hassell Road Hoffman Estates, IL 60169 847-882-9100

Board Room

September 20, 2010

8:00 p.m.

- 1. CALL TO ORDER/ROLL CALL
- 2. PLEDGE OF ALLEGIANCE TO THE FLAG
- 3. RECOGNITION OF AUDIENCE
- 4. **APPROVAL OF MINUTES** September 7, 2010
- 5. CONSENT AGENDA/OMNIBUS VOTE (Roll Call Vote)

(All items under the Consent Agenda are considered to be routine in nature and will be enacted by one motion. There will be no separate discussion of these items unless a Trustee so requests. In that event, the discussion will be the first item of business after approval of the Consent Agenda).

- A. Approval of Agenda
- B. Approval of the schedule of bills for September 20, 2010: \$2,117,319.18.
- C. Request Board authorization for an EDA contract for a second phase of Prairie Stone regulatory signs/wayfinding signage in an amount not to exceed \$10,307.
- D. Request Board approval of Option #2, standard traffic control signs and markers, with one (1) LED turn warning sign for northbound traffic, and the addition of pavement striping, for the Jones Road/Hassell Road curve.
- 6. **REPORTS**
 - A. President's Report
 - 1) Proclamation(s)
 - -- Ms. Taylor Ignoffo Day
 - -- World Car Free Day
 - -- International Day of Peace
 - -- Payroll Week
 - **B.** Trustee Comments
 - C. Village Manager's Report
 - D. Village Clerk's Report
 - E. Treasurer's Report
 - F. Committee Reports
 - 1) Finance
 - 2) Public Works & Utilities
 - 3) Public Health & Safety

7. PLAN COMMISSION/ZONING BOARD OF APPEALS REPORTS

- A. **ZONING BOARD OF APPEALS (Chairman Weaver)**
 - Request by Township High School District 211 (owner) and FMHC as agent for Clearwire (lessee), 1100 W. Higgins Road, for a special use under Section 9-3-9-A and Section 9-5-3-C-4 and a thirty four foot (34') height variation from Section 9-3-9-A to permit a maximum of eleven (11) cellular antennas and one (1) microwave dish antenna at ninety four feet (94') high and associated equipment on a light pole on the southwest corner of the football field, with 3 conditions (see packets).

Voting: 5 Ayes, 2 Absent

Motion carried.

(Immediate authorization to apply for permits is not applicable) – (Item deferred – see minutes of September 7, 2010)

- 8. **ADDITIONAL BUSINESS** (All other new business; those items not recommended unanimously by the Committee)
 - A. Request Board approval of an ordinance granting a special use and height variation to Township High School District 211 (owner) and FMHC, agent for Clearwire (lessee) (Hoffman Estates High School, 1100 W. Higgins Road). (Item deferred see minutes of September 7, 2010)
 - B. Request Board approval of recommendations from Bicycle and Pedestrian Advisory Committee for bicycle and pedestrian components to Hassell Road STP Reconstruction Project.
- 9. **ADJOURNMENT**

MEETING:

HOFFMAN ESTATES VILLAGE BOARD

DATE: PLACE: SEPTEMBER 7, 2010 COUNCIL CHAMBERS

MUNICIPAL BUILDING COMPLEX

1900 HASSELL ROAD

HOFFMAN ESTATES, ILLINOIS

1. CALL TO ORDER:

Village President William McLeod called the meeting to order at 8:00 p.m. The Village Clerk called the roll. Trustees present: Gary Pilafas, Ray Kincaid, Jackie Green, Anna Newell, Karen Mills. Cary Collins was absent.

Gary Pilafas attended electronically.

A quorum was present.

ADMINISTRATIVE PERSONNEL PRESENT:

- J. Norris, Village Manager
- D. O'Malley, Deputy Village Manager
- A. Janura, Corporation Counsel
- C. Herdegen, Police Chief
- M. Koplin, Asst. Village Manager
- M. Hish, Asst. Police Chief
- J. Jorian, Deputy Fire Chief
- A. Garner, H&HS Director
- P. Seger, HRM Director
- K. Gomoll, PW Superintendant
- R. Musiala, Asst. Finance Director
- S. Kuechler, General Government Intern
- B. Gibbs, GM Sears Centre Arena

2. PLEDGE OF ALLEGIANCE TO THE FLAG:

The Pledge was led by Boy Scout Troop 290 Honor Guard.

3. RECOGNITION OF AUDIENCE:

No one wished to be recognized.

4. APPROVAL OF MINUTES:

Motion by Trustee Green, seconded by Trustee Mills, to approve Item 4.

Approval of Minutes Minutes from August 2, 2010

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

5. CONSENT AGENDA/OMNIBUS VOTE:

Motion by Trustee Mills, seconded by Trustee Green, to remove Item 5.A. from the Consent Agenda/Omnibus Vote and amend the agenda by adding Item 8.B.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Green, to approve Item 5.A.

5.A. Approval of Agenda

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.B.

5.B. Approval of the schedule of bills for September 7, 2010: \$6,568,784.07.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.C.

5.C. Request Board approval of Ordinance No. 4197-2010amending Section 8-3-22, Number of Licenses, of Article 3, Alcoholic Liquors, of the Hoffman Estates Municipal Code (World Market).

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.D.

5.D. Request Board approval of Ordinance No. 4198-2010 amending section 6-2-1-HE-1201 of the Hoffman Estates Municipal Code (stop sign – Aberdeen Street at East Thacker Street).

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.E.

5.E. Request Board approval of Ordinance No. 4199-2010 amending Section 6-2-1-HE-11-1202 and 6-2-1-HE-11-1201 of the Hoffman Estates Municipal Code (stop sign-West Berkley Lane at Washington Boulevard).

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.F.

5.F. Request Board approval of Ordinance No. 4200-2010 authorizing the sale of personal property owned by the Village of Hoffman Estates (GovDeals auction).

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.G.

5.G. Request Board approval of Ordinance No. 4201-2010 to declare property at 2601 Pratum Avenue, Hoffman Estates, IL as surplus (Old Fire Station 24).

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.H.

5.H. Request Board approval of Resolution No. 1457-2010 approving certain real estates to be appropriate for Class 6B incentive program (Delta Mobile Systems).

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.I.

5.I. Request Board approval of Resolution No. 1458-2010 creating the youth Commission of the Village of Hoffman Estates (increase in membership).

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.J.

5.J. Request Board approval of release of a portion of open space easement at 4701 Sunflower Lane (widening of existing driveway).

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav.

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.K.

5.K. Request Board approval of request by Ryland Homes for a site plan amendment to allow the acceptance of Beacon Point subdivision prior to the acceptance of Beacon Point Drive extension.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.L.

- **5.L.** Request Board authorization to award contract for 2010-2011 winter rental for:
- 1) two (2) front end loader tractors to Hertz Equipment Rental Corp., Elmhurst, IL (low bid) in an amount not to exceed \$21,500; and
- 2) one (1) front end loader tractor to United Rental Inc., North Aurora, IL in an amount not to exceed \$10,675.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.M.

- **5.M.** Request Board authorization to award contract for Village Hall roof restoration to:
- 1) Anthony Roofing Company, Aurora, IL (low bid) at a labor and materials cost not to exceed \$54,720; and
- 2) Garland DBS, Inc., Cleveland, OH (low bid) for a materials only cost not to exceed \$198,163.53, for a total combined cost of \$252,883.53.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.N.

5.N. Request Board authorization to award contract for engineering professional service contract for the design of three (3) Hassell Road culvert crossings to Hey and Associates, Chicago, IL in an amount not to exceed \$107,395.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.O.

5.O. Request Board authorization to vacate:

- 1) an MWRD Sewer Service Agreement between the Village of Hoffman Estates and the MWRD for the Autumn Wood Subdivision; and
- 2) a Sanitary Sewer Agreement between the Village of Hoffman Estates and Summit Street, LLC for the Autumn Woods Subdivision.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to approve Item 5.P.

5.P. Request Board authorization to award a two-year support and maintenance agreement for wireless mobile in-car video systems to Counter UAV, Huntsville, AL, in an amount not to exceed \$2,250 per month.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

6. REPORTS:

6.A. President's Report

1) Proclamations

Trustee Green read the following proclamation:

Motion by Trustee Kincaid, seconded by Trustee Mills, to concur with the proclamation proclaiming Thursday, September 30, 2010 as Debra Schoop Day.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay

Mayor McLeod voted aye.

Motion carried.

Mrs. Schoop accepted her proclamation and was congratulated by the Board.

Trustee Kincaid read the following proclamation:

Motion by Trustee Mills, seconded by Trustee Green, to concur with the proclamation proclaiming Friday, September 10, 2010 as Kelly Kerr Day.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Mr. Gomoll accepted the proclamation for Mr. Kerr.

Trustee Green read the following proclamation:

Motion by Trustee Mills, seconded by Trustee Kincaid, to concur with the proclamation proclaiming Saturday, September 11, 2010 as Terry White Day.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Mr. Koplin accepted the proclamation for Mr. White.

Trustee Mills read the following proclamation:

Motion by Trustee Kincaid, seconded by Trustee Newell, to concur with the proclamation proclaiming Saturday, September 11, 2010 as Rachel Musiala Day.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Mrs. Musiala accepted her proclamation and was congratulated by the Board.

Trustee Mills read the following proclamation:

Motion by Trustee Kincaid, seconded by Trustee Newell, to concur with the proclamation proclaiming Tuesday, September 14, 2010 as Susan Wenderski Day.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

Mr. Koplin accepted the proclamation for Mrs. Wenderski.

Trustee Newell read the following proclamation:

Motion by Trustee Kincaid, seconded by Trustee Mills, to concur with the proclamation proclaiming Saturday, September 11, 2010 as John Beldin Day.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Chief Jorian accepted the proclamation for Firefighter Beldin.

Trustee Newell read the following proclamation:

Motion by Trustee Green, seconded by Trustee Mills, to concur with the proclamation proclaiming Wednesday, September 8, 2010 as Scott Lawrence Day.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Chief Herdegen accepted the proclamation for Officer Lawrence.

Trustee Mills read the following proclamation:

Motion by Trustee Kincaid, seconded by Trustee Green, to concur with the proclamation proclaiming Saturday, September 11, 2010 as Carol Murray Day.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Mrs. Musiala accepted the proclamation for Ms. Murray.

Trustee Kincaid read the following proclamation:

Motion by Trustee Mills, seconded by Trustee Newell, to concur with the proclamation proclaiming Saturday, September 11, 2010 as Steve Nusser Day.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

Chief Jorian accepted the proclamation for Firefighter Nusser.

Trustee Newell read the following proclamation:

Motion by Trustee Mills, seconded by Trustee Green, to concur with the proclamation proclaiming the week of September 20th, 2010 as Live United Week.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Dr. Garner accepted the proclamation.

Boy Scout Troop 290 presented a proclamation and a poster representing 100 Years of scouting to the Village.

Mayor McLeod presented Bob Swan with the Village's Great Citizen Award.

Mayor McLeod reminded everyone of our September 11th Remembrance that will be held this Saturday at the new Police Building and stated that Alexian Brothers Healthcare Systems was ranked as one of the best performing healthcare systems.

Motion by Trustee Mills, seconded by Trustee Kincaid, to accept with deep regrets the resignation of Reverend Lee from the Economic Development Commission.

Roll Call:

Ave: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Green, seconded by Trustee Newell, to accept the nomination of Lance Misner to the Economic Development Commission, Carrie Hart to the Celebrations Commission and Jessica Stutler to the Bicycle and Pedestrian Commission.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

Mayor McLeod stated that he attended a NWMC Legislative Committee meeting at Maryville Academy, the Alden Walk and Roll, a School District 54 Foundation meeting, welcomed the new Health & Human Services interns and thanked Boy Scout Troop 290 for their presentation and for leading the Pledge of Allegiance.

6.B. Trustee Comments

Trustee Kincaid reported that on a trip to Alaska he visited Glacier Bay which John Muir founded, who we have a school named after, and he reminded everyone of the Boy Scout 100 Year Anniversary program that the museum is holding on September 18th.

Trustee Mills had no report.

Trustee Newell reported that she attended the Alden Walk and Roll and welcomed everyone back.

Trustee Green had no report.

Trustee Pilafas had no report.

6.C. Village Manager's Report

Mr. Norris announced upon the retirement of Chief Herdegen, Assistant Chief Hish will become Acting Police Chief and that we will have a reception for Chief Herdegen on September 20th at 6:30.

6.D. Village Clerk's Report

The Village Clerk reported that 27 passports were processed during the month of August.

6.E. Treasurer's Report

Motion by Trustee Mills, seconded by Trustee Green, to accept the July Treasurer's Report.

Mrs. Musiala stated that during the month of July 2010 cash disbursements and transfers-out exceeded cash receipts and transfers-in for the operating funds by \$1,302,978. With the disbursements, the balance of cash and investments for the operating funds came to \$20.9 million. For all of the Village funds, cash disbursements and transfers-out exceeded cash receipts and transfer-in by \$2,244,842 primarily due to an additional bi-weekly payroll in July. Overall, the total for cash and investments for all funds decreased to \$159.9 million.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

6.F. Committee Report

Planning, Building & Zoning

Trustee Kincaid stated that they would be meeting to request authorization for an EDA Contract for a second phase of Prairie Stone regulatory signs/wayfinding signage in an amount not to exceed \$_____; discuss notification process fro residential nonconforming driveways; request acceptance of the Department of Development Services monthly reports for the Planning Division, Code Enforcement Division and Economic Development and Tourism. Items in review – request approval to expand the number members on the Economic Development Commission (November 2010) and discuss combining the functions of the Plan Commission and Zoning Board of Appeals.

General Administration & Personnel

Trustee Kincaid stated that they would be meeting to request acceptance of the Cable TV and Human Resources Management Monthly Reports.

Transportation & Road Improvement

Trustee Kincaid stated that they would be meeting to discuss the physical and traffic conditions at the Jones Road/Hassell Road curve; discuss the Hassell Road Surface Transportation Project and request acceptance of the Transportation Division monthly Report.

7. PLAN COMMISSION/ZONING BOARD OF APPEALS:

A. Plan Commission (Chairman Stanton)

Motion by Trustee Mills, seconded by Trustee Newell, to concur with the Plan Commission and approve the petitioners' request.

- **7.A.1.** Request by McShane Hoffman Estates LLC to consider preliminary and final plat of subdivision for Huntington 90 Business Park, subject to the following conditions:
- 1. This approval creates Lot 4 (3.94 acres) and Lot 5 (2.9 acres), which are less than 5 acres as permitted by Section 9-7-3 D.2 of the Municipal Code. Lot 6 (13.3 acres), as well as Outlot C (0.665 acres) is for the common access road only.
- 2. As part of this final plat approval, the petitioner agrees to meet with staff to discuss and plan future access points for the newly created Lots 4 and 6 prior to discussions of any future development of the overall property.
- 3. The final plat of subdivision shall be recorded within 90 days of Village Board approval.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Newell, to concur with the Plan Commission and approve the petitioners' request.

- **7.A.2.** Request by McShane Hoffman Estates LLC for preliminary and final site plan approval for an office/warehouse site (NSK America) located on Lot 5 near the northwest corner of Huntington Boulevard and Central Road, subject to the following conditions:
- 1. The petitioner acknowledges that an impact fee will be due in accordance with the Village's Road Improvement Impact Fee Program and the Annexation and Development Agreement. This fee will be due prior to any certificate of occupancy for the NSK America building.
- 2. A waiver to Section 10-4-4-B.2.a of the Subdivision Code is hereby granted to the landscape setback requirement along the west property line. The setback will be reduced from ten (10) feet to four (4) feet on a twenty-three (23) foot long portion of the western property line.
- 3. Any trees identified as being relocated in the temporary nursery shall be cared for (watered, mulched, and fertilized) until such time as they are transplanted elsewhere on the site. Any trees that die during the relocation and storage process shall be replaced on an inch-by-inch basis with the same or similar species.
- 4. Any future development of the remainder of the property will require site plan approval through the Village of Hoffman Estates site plan approval process, which will include site plan review, sidewalk connections, landscaping, access, etc.
- 5. Prior to issuance of a certificate of occupancy for the NSK America building, any disturbed areas on the balance of the overall property shall be established with a stand of grass in accordance with current Village procedures.
- 6. Due to the steep elevations on the portion of the site between the building and the north property line, the use of seed on this area of the property is permitted.
- 7. The development shall be subject to all terms of the Amended and Restated Annexation and Development Agreement.
- 8. All excess soils shall be removed from the development site. No stockpiles shall be allowed after occupancy
- 9. No signs are approved through the site plan review process.
- 10. As part of the final detailed Development Services review, some minor plan review comments were noted. The petitioner shall correct the plans prior to the onset of site improvements.

Discussion

Trustee Mills asked why there wasn't a condition placing a time frame on when permits need to be pulled. Mr. Norris stated that it is now covered under the International Building Code.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Mills, seconded by Trustee Kincaid, to concur with the Plan Commission and approve the petitioners' request.

- **7.A.3.** Request by McShane Hoffman Estates LLC for preliminary and final site plan approval to construct an access road in Huntington 90 Business Park, subject to the following condition:
- 1. The access road, including required landscape, lighting, and sidewalks, shall be built and finished prior to the issuance of a final certificate of occupancy for NSK America.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nav:

Mayor McLeod voted aye.

Motion carried.

B. Zoning Board of Appeals (Chairman Weaver)

Motion by Trustee Mills, Seconded by Trustee Kincaid, to defer this Item 7.B.1. at the Petitioners request.

- **7.B.1.** Request by Township High School District 211 (Owner) and FMHC as agent for Clearwire (Lessee) at 1100 W. Higgins Road, for a special use under Section 9-3-9-A and Section 9-5-3-C-4 and a thirty four (34) foot height variation from Section 9-3-9-A to permit a maximum of eleven (11) cellular antennas and one (1) microwave dish antenna at ninety four (94) feet high and associated equipment on a light pole on the southwest corner of the football field. The following conditions shall apply:
- 1. Ordinance No. 3955-2007 is hereby repealed and the new 2010 ordinance shall hereafter apply to the subject special use and height variations.
- 2. Per Zoning Code Section 9-1-18-L, should the operation of this cellular facility cease for a period of six (6) months, the antennas shall be removed.
- 3. No signs, cabinets, conduits, or other fixtures shall be installed on the exterior of the shelter beyond those shown on the approved building plans.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

8. ADDITIONAL BUSINESS:

Motion by Trustee Mills, seconded by Trustee Kincaid, to defer Item 8.A. at the Petitioners request.

8.A. Request Board approval of an ordinance granting a special use and height variation to Township High School District 211(owner) and FMHC, agent for Clearwire (lessee) – (Hoffman Estates High School, 1100 W. Higgins Road).

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Motion by Trustee Green, Seconded by Trustee Newell, to approve Item 8.B.

8.B. Request Board approval to disband the Sears Ad Hoc Advisory Committee and have those items brought to the Finance Committee.

Discussion

Trustee Kincaid stated he thinks a better idea would be to expand the committee into a commission and give them more responsibilities. He asked if the board would consider tabling this item. He thanked Mr. Koplin and the committee.

Mayor McLeod said that the committee did a great job, but it was never intended to be a commission. Trustee Mills said that it is now the Board's responsibility to promote the Sears Centre Arena.

Roll Call:

Aye: Pilafas, Green, Newell, Mills

Nay: Kincaid

Mayor McLeod voted aye.

Motion carried.

9. ADJOURNMENT:

Motion by Trustee Green, seconded by Trustee Newell, to adjourn the meeting. Time 8:56 p.m.

Roll Call:

Aye: Pilafas, Kincaid, Green, Newell, Mills

Nay:

Mayor McLeod voted aye.

Motion carried.

Bev Romanoff Village Clerk Date Approved

The Village of Hoffman Estates complies with the Americans with Disabilities Act (ADA). For accessibility assistance, call the ADA Coordinator at 847/882-9100.

CONSENT AGENDA/ OMNIBUS VOTE

DRAFT

AGENDA FINANCE COMMITTEE Village of Hoffman Estates September 27, 2010

7:30 p.m.

Members: Karen Mills, Chairperson

Jacquelyn Green, Vice Chairperson

Anna Newell, Trustee Cary Collins, Trustee Ray Kincaid, Trustee Gary Pilafas, Trustee William McLeod, Mayor

- I. Roll Call
- II. Approval of Minutes August 31, 2010

NEW BUSINESS

- 1. Request acceptance of Finance Department Monthly Report.
- 2. Request acceptance of Information Systems Department Monthly Report.
- III. President's Report
- IV. Other
- V. Items in Review
- VI. Adjournment

AGENDA PUBLIC WORKS & UTILITIES COMMITTEE Village of Hoffman Estates September 27, 2010

Immediately following Finance

DRAFT #1

Members:

Jacquelyn Green, Chairperson

Anna Newell, Vice Chairperson

Karen V. Mills, Trustee Cary Collins, Trustee Ray Kincaid, Trustee Gary Pilafas, Trustee William McLeod, Mayor

I. Roll Call

II. Approval of Minutes – August 31, 2010

NEW BUSINESS

- 1. Request acceptance of the Department of Public Works Monthly Report.
- 2. Request acceptance of the Department of Development Services Monthly Report for the Transportation and Engineering Division.
- III. President's Report
- IV. Other
- V. Items in Review
- VI. Adjournment

The Village of Hoffman Estates complies with the Americans with Disabilities Act (ADA). For accessibility assistance call the ADA Coordinator at 847/882-9100.

DRAFT 1

AGENDA

PUBLIC HEALTH AND SAFETY COMMITTEE

Village of Hoffman Estates September 27, 2010

Immediately following Finance and Public Works & Utilities Committee.

Members:

Anna Newell, Chairperson

Karen Mills, Vice Chairperson

Jacquelyn Green, Trustee

Cary Collins, Trustee Ray Kincaid, Trustee

Gary Pilafas, Trustee

William McLeod, Mayor

- I. Roll Call
- II. Approval of Minutes August 31, 2010 Committee Meeting

NEW BUSINESS

- 1. Request acceptance of Police Department Monthly Report.
- 2. Request acceptance of Health & Human Services Monthly Report.
- 3. Request acceptance of Emergency Management Coordinator Monthly Report.
- 4. Request acceptance of Fire Department Monthly Report.
- III. President's Report
- IV. Other
- V. Items in Review
- VI. Adjournment

The Village of Hoffman Estates complies with the Americans With Disabilities Act (ADA). For accessibility assistance, call the ADA Coordinator at 847/882-9100.

VILLAGE OF HOFFMAN ESTATES ZONING BOARD OF APPEALS

FINDING OF FACT

DATE OF PUBLIC HEARINGS: July 20, 2010

DATE OF PRESENTATION TO VILLAGE BOARD: August 2, 2010

<u>PETITION:</u> Hearing held at the request of Township High School District 211 (Owner) and FMHC as agent for Clearwire (Lessee) to consider a variation and special use under the Zoning Code to permit the installation of communication antennas and accompanying equipment on the property located at 1100 W. Higgins Road (Hoffman Estates High School).

DISTRICT IN WHICH PROPERTY IS LOCATED: R-3, One Family Residential

ZONING CODE SECTION(S) FOR VARIATION: 9-3-9-A

ZONING CODE SECTION(S) FOR SPECIAL USE: 9-3-9-A and 9-5-3-C-4

<u>FINDING-OF-FACT</u>: The ZBA found that the Standards for a Variation (9-1-15-C) and Standards for a Special Use (9-1-18-I) were met.

MOTION: Request to grant Township High School District 211 (Owner) and FMHC as agent for Clearwire (Lessee) at 1100 W. Higgins Road, a special use under Section 9-3-9-A and Section 9-5-3-C-4 and a thirty four (34) foot height variation from Section 9-3-9-A to permit a maximum of eleven (11) cellular antennas and one (1) microwave dish antenna at ninety four (94) feet high and associated equipment on a light pole on the southwest corner of the football field. The following conditions shall apply:

- 1. Ordinance No. 3955-2007 is hereby repealed and the new 2010 ordinance shall hereafter apply to the subject special use and height variations.
- 2. Per Zoning Code Section 9-1-18-L, should the operation of this cellular facility cease for a period of six (6) months, the antennas shall be removed.
- 3. No signs, cabinets, conduits, or other fixtures shall be installed on the exterior of the shelter beyond those shown on the approved building plans.

The petitioner was agreeable to the above listed conditions.

<u>RECOMMENDATION:</u> The Zoning Board of Appeals (ZBA) recommends **approval** of this request.

Josh Metzer of FMHC (agent for Clear Wireless, LLC) requested that the Zoning Board of Appeals allow Clear Wireless, LLC to remove two (2) antennas to be replaced by one (1)

microwave dish antenna (24" diameter) and one (1) cellular antenna and associated equipment on a stadium light pole at the Hoffman Estates High School athletic field at 1100 W. Higgins Road. The new dish antenna would be installed at 92 feet above grade. The new Clearwire equipment would be installed within the existing shelter. Electrical conduits would be run through existing underground conduit between the pole and shelter and would run through the interior of the light pole.

The Zoning Board had no questions.

AUDIENCE COMMENTS

None.

VOTE:

5 Ayes

0 Nay

2 Absent (Ali, Wilson)

ZONING BOARD OF APPEALS

Chairman William Weaver

Vice-Chairperson Denise Wilson

Michael Ciffone

Masoom Ali

Donna Boomgarden

Michael Gaeta

Gaurav Patel

* IMMEDIATE AUTHORIZATION TO APPLY FOR PERMITS IS REQUESTED *

THIS SPECIAL USE AND VARIATION WILL EXPIRE UNLESS ACTED UPON WITHIN ONE (1) YEAR OF VILLAGE BOARD APPROVAL

FINDING OF FACT WRITTEN BY GAURAV PATEL

VILLAGE OF HOFFMAN ESTATES

Memo

TO:

William Weaver, Zoning Board of Appeals Chairman

FROM:

Josh Edwards, Assistant Planner JAF

RE:

1100 W. HIGGINS ROAD (HOFFMAN ESTATES HIGH SCHOOL)

- SPECIAL USE & VARIATION - FMHC AS AGENT FOR CLEAR WIRELESS LLC AND TOWNSHIP HIGH SCHOOL DISTRICT 211 - COMMUNICATION ANTENNAS & ASSOCIATED EQUIPMENT

DATE:

July 15, 2010

HEARING DATE: July 20, 2010

1. REQUEST SUMMARY

Request by FMHC as agent for Clear Wireless LLC and Township High School District 211 for a special use and variation to permit the replacement of existing antennas to include the addition of 1 microwave dish antenna and associated equipment on a stadium light pole at the Hoffman Estates High School athletic field at 1100 W. Higgins Road.

2. <u>PETITIONER</u> PROPOSAL

Clear Wireless, LLC (Clearwire or "Clear") is an affiliate of Clearwire Corporation, which is an affiliate of Sprint. Sprint is the majority owner of Clearwire, and Sprint will operate the wireless internet component of Clearwire's business.

The petitioner is proposing to replace 2 existing cellular antennas with 1 slightly larger and more powerful cellular antenna and to install 1 microwave dish antenna. The total number of antennas would remain at 12. The cellular antennas would remain centered at a height of 88 feet above grade (as previously approved), and the new dish antenna would be installed above them at 92 feet above grade. The proposed maximum height for the antennas is 94 feet above grade to the top of the antennas. The antennas are located on the southwestern athletic field light pole. The four field light poles were constructed by Sprint in 2001 with the intent to be used for antennas as well as athletic field illumination.

An existing 11 foot by 19 foot equipment shelter is located next to the light pole. The new Clearwire equipment would be installed within the existing shleter. Electrical conduits would be run through existing underground conduit between the pole and shelter and would run through the interior of the light pole.

3. SITE CONDITIONS

- a) The subject property is zoned R-3, One Family Residential.
- b) The properties to the north are zoned R-4, One Family Residential. The properties to the west are zoned B-2, Community Business District and R-4, One Family Residential. The properties to the south are zoned B-2, Community Business District and O-1, Office district. The properties to the east are single family homes and a church within the Village of Schaumburg.

4. APPLICABLE REQUIREMENTS

- a) Section 9-3-9 (p. CD9:58) states that a special use is required for antennas mounted over 45 feet to 60 feet. A height variation is required for an antenna to be higher than 60 feet.
- b) Section 9-5-3-C-4 (p. CD9:71) states that public utilities and services are a special use in the R-3 district.

5. ADJACENT OWNERS COMMENTS

Standard notification letters have been mailed with no written comments received at the time of this writing.

6. <u>VARIATION HISTORY</u>

Subject Property

- a) Ordinance 3054-1999 was granted to allow Southwestern Mobile Bell (Cellular One), to install two micro-cellular antennas on top of a 30-foot high parking light pole on the south side of the parking lot and associated equipment along Higgins Road.
- b) Ordinance 3316-2001 was granted to allow Sprint PCS to install 9 antennas, 90 feet high on the southwestern football field light pole and an equipment shelter.
- c) Ordinance 3555-2003 was granted to allow U.S. Cellular to install 9 antennas, 90 feet high on the southeastern football field light pole and an equipment shelter.

- d) Ordinance 3955-2007 was granted to allow Sprint to install 3 additional antennas for a total of 12 antennas, 90 feet high on the southwestern football field light pole with associated equipment housed inside the existing shelter.
- e) Ordinance 4050-2008 was granted to allow Cricket Communications to install 3 antennas, 104 feet high on the northeastern football field light pole and an equipment shelter.
- f) Ordinance 4141-2009 was granted to allow Verizon to install 12 antennas, 91 feet high on the northwestern football field light pole and an equipment shelter.

Similar Property

- g) Ordinance 3830-2006 700 Cougar Trail (Conant High School) was granted to allow Nextel to install 12 antennas, 92 feet high on the northeastern football field light pole and an equipment shelter.
- h) Ordinance 4051-2008 700 Cougar Trail (Conant High School) was granted to allow Cricket Communications to install 3 antennas, 104 feet high on the western football field light pole and an equipment shelter.
- i) DENIED 2009 700 Cougar Trail (Conant High School) A proposal to install Sprint-Clearwire dish antennas onto an existing Sprint antenna installation was denied.

7. <u>IMMEDIATE AUTHORIZATION TO APPLY FOR PERMIT</u>

The petitioner has requested immediate authorization to apply for permits.

8. DEVELOPMENT SERVICES COMMENTS

The proposal to upgrade and add one dish antenna to an existing light pole installation rather than erecting a separate antenna tower will minimize visual clutter. The height above grade and the relatively small size of the dish antenna (approximately 2 feet in diameter) will reduce its visibility from surrounding properties. The dish is smaller than standard cellular antennas. The visual change from the existing installation will be the addition of one dish a few feet above the existing antenna array.

The motion has been written for a consistent height of 94 feet above grade to allow flexibility. The motion is also specific to 11 panel style cellular antennas and 1 microwave dish style antenna. Future changes to this configuration would require a new special use and height variation review.

The rear yards of the neighboring residents include mature trees that help to screen their view to the athletic field and light poles, and this proposed installation is on the high school parking lot side of the athletic field. A chain link fence exists around the perimeter of the athletic field facility. The equipment cabinets associated with the antenna installation will be housed entirely within an existing shelter.

The petitioner has provided a copy of a structural report documenting the structural integrity of the installation.

The original ordinance in 2001 was repealed through passage of the 2007 ordinance. This approval would repeal and override the 2007 ordinance. The conditions from the 2007 ordinance are repeated below, which have been standard conditions for this and other similar sites.

The Federal Telecommunications Act of 1996 expressly preempts local governments from regulating the placement, construction, or modification of personal wireless services on the basis of environmental or health concerns. Such concerns cannot be used as a basis of the decision whether to grant a special use.

9. MOTION

Should the Zoning Board find that the Standards for a Special Use and Standards for a Variation are met, the following motion is provided with conditions:

A special use under Section 9-3-9-A and Section 9-5-3-C-4 and a thirty four(34) foot height variation from Section 9-3-9-A to permit a maximum of eleven (11) cellular antennas and one (1) microwave dish antenna at ninety four (94) feet high and associated equipment on a light pole on the southwest corner of the football field.

The following conditions shall be applied to the above motion:

- 1. Ordinance No. 3955-2007 is hereby repealed and the new 2010 ordinance shall hereafter apply to the subject special use and height variations.
- 2. Per Zoning Code Section 9-1-18-L, should the operation of this cellular facility cease for a period of six (6) months, the antennas shall be removed.
- 3. No signs, cabinets, conduits, or other fixtures shall be installed on the exterior of the shelter beyond those shown on the approved building plans.

cc: Corporation Counsel, D. O'Malley, D. Plass, R. Norton, Petitioner

VILLAGE OF HOFFMAN ESTATES ZONING BOARD OF APPEALS

APPLICATION FOR ANTENNA SPECIAL USE/HEIGHT VARIATION HEARING

FOR VILLAGE USE ONLY
Special Use Hearing Fee \$400.00 Height Variation Required: Yes No_Fee \$400.00 Amount Paid \$60.00 Date Paid 6/29/10 Received By J. EDWHLOS Hearing Date: 7/20/10 Time: 7:30 pm Legal Published 7/5/10 Receipt Number 399282 Check No. 60215455 Zoning District R-3 Complete application received on by
** ONLY COMPLETE APPLICATIONS WILL BE ACCEPTED **
ADDRESS OF SUBJECT PROPERTY: 1000 W. Higgins Rd
PROPERTY INDEX NUMBER (PIN): 07-09-300-008-0000
PLEASE PRINT OR TYPE 1. NAME OF PROPERTY OWNER(S) Township High School District 2// This must be the legal owner. Written owner authorization is required from the owner in order for a representative to proceed with process. An Economic Disclosure Statement (attached) must be filed by the Owner.
E-Mail Address Fax
Owner's Address 1750 S. Roselle Rd Phone 847-755-6650 (Steve Fa
City <u>Palatine</u> State <u>FL</u> Zip <u>60067</u>
2. PERSON APPLYING IF OTHER THAN OWNER
Name Osh Metzer Company FMHC
E-Mail Address jmetzer & fmhc. com Fax 773-693-0850 Address 860 W. Bryn Mawr Ave, Ste 600 Phone 612-229-2144 cell City Chicago State IL Zip 6063/
City Chicago State IL Zip 6063/
3. CARRIER INFORMATION
Name of Carrier: <u>Clearwire</u>
New installation Co-Location (Check One)
Number of Existing Antennas: 12 Number of Proposed Antennas: 1 (total)
Type of Antenna(s): Backhaul Dish Height to Top of Antennas(s): 92 (proposed)
Village of Hoffman Estates Antenna Application - Page 2 90 (ovishing)

4. OWNER'S RIGHT TO PROVIDE A COURT REPORTER

I hereby waive the right to provide a court reporter.

A property owner may provide a court reporter for the hearing. It is required that the property owner specifically waive the right to provide a court reporter if the property owner chooses not to provide a court reporter. (Please check appropriate box)

I understand I have the right to provide a court reporter to transcribe the hearing.

I hereby advise that a court reporter will be provided.

5. ACKNOWLEDGEMENT

Applicant acknowledges, understands and agrees that under Illinois law, the Village President (Mayor), Village Trustees, Village Manager, Corporation Counsel and/or any employee or agent of the Village or any Plan Commission member or Chair, or any Zoning Board of Appeals member or Chair, does not have the authority to bind or obligate the Village in any way and therefore cannot bind or obligate the Village.

Further, Applicant acknowledges, understands and agrees that only formal action (including, but not limited to, motions, resolutions and ordinances) by the Board of Trustees, properly voting in an open meeting, can obligate the Village or confer any rights or entitlement on the applicant, legal, equitable or otherwise.

6. OWNER AUTHORIZATION FOR VARIATION/SPECIAL USE HEARINGS

I understand the requirement for the owner or an authorized representative to be present at the hearing with full authority to commit to requests, conditions and make decisions on behalf of the owner. If I am unable to attend the hearing I hereby authorize _______ to act on my behalf and advise that he/she has full authority to act as my/our representative.

7. The Owner and Applicant, by signing the Special Use/Variation Application, certifies to the correctness of the application and all submittals.

Owner's Signature See attached letter
Name (Please Print)
Applicant's Signature
Name (Please Print) Josh Metzer
Date 06/29/2010

TOWNSHIP HIGH SCHOOL DISTRICT 211

1750 South Roselle Road Palatine, Illinois 60067-7336 Telephone (847) 755-6600 Web Site www.d211.org Nancy N. Robb Superintendent

UNITED STATES DEPARTMENT OF EDUCATION

BLUE RIBBON SCHOOLS OF EXCELLENCE
JOINGS B. Conont High School

William Frend High School

Hollman Estates High School

Patalinn High School

Schaumburg High School

ALTERNATIVE SCHOOLS District 211 Academy-North District 211 Academy-South

June 29, 2010



Village of Hoffman Estates 1900 Hassell Road Hoffman Estates, IL 60169

RE: Sprint/Clearwire Special Use for telecommunications facility at 1100 W. Higgins Road, Hoffman Estates, IL 60169 & 700 E. Cougar Trail, Hoffman Estates, IL 60169

Josh Metzer/Sprint Clearwire/FMHC Corporation, has authority to request Special Use and all necessary zoning permits on behalf of the Township High School District 211, for modification of the telecommunications facility at James B. Conant and Hoffman Estates High Schools.

Sincerely,

Steven M. East

Director of Purchasing & Facilities Township High School District 211

1750 S. Roselle Road Palatine, IL 60067

SME/cjc



FMHC Corporation 8600 W. Bryn Mawr Ave. Suite 600N

Chicago, IL 60631

www.fmhc.com phone 773 380 3800 fax 773 693 0850

June 29, 2010

Village of Hoffman Estates - Zoning Board of Appeals 1900 Hassell Road Hoffman Estates, IL 60169

To Whom It May Concern:

My name is Josh Metzer of FMHC (agent for Clear Wireless, LLC). Please accept this letter as application for Special Use and Height Variation for the collocation of a 14.6-inch microwave antenna on the existing monopole at Hoffman Estates High School Athletic Field. The purpose of the proposed antenna is to support the communication functionality of the existing antennas. Also proposed is the removal of two (2) antennas to be replaced by one (1) antenna, thus reducing the total number of antennas from twelve (12) to eleven (11).

Standards for a Special Use

1. That the establishment, maintenance, or operation of the special use will not be detrimental to or endanger the public health, safety, morals, comfort, or general welfare;

The proposed microwave antenna and equipment comply with FCC regulations and will be firmly anchored to the monopole (as shown in the construction drawings) and, therefore, will not be a detriment to or endanger the public health, safety, morals, comfort or general welfare.

2. That the special use will not be injurious to the use and enjoyment of other property in the immediate vicinity for the purposes already permitted, nor substantially diminish and impair property values within the neighborhood;

The proposed use will not affect the use and function of the lights and antenna equipment located on the existing pole. The proposed use will generate revenue for the school district.

3. That the establishment of the special use will not impede the normal and orderly development and improvement of surrounding property for uses permitted in the district;

The proposed use will not impede the development of surrounding property as the proposed microwave antenna will be collocated with existing antennas on the existing monopole and associated ground equipment will be placed within the existing shelter.

4. That adequate utilities, access roads, drainage, and/or necessary facilities have been or are being provided;

Adequate infrastructure is available on site for the proposed use.

5. That adequate measures have been or will be taken to provide ingress or egress so designed as to minimize traffic congestion in public streets; and

Direct vehicular access from Higgins Road to the subject site is provided by an access drive and bituminous parking area.

6. That the special use shall in all other respects conform to the applicable regulations of the district in which it is located, except in each instance as such regulations may be modified by the Village Board pursuant to the recommendation of the Zoning Board of Appeals.

The subject property is zoned R-3 (One-family Residential District). Antennas and Communication Towers are permitted as an Accessory Use in the R-3 zoning district. As part of this application we are requesting a Height Variation to collocate a 14.6-inch microwave antenna on the existing monopole.

Standards for Variations

- 1. The Zoning Board of Appeals shall not recommend the variation of the regulations of the Code unless it shall first make a finding based upon the evidence presented to it in each specific case that:
 - a. The property in question cannot yield a reasonable return if permitted to be used only under the conditions allowed by the regulations in the district in which it is located;
 - b. The plight of the owner is due to unique circumstances;
 - c. The variation, if granted, will not alter the essential character of the locality.

The proposed use will generate revenue for the school district. The proposed 14.6-inch microwave antenna will be collocated with existing antennas on the existing monopole and associated ground equipment will be placed within the existing shelter, therefore, the variation will not alter the essential character of the locality.

- 2. For the purpose of implementing the above rules, the Board shall also, in making its determination whether there are practical difficulties or particular hardships, take into consideration the extent to which the following facts favorable to the applicant have been established by the evidence;
 - a. The particular physical surroundings, shape of topographical condition of the specific property involved would result in a particular hardship upon the owner, as distinguished from a mere inconvenience, if the strict letter of the regulations were carried out;

b. The conditions upon which the petition for a variation is based would not be applicable, generally, to other property within the same zoning classification;

c. The purpose of the variation is not based exclusively upon a desire to increase the value of the property;

d. The alleged difficulty or hardship has not been based exclusively upon a desire to increase the value of property;

e. The granting of the variation will not be detrimental to the public welfare or injurious to other property or improvements in the neighborhood in which the property is located; and

f. The proposed variation will not impair an adequate supply of light and air to adjacent property, or substantially increase the congestion in the public streets, or increase the danger of fires, or endanger the public safety, or substantially diminish or impair property values in the neighborhood.

Clear Wireless is an affiliate of Sprint and will be operating the wireless internet aspect of the business. Sprint already has an existing antenna facility at this location. However, the T-1 lines that service the facility do not provide the speed or capacity necessary for the site to deliver internet service that meets the expectations of its customers. Therefore, Clear Wireless proposes to improve internet service in the area by replacing the existing T-1 service with a microwave backhaul network. As shown in the propagation maps, the subject property was specifically selected to fill a gap in the internet coverage of the surrounding area; therefore, the purpose of the variation is not based exclusively upon a desire to increase the value of the property.

The proposed variation will not be detrimental to the public welfare or injurious to other property or improvements in the neighborhood, or impair an adequate supply of light and air to adjacent property, or substantially increase the congestion in the public streets, or increase the danger of fires, or endanger the public safety, or substantially diminish or impair property values in the neighborhood.

Thank you for your time and consideration of our request. Please contact me if you have any question.

Respectfully

*i*osh Metzer

FMHC Corporation

8600 W Bryn Mawr Avenue

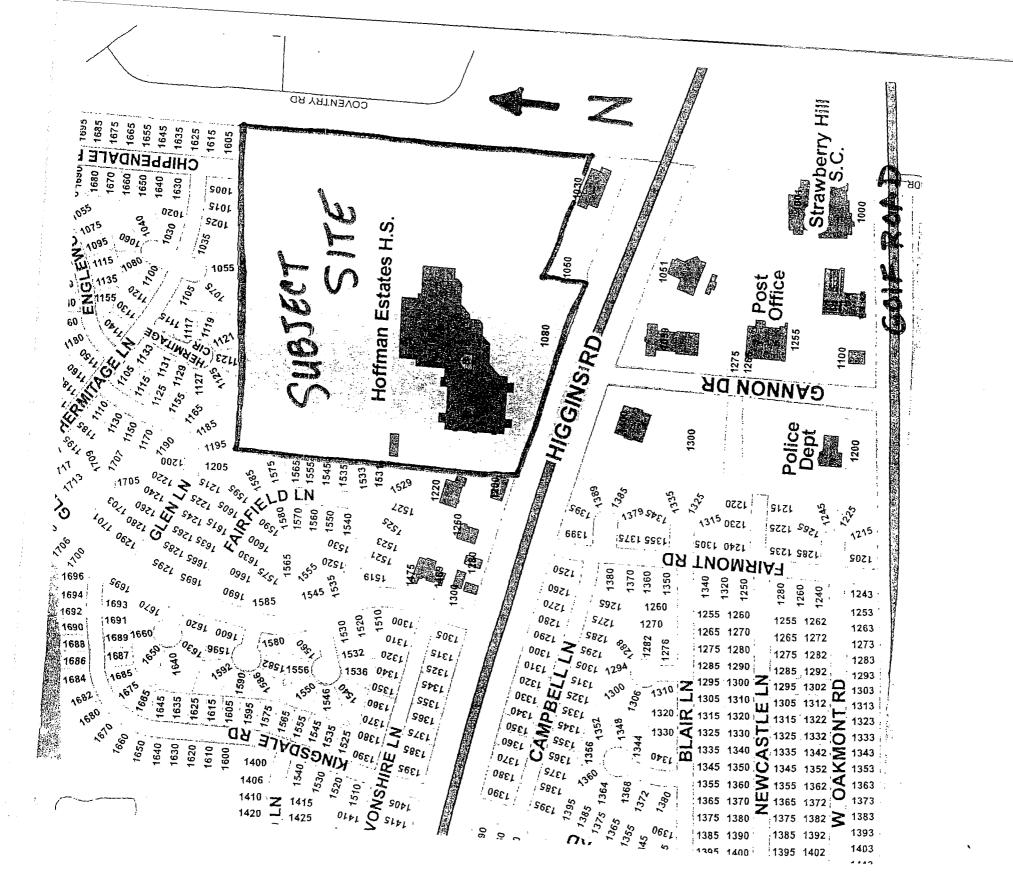
Suite 600N

Chicago, IL 60631

773-380-3824

773-693-0850 (fax)

imetzer@fmhc.com



Date: September 13, 2010

Branden Woodard Crown Castle USA Inc. 2000 Corporate Drive Canonsburg, PA 15317 (724) 416-2537



GPD Associates

520 S. Main St. Suite 2531

Akron, OH 44311 (614) 859-1618

londecker@gpdgroup.com

Subject:

Structural Analysis Report

Carrier Designation:

Clearwire Co-Locate Carrier Site Number:

Carrier Site Name:

IL-CHI5456

Crown-F2-4812 ET Hoffman Estat

Crown Castle Designation:

Crown Castle BU Number: Crown Castle Site Name:

875447

F2- 4812 ET- Hoffman Estates H

Crown Castle JDE Job Number: Crown Castle Work Order Number:

142049 356996

Engineering Firm Designation:

GPD Associates Project Number:

2010185.83

Site Data:

1000 W Higgins Rd., Hoffman Estates, IL 60195, Cook County

Latitude 42° 3′ 9.03″, Longitude -88° 6′ 20.67″

88 Foot - Summit Monopole Tower

Dear Branden Woodard,

GPD Associates is pleased to submit this "Structural Analysis Report" to determine the structural integrity of the above mentioned tower. This analysis has been performed in accordance with the Crown Castle Structural 'Statement of Work' and the terms of Crown Castle Purchase Order Number 386934, in accordance with application 107367, revision 2.

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

LC1: Existing + Reserved + Proposed Equipment

Sufficient Capacity

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

The analysis has been performed in accordance with the TIA/EIA-222-F standard based upon a wind speed of 75 mph fastest mile.

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

Respectfully submitted by:

David B. Granger, P.E. Illinois #: 081-005701

061-005701 CHICAGO ILLINOIS

DAVID B. GRANGER

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1) INTRODUCTION

The existing monopole has eighteen sides and is evenly tapered from 31.44" (flat-flat) at the base to 16.5" (flat-flat) at the top. It has two major sections connected with a slip joint. The structure is galvanized and has no tower lighting.

The tower was originally designed for Sprint by Summit Manufacturing, LLC of West Hazleton, Pennsylvania for an 80 mph wind speed with 1/2" radial ice (25% reduction) in accordance with TIA/EIA-222-F -1996.

2) ANALYSIS CRITERIA

The structural analysis was performed for this tower in accordance with the requirements of TIA/EIA-222-F Structural Standards for Steel Antenna Towers and Antenna Supporting Structures using a fastest mile wind speed of 75 mph with no ice, 65 mph with 0.5 inch ice thickness and 50 mph under service loads.

Table 1 - Proposed Antenna and Cable Information

Mounting Level (ft)	Elevention	Number of Antennas	Antenna Manufacturer	CONTRACTOR AND	Number of Feed Lines	Feed Line Size (in)	Note
88	94	1	Dragonwave	A-ANT-18G-2-C	2	1-5/8 1/2	
	92	1	MTI Wireless Edge	MT-485025/NVH			1
	88	1	Dragonwave	Horizon DUO	•		

Notes:

Table 2 - Existing and Reserved Antenna and Cable Information

Mounting Level (ft)	Center Line Elevation (ft)	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines	Feed Line Size (in)	Note
	90	3	Argus	LLPX310R-V1	5 5	1/4 3/8	
1	89	3	EMS Wireless	RV65-18-02DPL2	15	7/8	1,2
88		4	EMS Wireless	RR90-11-05DBL			
		2	EMS Wireless	RR65-12-00DBL			
		3	Motorola	WAP25400 TMA			
	88	1		Platform Mount [LP 713-1]	<u> </u>		
79	79	1	Miscl.	Stadium Light Rack			

Notes:

¹⁾ See Appendix B for proposed coax layout.

^{1) (1)} of the RR65-12-00DBL antennas shall be removed and (1) 7/8" coax shall become Clearwire equipment prior to the installation of the proposed loading.

²⁾ Both the existing and MLA loadings were considered. In this case, the MLA loading controls.

Table 3 - Design Antenna and Cable Information

Mounting Level (ft)	Flovation	Number of Antennas	Antenna Manufacturer	Antenna Model	Number of Feed Lines					
		1		14' Low Profile Platform						
88		88	88	88	88	1		5/8" Lightning Rod		
		12	DAPA	48000 PCS						
79				18 Light Cage						
79				Lighting (CAAA= 68 sq. ft)						
47	17	2		40.5"x14"x10" Light Enclosures						
17		1		52.5"x14"x10" Light Enclosures						

3) ANALYSIS PROCEDURE

Table 4 - Documents Provided

Document	Remarks	Reference	Source
Original Tower Drawings	Summit Manufacturing Job #: 29201-0373, dated 10/9/01	Doc ID #: 1521123	Crown DMZ
Foundation Drawings	Summit Manufacturing Job #: 29201-0373, dated 5/12/01	Doc ID #: 1434630	Crown DMZ
Geotechnical Report	AE&T Job #: SPR-00-GEO-072, dated 2/26/01	Doc ID #: 1521099	Crown DMZ

3.1) Analysis Method

RISATower (version 5.4.2.0), a commercially available analysis software package, was used to create a three-dimensional model of the tower and calculate member stresses for various loading cases. Selected output from the analysis is included in Appendix A.

3.2) Assumptions

- 1) Tower and structures were built in accordance with the manufacturer's specifications.
- 2) The tower and structures have been maintained in accordance with the manufacturer's specification.
- 3) The configuration of antennas, transmission cables, mounts and other appurtenances are as specified in Tables 1 and 2 and the referenced drawings.
- 4) When applicable, transmission cables are considered as structural components for calculating wind loads as allowed by TIA/EIA-222-F.
- 5) Mount sizes, weights, and manufacturers are best estimates based on site photos provided and are determined without the benefit of a site visit by GPD.

This analysis may be affected if any assumptions are not valid or have been made in error. GPD Associates should be notified to determine the effect on the structural integrity of the tower.

4) ANALYSIS RESULTS

Table 5 - Section Capacity (Summary)

Section No.	Elevation (ft)	Component Type	Size	Critical Element	P (K)	SF*P_allow (K)	% Capacity	Pass / Fail
L1	88 - 48	Pole	TP23.461x16.5x0.1875	1	-5,18	703.90	76.4	Pass
L2	48 - 0	Pole	TP31.44x22.5639x0.2188	2	-9.59	1126.94	95.6	Pass
							Summary	
						Pole (L2)	95.6	Pass
						Rating =	95.6	Pass

Table 6 - Tower Component Stresses vs. Capacity - LC1

Notes	Component	Elevation (ft)	% Capacity	Pass / Fail
1	Anchor Rods		54.9%	Pass
1	Base Plate		72.9%	Pass
1	Base Foundation		51.9%	Pass

Structure Rating (max from all components) = 95.6%

Notes:

4.1) Recommendations

The design of the existing tower and its foundation is sufficient for the proposed loading and does not require modification.

Table 7 - Dish Tilt/Sway Results for 60 mph Service Wind Speed

Elevation (ft)	Dish Model	Diameter (ft)	Tilt-Sway Limit (deg)	Calculated Tilt-Sway (deg)
94	A-ANT-18G-2-C	2.175	1.2043	2.5134

Notes:

Twist-Sway Limit calculated per Annex D of TIA-222-G.

1) 2) Calculated Twist-Sway is greater than Twist-Sway Limit. Please contact the RF engineer.

See additional documentation in "Appendix C - Additional Calculations" for calculations supporting the % capacity consumed.

5) DISCLAIMER OF WARRANTIES

GPD ASSOCIATES has not performed a site visit to the tower to verify the member sizes or antenna/coax loading. If the existing conditions are not as represented on the tower elevation contained in this report, we should be contacted immediately to evaluate the significance of the discrepancy. This is not a condition assessment of the tower or foundation. This report does not replace a full tower inspection. The tower and foundations are assumed to have been properly fabricated, erected, maintained, in good condition, twist free, and plumb.

The engineering services rendered by GPD ASSOCIATES in connection with this Structural Analysis are limited to a computer analysis of the tower structure and theoretical capacity of its main structural members. All tower components have been assumed to only resist dead loads when no other loads are applied. No allowance was made for any damaged, bent, missing, loose, or rusted members (above and below ground). No allowance was made for loose bolts or cracked welds.

GPD ASSOCIATES does not analyze the fabrication of the structure (including welding). It is not possible to have all the very detailed information needed to perform a thorough analysis of every structural sub-component and connection of an existing tower. GPD ASSOCIATES provides a limited scope of service in that we cannot verify the adequacy of every weld, plate connection detail, etc. The purpose of this report is to assess the feasibility of adding appurtenances usually accompanied by transmission lines to the structure.

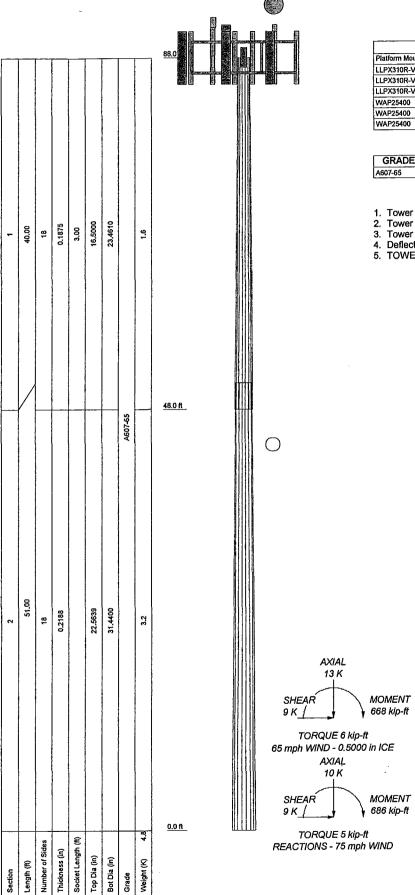
It is the owner's responsibility to determine the amount of ice accumulation, if any, that should be considered in the structural analysis.

The attached sketches are a schematic representation of the analyzed tower. If any material is fabricated from these sketches, the contractor shall be responsible for field verifying the existing conditions, proper fit, and clearance in the field. Any mentions of structural modifications are reasonable estimates and should not be used as a precise construction document. Precise modification drawings are obtainable from GPD ASSOCIATES, but are beyond the scope of this report.

Miscellaneous items such as antenna mounts, etc., have not been designed or detailed as a part of our work. We recommend that material of adequate size and strength be purchased from a reputable tower manufacturer.

GPD ASSOCIATES makes no warranties, expressed and/or implied, in connection with this report and disclaims any liability arising from material, fabrication, and erection of this tower. GPD ASSOCIATES will not be responsible whatsoever for, or on account of, consequential or incidental damages sustained by any person, firm, or organization as a result of any data or conclusions contained in this report. The maximum liability of GPD ASSOCIATES pursuant to this report will be limited to the total fee received for preparation of this report.

APPENDIX A RISA TOWER OUTPUT



DESIGNED APPURTENANCE LOADING

TYPE	ELEVATION	TYPE	ELEVATION
Platform Mount [LP 713-1]	88	Horizon DUO	88
LLPX310R-V1 w/ Mount Pipe	88	(3) FV65-14-00NA2 w/Mount Pipe	88
LLPX310R-V1 w/ Mount Pipe	88	(3) FV65-14-00NA2 w/Mount Pipe	88
LLPX310R-V1 w/ Mount Pipe	88	(3) FV65-14-00NA2 w/Mount Pipe	88
WAP25400	88	MT-485025/NVH	88
WAP25400	88	A-ANT-18G-2-C	88
WAP25400	88	Stadium Light Rack	79

MATERIAL STRENGTH

GRADE	Fy	Fu	GRADE	Fy	Fu
A607-65	65 ksi	80 ksi			

TOWER DESIGN NOTES

- 1. Tower is located in Cook County, Illinois.
 2. Tower designed for a 75 mph basic wind in accordance with the TIA/EIA-222-F Standard.
 3. Tower is also designed for a 65 mph basic wind with 0.50 in ice.
 4. Deflections are based upon a 50 mph wind.
 5. TOWER RATING: 95.6%



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Feedline Distribution Chart 0' - 88'

Round _____ Flat ____ App In Face ____ App Out Face ____ Truss Le

Face B Face C Face A 88.00 88.00 79.00 79.00 (2) LDF7-50A (1-5/8 FOAM) (9) LDF7-50A (1-5/8 FOAM) LDF5-50A (7/8 FOAM) LDF4-50A (1/2 FOAM) (5) FSJ1-50A (1/4") (2) 2" Flex Conduit (5) LDF2\S0(3/8") 48.00 Elevation (ft) 8.00 8,00

GPÜ	iR	DUP	
_	 _		

GPD Associates
520 S. Main St. Suite 2531
Akron, OH 44311
Phone: (614) 859-1618
FAX: (330) 572-2101

ob: F2-4812 ET-Hoffman Estates H (BU# 875447,							
Project: 2010185.83							
Client: Crown Castle	Drawn by: londecker						
Code: TIA/EIA-222-F		Scale: NTS					
Path: N:\2010\2010185\83\RISA	N875447.eri	Dwg No. E-7					

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Tower Input Data

There is a pole section.

This tower is designed using the TIA/EIA-222-F standard.

The following design criteria apply:

Tower is located in Cook County, Illinois.

Basic wind speed of 75 mph.

Nominal ice thickness of 0.5000 in.

Ice density of 56 pcf.

A wind speed of 65 mph is used in combination with ice.

Temperature drop of 50 °F.

Deflections calculated using a wind speed of 50 mph.

A non-linear (P-delta) analysis was used.

Pressures are calculated at each section.

Stress ratio used in pole design is 1.333.

Local bending stresses due to climbing loads, feedline supports, and appurtenance mounts are not considered.

Options

Consider Moments - Legs Consider Moments - Horizontals Consider Moments - Diagonals Use Moment Magnification

√ Use Code Stress Ratios

 ✓ Use Code Safety Factors - Guys Escalate Ice
 Always Use Max Kz

Use Special Wind Profile

- ✓ Include Bolts In Member Capacity
 ✓ Leg Bolts Are At Top Of Section
- √ Secondary Horizontal Braces Leg
 Use Diamond Inner Bracing (4 Sided)
 Add IBC .6D+W Combination

Distribute Leg Loads As Uniform Assume Legs Pinned

- ✓ Assume Rigid Index Plate
- ✓ Use Clear Spans For Wind Area
 ✓ Use Clear Spans For KL/r
- Retension Guys To Initial Tension
- ✓ Bypass Mast Stability Checks
 ✓ Use Azimuth Dish Coefficients
- √ Project Wind Area of Appurt.
- √ Autocalc Torque Arm Areas
 SR Members Have Cut Ends
 Sort Capacity Reports By Component
- √ Triangulate Diamond Inner Bracing

- Treat Feedline Bundles As Cylinder Use ASCE 10 X-Brace Ly Rules
- √ Calculate Redundant Bracing Forces Ignore Redundant Members in FEA SR Leg Bolts Resist Compression
- √ All Leg Panels Have Same Allowable Offset Girt At Foundation
- √ Consider Feedline Torque Include Angle Block Shear Check ∠Poles
- √ Include Shear-Torsion Interaction Always Use Sub-Critical Flow Use Top Mounted Sockets

Tapered Pole Section Geometry

Section	Elevation ft	Section Length ft	Splice Length ft	Number of Sides	Top Diameter in	Bottom Diameter in	Wall Thickness in	Bend Radius in	Pole Grade
Ll	88.00-48.00	40.00	3.00	18	16.5000	23.4610	0.1875	0.7500	A607-65 (65 ksi)
L2	48.00-0.00	51.00		18	22.5639	31.4400	0.2188	0.8750	A607-65 (65 ksi)

Tapered Pole Properties

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Section	Tip Dia.	Area	I	r	С	I/C	J	It/Q	w	w/t
	in	in ²	in ⁴	in	in	in³	in⁴	in ²	in	
L1	16.7545	9.7080	326.3677	5.7909	8,3820	38.9367	653.1649	4.8549	2.5740	13.728
	23.8229	13.8506	947.8306	8.2621	11.9182	79.5281	1896.9085	6.9266	3.7991	20.262
L2	23,4422	15.5145	978.6868	7.9325	11.4625	85.3818	1958.6613	7.7587	3.5863	16.394
	31.9250	21.6773	2669.5822	11.0835	15.9715	167.1464	5342.6771	10.8407	5.1484	23.536

Tower Elevation	Gusset Area	Gusset Thickness	Gusset Grade .	Adjust. Factor $A_{\it f}$	Adjust. Factor	Weight Mult.	Double Angle Stitch Bolt	Double Angle Stitch Bolt
	(per face)			•	A_r		Spacing	Spacing
	-						Diagonals	Horizontals
ft	ft²	in					in	in
L1 88.00-48.00				1	1	1		
L2 48.00-0.00				11	1	1		

Feed Line/Linear Appurtenances - Entered As Area

Description	Face or	Allow Shield	Component Type	Placement	Total Number		$C_A A_A$	Weight
	Leg		-71-	ft			ft²/ft	plf
LDF5-50A (7/8 FOAM)	С	No	Inside Pole	88.00 - 8.00	1	No Ice	0.00	0.33
, ,						1/2" Ice	0.00	0.33
LDF4-50A (1/2 FOAM)	С	No	Inside Pole	88.00 - 8.00	1	No Ice	0.00	0.15
,						1/2" Ice	0.00	0.15
FSJ1-50A (1/4")	С	No	Inside Pole	88.00 - 8.00	5	No Ice	0.00	0.05
• •						1/2" Ice	0.00	0.05
LDF2-50(3/8")	С	No	Inside Pole	88.00 - 8.00	5	No Ice	0.00	0.08
, ,						1/2" Ice	0.00	0.08
2" Flex Conduit	С	No	Inside Pole	88.00 - 8.00	2	No Ice	0.00	0.32
						1/2" Ice	0.00	0.32
LDF7-50A (1-5/8	С	No	Inside Pole	88.00 - 8.00	2	No Ice	0.00	0.82
FOAM)						1/2" Ice	0.00	0.82
LDF7-50A (1-5/8	С	No	Inside Pole	88.00 - 8.00	9	No Ice	0.00	0.82
FOAM)						1/2" Ice	0.00	0.82
2,5" Coax	Α	No	Inside Pole	79.00 - 8.00	2	No Ice	0.00	1.00
		_				1/2" Ice	0.00	1.00

Feed Line/Linear Appurtenances Section Areas

Tower Section	Tower Elevation	Face	A_R	A_F	C _A A _A In Face	$C_A A_A$ Out Face	Weight
	ft		ft^2	ft²	ft²	ft ²	K
Ll	88.00-48.00	A	0.000	0.000	0:000	/ 0.000	0.06
		В	0.000	0.000	0.000	0.000	0.00
		С	0.000	0.000	0.000	0.000	0.43
L2	48.00-0.00	Α	0.000	0.000	0.000	0.000	0.08
		В	0.000	0.000	0.000	0.000	0.00
		C	0.000	0.000	0.000	0.000	0.43

Feed Line/Linear Appurtenances Section Areas - With Ice

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Tower Section	Tower Elevation	Face or	Ice Thickness	A_R	A_F	$C_A A_A$ In Face	$C_A A_A$ Out Face	Weight
	ft	Leg	in	ft²	ft^2	ft²	ft²	K
L1	88.00-48.00	A	0.500	0.000	0.000	0.000	0.000	0.06
		В		0.000	0.000	0.000	0.000	0.00
		С		0.000	0.000	0.000	0.000	0.43
L2	48.00-0.00	Α	0.500	0.000	0.000	0.000	0.000	0.08
		В		0.000	0.000	0.000	0.000	0.00
		C		0.000	0.000	0.000	0.000	0.43

Feed Line Center of Pressure

Section	Elevation	CP_X	CP_Z	CP _X Ice	CP _z Ice
	ft	in	in	in	in
L1	88.00-48.00	0.0000	0.0000	0.0000	0.0000
L2	48.00-0.00	0.0000	0.0000	0.0000	0.0000

										S	

Description	Face or Leg	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	Placement		C _A A _A Front	C _A A _A Side	Weight
			reri fi fi fi	o	ft		ft²	ft²	K
Platform Mount [LP 713-1]	С	None		0.0000	88.00	No Ice 1/2" Ice	31.27 39.68	31.27 39.68	1.51 1.93
LLPX310R-V1 w/ Mount Pipe	A	From Centroid-Fa ce	4.00 0.00 2.00	0.0000	88.00	No Ice 1/2" Ice	4.84 5.19	1.96 2.22	0.03 0.05
LLPX310R-V1 w/ Mount Pipe	В	From Centroid-Fa ce	4.00 0.00 2.00	0.0000	88.00	No Ice 1/2" Ice	4.84 5.19	1.96 2.22	0.03 0.05
LLPX310R-V1 w/ Mount Pipe	С	From Centroid-Fa	3.46 2.00 2.00	30.0000	88.00	No Ice 1/2" Ice	4.84 5.19	1.96 2.22	0.03 0.05
WAP25400	A	From Centroid-Fa	4.00 0.00 0.00	0.0000	88.00	No Ice 1/2" Ice	2.10 2.33	1.58 1.79	0.03 0.04
WAP25400	В	From Centroid-Fa	4.00 0.00 0.00	0.0000	88.00	No Ice 1/2" Ice	2.10 2.33	1.58 1.79	0.03 0.04
WAP25400	С	From Centroid-Fa	3.46 0.00 0.00	30.0000	88.00	No Ice 1/2" Ice	2.10 2.33	1.58 1.79	0.03 0.04
Horizon DUO	В	From Centroid-Fa	4.00 0.00 0.00	0.0000	88.00	No Ice 1/2" Ice	0.55 0.65	0.34 0.43	0.01 0.01
(3) FV65-14-00NA2 w/Mount Pipe	A	From Centroid-Fa	4.00 0.00 0.00	-20.0000	88.00	No Ice 1/2" Ice	8.64 9.29	6.95 8.13	0.06 0.12
(3) FV65-14-00NA2 w/Mount Pipe	В	From Centroid-Fa	4.00 0.00	30.0000	88.00	No Ice 1/2" Ice	8.64 9.29	6.95 8.13	0.06 0.12

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Description	Face or Leg	Offset Type	Offsets: Horz Lateral	Azimuth Adjustment	Placement		C _A A _A Front	C _A A _A Side	Weigh
			Vert ft fi ft	o	ft		ft²	ft²	K
(0) 577/65 11 00) 11 0		ce	0.00	40.000	00.00				
(3) FV65-14-00NA2 w/Mount Pipe	С	From Centroid-Fa ce	3.46 2.00 0.00	10.0000	88.00	No Ice 1/2" Ice	8.64 9.29	6.95 8.13	0.06 0.12
MT-485025/NVH	A	From Centroid-Fa ce	4.00 0.00 4.00	-62.0000	88.00	No Ice 1/2" Ice	2.07 2.27	0.23 0.32	0.01 0.01
Stadium Light Rack	A	From Leg	1.00 0.00 0.00	0.0000	79.00	No Ice 1/2" Ice	70.00 120.00	70.00 120.00	1.50 2.50

Description	Face or Leg	Dish Type	Offset Type	Offsets: Horz Lateral Vert	Azimuth Adjustment	3 dB Beam Width	Elevation	Outside Diameter		Aperture Area	Weigh
				ft	0	•	ft	ft		ft²	K
-ANT-18G-2-C	В	Paraboloid	From	4.00	0.0000		88.00	2,17	No Ice	3.72	0.03
		w/Shroud (HP)	Centroid	0.00					1/2" Ice	4.01	0.06
		` '	-Face	6.00							

Tower Pressures - No Ice

 $G_H = 1.690$

Section Elevation	Z	Kz	q_z	A_G	F a	A_F	A_R	Aleg	Leg %	$C_A A_A$ In	C _A A _A Out
ft	ft		psf	ft² _	c e	ft²	ft²	ft²		Face ft²	Face ft²
L1 88.00-48.00	67.26	1.226	18	66.602	A	0.000	66.602	66.602	100.00	0.000	0.000
	1				В	0.000	66.602		100.00	0.000	0.000
					C	0.000	66.602		100.00	0.000	0.000
L2 48.00-0.00	22.91	1	15	109.052	Α	0.000	109.052	109.052	100.00	0.000	0.000
					В	0.000	109.052		100.00	0.000	0.000
					С	0.000	109.052		100.00	0.000	0.000

Tower Pressure - With Ice

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Section Elevation	z	Kz	q_z	t_Z	A_G	F a	A_F	A_R	Aleg	Leg %	C _A A _A In	C _A A _A Out
ft	ft		psf	in	ft²	с е_	ft²	ft²	ft²		Face ft ²	Face ft²
L1 88.00-48.00	67.26	1.226	13	0.5000	69.935	Α	0.000	69.935	69.935	100.00	0.000	0.000
						В	0.000	69.935		100.00	0.000	0.000
						C	0.000	69.935		100.00	0.000	0.000
L2 48.00-0.00	22.91	1	11	0.5000	113.052	Α	0.000	113.052	113.052	100.00	0.000	0.000
1	į					В	0.000	113.052		100.00	0.000	0.000
					_	С	0.000	113.052		100.00	0.000	0.000

Tower Pressure - Service

 $G_H = 1.690$

Section Elevation	z	Kz	q_z	A_G	F a	A_F	A_R	Aleg	Leg %	$C_A A_A$ In	$C_A A_A$ Out
ft	fi		psf	ft²	c e	ft²	ft²	ft²		Face ft²	Face ft²
L1 88.00-48.00	67.26	1.226	8	66.602	Α	0.000	66.602	66.602	100.00	0.000	0.000
					В	0.000	66.602		100.00	0.000	0.000
					С	0.000	66.602		100.00	0.000	0.000
L2 48.00-0.00	22.91	1	6	109.052	Α	0.000	109.052	109.052	100.00	0.000	0.000
					В	0.000	109.052		100.00	0.000	0.000
				_	C	0.000	109.052		100.00	0.000	0.000

Tower Forces - No Ice - Wind Normal To Face

Section	Add	Self	F	e	C_F	R_R	D_F	D_R	A_E	F	w	Ctrl.
Elevation	Weight	Weight	a									Face
	7/	**	C						£2	**	10	
Jt	K	K	e_		_				<i>jt</i>	K	plf	
L1	0.49	1.60	Α	1	0.65	1	1	1	66.602	1.29	32.15	C
88.00-48.00			В	1	0.65	1	1	1	66.602			
			C	1	0.65	1	1	1	66.602			
L2 48.00-0.00	0.51	3.23	Α	1	0.65	1	1	1	109.052	1.74	36.31	C
			В	1	0.65	1	1	1	109.052			
			С	1	0.65	1	1	1	109.052			
Sum Weight:	1.00	4.83	ļ					OTM	126.42	3.03		
									kip-ft			

Tower Forces - No Ice - Wind 60 To Face

										_		~ .
Section	Add	Self	F	e	C_F	R_R	D_{F}	D_R	A_E	F	w	Ctrl.
Elevation	Weight	Weight	a									Face
			c									
ft	K	K	e						ft²	K	plf	
L1	0.49	1.60	A	1	0.65	1	1	1	66.602	1.29	32.15	С
88.00-48.00			В	1	0.65	1	1	1	66.602			
			C	1	0.65	1	1	1	66.602			
L2 48.00-0.00	0.51	3.23	Α	1	0.65	1	1	1	109.052	1.74	36.31	C
1			В	1	0.65	1	1	1	109.052			

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	Crown Castle	londecker

Section Elevation	Add Weight	Self Weight	F a	e	C_F	R_R	D_F	D_R	A_E	F	w	Ctrl. Face
ft	K	K	c e						ft²	K	plf	
Sum Weight:	1.00	4.83	С	1	0.65	1	1	OTM	109.052 126.42 kip-ft	3.03		

Tower Forces - No Ice - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a	е	C_F	R_R	D_F	D_R	A_E	F	w	Ctrl. Face
ft	K	K	c e						ft²	K	plf	
L1	0.49	1.60	Α	1	0.65	1	1	1	66.602	1.29	32.15	C
88.00-48.00			В	1	0.65	1	1	1	66.602			
			С	1	0.65	1	1	1	66.602			
L2 48.00-0.00	0.51	3.23	Α	1	0.65	1	1	1	109.052	1.74	36.31	C
			В	1	0.65	1	1	1	109.052			
[C	1	0.65	1	1	1	109.052	l		
Sum Weight:	1.00	4.83						OTM	126.42	3.03		
									kip-ft			

Tower Forces - With Ice - Wind Normal To Face

Section Elevation	Add Weight	Self Weight	F a	e	C_F	R_R	D_F	D_R	A_E	F	w	Ctrl. Face
ft	K	K	c e						fî²	K	plf	
L1	0.49	2.11	Α	1	0.65	1	1	1	69.935	1.01	25.32	С
88.00-48.00			В	1	0.65	1	1	1	69.935			
			C	1	0.65	1	1	1	69.935			
L2 48.00-0.00	0.51	4.05	Α	1	0.65	1	1	1	113.052	1.36	28.23	C
			В	1	0.65	1	1	1	113.052			
]			C	1	0.65	1	1	1	113.052			
Sum Weight:	1.00	6.16						OTM	99.16	2.37		
									kip-ft			

Tower Forces - With Ice - Wind 60 To Face

Section Elevation	Add Weight	Self Weight	F a	e	C_F	R_R	D_F	D_R	A_E	F	w	Ctrl. Face
f f	ν	K	с						£2	K	plf	7 400
J ^t 11	<u>^</u>		e	1	0.65	1		. ,	60.025			C
L1	0.49	2.11	A		0.65	1	1	1	69.935	1.01	25.32	
88.00-48.00			В	I	0.65	1	1	1	69.935			
l l			С	1	0.65	1	1	1	69.935			
L2 48.00-0.00	0.51	4.05	A	1	0.65	1	1	1	113.052	1.36	28.23	C
·			В	1	0.65	1	1	1	113.052			
			С	1	0.65	1	1	1	113.052			
Sum Weight:	1.00	6.16						OTM	99.16	2.37		

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	Crown Castle	londecker

Section Elevation	Add Weight	Self Weight	F a	e	C_F	R_R	D_F	D_R	A_E	F	w	Ctrl. Face
ft	K	K	c e						ft²	K	plf	
			l						kip-ft			

Tower Forces - With Ice - Wind 90 To Face

Section	Add	Self	F	е	C_F	R_R	D_{F}	D_R	A_E	F	w	Ctrl.
Elevation	Weight	Weight	a									Face
_			С		1				-1			
ft	K	K	e_						ft^2	K	plf	
Ll	0.49	2.11	Α	1	0.65	1	1	1	69.935	1.01	25.32	С
88.00-48.00			В	1	0.65	1	1	1	69.935			
			С	1	0.65	1	1	1	69.935			
L2 48.00-0.00	0.51	4.05	Α	1	0.65	1	1	1	113.052	1.36	28.23	С
1			В	1	0.65	1	1	1	113.052			
			C	1	0.65	1	1	1	113.052			
Sum Weight:	1.00	6.16						OTM	99.16	2.37		l i
									kip-ft			

Tower Forces - Service - Wind Normal To Face

Section	Add	Self	F	e	C_F	R_R	D_F	D_R	A_E	F	w	Ctrl.
Elevation	Weight	Weight	а									Face
	**	v	С						_{Fr2}	**	16	
Ĵŧ	K	K	е						JΓ	K ·	plf	
L1	0.49	1.60	Α	1	0.65	1	1	1	66.602	0.57	14.29	C
88.00-48.00			В	1	0.65	1	1	1	66.602	i		
1			С	1	0.65	1	1	1	66.602			
L2 48.00-0.00	0.51	3.23	Α	1	0.65	1	1	1	109.052	0.77	16.14	С
			В	1	0.65	1	1	1	109.052			
		;	С	1	0.65	1	1	1	109.052			
Sum Weight:	1.00	4.83						OTM	56.19	1.35		
									kip-ft			

Tower Forces - Service - Wind 60 To Face

Section	Add	Self	F	e	C_F	R_R	D_F	D_R	A_E	F	w	Ctrl.
Elevation	Weight	Weight	а						i			Face
ft	K	K	c e						ft²	K	plf	
L1	0.49	1.60	Α	1	0.65	1	1	1	66.602	0.57	14.29	С
88.00-48.00			В	1	0.65	1	1	1	66.602			
			C	1	0.65	1	1	1	66.602			ł
L2 48.00-0.00	0.51	3.23	Α	1	0.65	1	1	. 1	109.052	0.77	16.14	С
	i		В	1	0.65	1	1	1	109.052			
	-		С	1	0.65	1	1	1	109.052			
Sum Weight:	1.00	4.83						OTM	56.19	1.35		
									kip-ft			

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Tower Forces - Service - Wind 90 To Face

Section Elevation	Add Weight	Self Weight	F a	е	C_F	R_R	D_F	D_R	A_E	F	w	Ctrl. Face
ft	K	K	c e						ft²	K	plf	
L1	0.49	1.60	Α	1	0.65	1	1	1	66,602	0.57	14.29	С
88.00-48.00			В	1	0.65	1	1	1	66.602			
			C	1	0.65	1	1	1	66.602			
L2 48.00-0.00	0.51	3.23	Α	1	0.65	1	1	1	109.052	0.77	16.14	С
			В	1 [0.65	1	1	1	109.052			
		i	C	1	0.65	1	1	1	109.052			
Sum Weight:	1.00	4.83		· .				OTM	56.19	1.35		
									kip-ft			

Force Totals

Load	Vertical	Sum of	Sum of	Sum of	Sum of	Sum of Torques
Case	Forces	Forces	Forces	Overturning	Overturning	
1		X	Z	Moments, M_x	Moments, Mz	
	K	K	K	kip-ft	kip-ft	kip-ft
Leg Weight	4.83		Parties on		a series	
Bracing Weight	0.00	45	-242			
Total Member Self-Weight	4.83			-2.84	0.31	
Total Weight	9.61			-2.84	0.31	
Wind 0 deg - No Ice		0.13	-9.01	-636.81	-11.27	-1.48
Wind 30 deg - No Ice		4.74	-7.84	-555.33	-338.07	-3.91
Wind 60 deg - No Ice		8.08	-4.59	-327.52	-574.12	-5.23
Wind 90 deg - No Ice		9.28	-0.12	-13.61	-657.80	-5.15
Wind 120 deg - No Ice		8.00	4.39	304.11	-566.58	-3.75
Wind 150 deg - No Ice		4.56	7.74	540.96	-322.07	-1.36
Wind 180 deg - No Ice		-0.16	9.01	631.77	14.62	1.55
Wind 210 deg - No Ice		-4.76	7.86	551.68	340.88	3.92
Wind 240 deg - No Ice		-8.11	4.60	323,25	577.19	5.23
Wind 270 deg - No Ice		-9.31	0.13	8.80	661.28	5.14
Wind 300 deg - No Ice		-8.02	-4.37	-307.76	569.13	3.68
Wind 330 deg - No Ice		-4.54	-7.76	-547.90	320.52	1.36
Member Ice	1.33					# ** F * * * * * * * * * * * * * * * * *
Total Weight Ice	13.05			-4.80	0.64	
Wind 0 deg - Ice	3-50	0.10	-8.49	-618.62	-8.52	-1.25
Wind 30 deg - Ice		4.41	-7.38	-539.07	-321.18	-4.05
Wind 60 deg - Ice		7.54	-4.31	-317.76	-547.54	-5.71
Wind 90 deg - Ice		8.66	-0.09	-13.31	-628.26	-5.85
Wind 120 deg - Ice	XXX年1942年	7.47	4.16	294.17	-541.64	-4.47
Wind 150 deg - Ice		4.27	7.31	522.65	-308.59	-1.90
Wind 180 deg - Ice	58.2	-0.12	8.50	609.54	12.01	1.30
Wind 210 deg - Ice		-4.43	7.40	531.12	324.22	4.05
Wind 240 deg - Ice		-7.56	4.32	309.29	550.79	5.71
Wind 270 deg - Ice		-8.69	0.10	4.41	631.85	5.85
Wind 300 deg - Ice		-7.49	-4.14	-302.13	544.48	4.42
Wind 330 deg - Ice	5.7	-4.25	-7.32	-533.27	308.11	1.90
Total Weight	9.61			-2.84	0.31	3 - 25 SEM
Wind 0 deg - Service		0.06	-4.00	-284.61	-4.84	-0.66
Wind 30 deg - Service		2.11	-3.48	-248.39	-150.08	-1.74
Wind 60 deg - Service		3.59	-2.04	-147.15	-254.99	-2.32
Wind 90 deg - Service		4.12	-0.05	-7.63	-292.18	

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Load	Vertical	Sum of	Sum of	Sum of	Sum of	Sum of Torques
Case	Forces	Forces	Forces	Overturning	Overturning	
		X	Z	Moments, M_x	Moments, Mz	
	K	K	K	kip-ft	kip-ft	kip-ft
Wind 120 deg - Service	750	3.56	1.95	133.58	-251.64	-1.67
Wind 150 deg - Service		2.03	3.44	238.85	-142.97	-0.60
Wind 180 deg - Service	学 证证	-0.07	4.01	279.21	6.67	0.69
Wind 210 deg - Service		-2.12	3.49	243.61	151.67	1.74
Wind 240 deg - Service		-3.60	2.05	142.09	256.70	2.32
Wind 270 deg - Service		-4.14	0.06	2.33	294.07	2.29
Wind 300 deg - Service		-3.56	-1.94	-138.36	253.12	1.64
Wind 330 deg - Service		-2.02	-3.45	-245.09	142.63	0.60

Load Combinations

Comb.	Description
No.	
1	Dead Only
2	Dead+Wind 0 deg - No Ice
3	Dead+Wind 30 deg - No Ice
4	Dead+Wind 60 deg - No Ice
5	Dead+Wind 90 deg - No Ice
6	Dead+Wind 120 deg - No Ice
7	Dead+Wind 150 deg - No Ice
8	Dead+Wind 180 deg - No Ice
9	Dead+Wind 210 deg - No Ice
10	Dead+Wind 240 deg - No Ice
11	Dead+Wind 270 deg - No Ice
12	Dead+Wind 300 deg - No Ice
13	Dead+Wind 330 deg - No Ice
14	Dead+Ice+Temp
15	Dead+Wind 0 deg+Ice+Temp
16	Dead+Wind 30 deg+Ice+Temp
17	Dead+Wind 60 deg+Ice+Temp
18	Dead+Wind 90 deg+Ice+Temp
19	Dead+Wind 120 deg+Ice+Temp
20	Dead+Wind 150 deg+Ice+Temp
21	Dead+Wind 180 deg+Ice+Temp
22	Dead+Wind 210 deg+Ice+Temp
23	Dead+Wind 240 deg+Ice+Temp
24	Dead+Wind 270 deg+Ice+Temp
25	Dead+Wind 300 deg+Ice+Temp
26	Dead+Wind 330 deg+Ice+Temp
27	Dead+Wind 0 deg - Service
28	Dead+Wind 30 deg - Service
29	Dead+Wind 60 deg - Service
30	Dead+Wind 90 deg - Service
31	Dead+Wind 120 deg - Service
32	Dead+Wind 150 deg - Service
33	Dead+Wind 180 deg - Service
34	Dead+Wind 210 deg - Service
35	Dead+Wind 240 deg - Service
36	Dead+Wind 270 deg - Service
37	Dead+Wind 300 deg - Service
38	Dead+Wind 330 deg - Service

Maximum Member Forces

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Section No.	Elevation ft	Component Type	Condition	Gov. Load Comb.	Force K	Major Axis Moment kip-ft	Minor Axis Moment kip-fi
Ll	88 - 48	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-8.27	0.68	5.13
			Max. Mx	11	-5.18	248,32	-2.59
			Max. My	15	-7.80	-3.74	242,22
			Max. Vy	11	-7.82	248.32	-2.59
			Max. Vx	15	-7.57	-3.74	242.22
			Max. Torque	18			5.73
L2	48 - 0	Pole	Max Tension	1	0.00	0.00	0.00
			Max. Compression	14	-13.05	0.71	5.29
			Max. Mx	11	- 9.59	685.53	-9 .14
			Max. My	2	-9.59	-11.73	660.22
			Max. Vy	11	-9.32	685.53	- 9.14
			Max. Vx	8	9.03	15,22	-654.88
			Max, Torque	18			5.71

Maximum Reactions

Location	Condition	Gov.	Vertical	Horizontal, X	Horizontal, 2
		Load	K	<i>K</i> .	K
		Comb.			
Pole	Max, Vert	24	13.05	8.69	-0.10
	Max. H _x	11	9.61	9.31	-0.13
	Max. H _z	2	9.61	-0.13	9.01
	Max. M _x	2	660.22	-0.13	9.01
	Max. Mz	5	681.90	-9.28	0.12
	Max. Torsion	18	5.68	-8.66	0.09
	Min. Vert	1	9.61	0.00	0.00
	Min. H _x	5	9.61	-9.28	0.12
	Min. H _z	8	9.61	0.16	-9 .01
	Min. M _x	8	-654.88	0.16	-9.01
	Min. Mz	11	-685.53	9.31	-0.13
	Min. Torsion	24	-5.61	8.69	-0.10

Tower Mast Reaction Summary

Load Combination	Vertical	Shear _x	Shear _z	Overturning Moment, M _x	Overturning Moment, Mz	Torque
	K	Κ .	K.	kip-ft	kip-ft	kip-ft
Dead Only	9.61	0.00	-0.00	-3.03	0.33	-0.00
Dead+Wind 0 deg - No Ice	9.61	0.13	-9 .01	-660.22	-11.73	-1.45
Dead+Wind 30 deg - No Ice	9.61	4.74	-7.84	-575.71	-350.53	-3.81
Dead+Wind 60 deg - No Ice	9.61	8.08	-4 .59	-339.55	-595.19	-5.11
Dead+Wind 90 deg - No Ice	9.61	9.28	-0.12	-14.19	-681.90	-5.04
Dead+Wind 120 deg - No Ice	9.61	8.00	4.39	315.16	-587.37	-3,66
Dead+Wind 150 deg - No Ice	9.61	4.56	7.74	560.73	-333.90	-1.29
Dead+Wind 180 deg - No Ice	9.61	-0.16	9.01	654.88	15.22	1.61
Dead+Wind 210 deg - No Ice	9.61	-4.76	7.86	571.84	353.43	3.89
Dead+Wind 240 deg - No Ice	9.61	-8.11	4.60	335.05	598.36	5.10
Dead+Wind 270 deg - No Ice	9.61	-9.31	0.13	9.14	685.53	4.95
Dead+Wind 300 deg - No Ice	9.61	-8.02	-4.37	-319.01	590.05	3.50
Dead+Wind 330 deg - No Ice	9.61	-4.54	-7.76	-568.05	332.30	1.29
Dead+Ice+Temp	13.05	-0.00	-0.00	-5.29	0.71	-0.00

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Load	Vertical	Shear _x	Shear _z	Overturning	Overturning	Torque
Combination				Moment, M_x	Moment, M_z	
	K	K	<u> </u>	kip-ft	kip-ft	kip-ft
Dead+Wind 0 deg+Ice+Temp	13.05	0.10	-8.49	-653.07	-9.04	-1.25
Dead+Wind 30 deg+Ice+Temp	13.05	4.41	-7.38	-569.08	-339.04	-3.96
Dead+Wind 60 deg+Ice+Temp	13.05	7.54	- 4.31	-335.50	-577.91	-5.56
Dead+Wind 90 deg+Ice+Temp	13.05	8.66	-0.09	-14.23	-663.07	-5.68
Dead+Wind 120 deg+Ice+Temp	13.05	7.47	4.16	310.27	-571.66	-4.31
Dead+Wind 150 deg+Ice+Temp	13.05	4.27	7.31	551.44	-325.68	-1.78
Dead+Wind 180 deg+Ice+Temp	13.05	-0.12	8.50	643.15	12.77	1.38
Dead+Wind 210 deg+Ice+Temp	13.05	-4.43	7.40	560.38	342.27	4.02
Dead+Wind 240 deg+Ice+Temp	13.05	-7.56	4.32	326.31	581.37	5.56
Dead+Wind 270 deg+Ice+Temp	13.05	-8.69	0.10	4.58	666.92	5.61
Dead+Wind 300 deg+Ice+Temp	13.05	-7.49	-4.14	-318.94	574.74	4.18
Dead+Wind 330 deg+Ice+Temp	13.05	-4.25	-7.32	-562.98	325.23	1.77
Dead+Wind 0 deg - Service	9.61	0.06	-4.00	-295.51	-5.04	-0.66
Dead+Wind 30 deg - Service	9.61	2.11	-3.48	-257.92	-155.82	-1.72
Dead+Wind 60 deg - Service	9.61	3.59	-2.04	-152.83	-264.72	-2.29
Dead+Wind 90 deg - Service	9.61	4.12	-0.05	-8.02	-303,32	-2.25
Dead+Wind 120 deg - Service	9.61	3.56	1.95	138.56	-261.23	-1.63
Dead+Wind 150 deg - Service	9.61	2.03	3.44	247.84	-148.41	-0.58
Dead+Wind 180 deg - Service	9.61	-0.07	4.01	289.74	6.96	0.71
Dead+Wind 210 deg - Service	9.61	-2.12	3.49	252.80	157.49	1.74
Dead+Wind 240 deg - Service	9.61	-3.60	2.05	147.43	266,51	2,29
Dead+Wind 270 deg - Service	9.61	-4.14	0.06	2.37	305.31	2.23
Dead+Wind 300 deg - Service	9.61	-3.56	-1.94	-143.67	262.79	1.58
Dead+Wind 330 deg - Service	9.61	-2.02	-3.45	-254.49	148,06	0.58

Solution Summary

h	Su	m of Applied Force	s		Sum of Reactions			
Load	PX	PY	PZ	PX	PΥ	PZ	% Error	
Comb.	K	K	K	K	K	K		
1	0.00	-9.61	0.00	0.00	9.61	0.00	0.000%	
. 2	0.13	- 9.61	-9.01	-0.13	9.61	9.01	0.000%	
3	4.74	- 9.61	-7.84	-4.74	9.61	7.84	0.000%	
4	8.08	-9.61	-4.59	-8.08	9.61	4.59	0.000%	
5	9.28	-9.61	-0.12	-9.28	9.61	0.12	0.000%	
6	8.00	- 9.61	4.39	-8.00	9.61	-4.39	0.000%	
7	4.56	-9.61	7.74	-4.56	9.61	-7.74	0.000%	
8	-0.16	-9.61	9.01	0.16	9.61	-9.01	0.000%	
9	-4.76	-9.61	7.86	4.76	9.61	-7.86	0.000%	
10	-8.11	-9.61	4.60	8.11	9.61	-4.60	0.000%	
11	-9.31	-9.61	0.13	9.31	9.61	-0.13	0.000%	
12	-8.02	-9.61	-4.37	8.02	9.61	4.37	0.000%	
13	-4.54	- 9.61	-7.76	4.54	9.61	7.76	0.000%	
14	0.00	-13.05	0.00	0.00	, 13.05	0.00	0.000%	
15	0.10	-13.05	-8.49	-0.10	13.05	8.49	0.000%	
16	4.41	-13.05	-7.38	-4.41	13.05	7.38	0.000%	
17	7.54	-13.05	-4.31	-7.54	13.05	4.31	0.000%	
18	8.66	-13.05	-0.09	-8.66	13.05	0.09	0.000%	
19	7.47	-13.05	4.16	-7.47	13.05	-4.16	0.000%	
20	4.27	-13.05	7.31	-4.27	13.05	-7.31	0.000%	
21	-0.12	-13.05	8.50	0.12	13.05	-8.50	0.000%	
22	-4.43	-13.05	7.40	4.43	13.05	-7.40	0.000%	
23	-7.56	-13.05	4.32	7.56	13.05	-4.32	0.000%	
24	-8.69	-13.05	0.10	8.69	13.05	-0.10	0.000%	
25	-7.49	-13.05	-4.14	7.49	13.05	4.14	0.000%	
26	-4.25	-13.05	-7.32	4.25	13.05	7.32	0.000%	
27	0.06	-9.61	-4.00	-0.06	9.61	4.00	0.000%	
28	2.11	-9.61	-3.48	-2.11	9.61	3.48	0.000%	

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	Sui	n of Applied Force	S	• =	Sum of Reaction	um of Reactions						
Load	PX	PY	PZ	PX	PY	PZ	% Error					
Comb.	K	K	K	<i>K</i>	K	K						
29	3.59	-9.61	-2.04	-3.59	9.61	2.04	0.000%					
30	4.12	-9 .61	-0.05	-4.12	9.61	0.05	0.000%					
31	3.56	-9.61	1.95	-3.56	9.61	-1.95	0.000%					
32	2.03	-9.61	3.44	-2.03	9.61	-3.44	0.000%					
33	-0.07	-9 .61	4.01	0.07	9.61	-4.01	0.000%					
34	-2.12	-9.61	3.49	2.12	9.61	-3.49	0.000%					
35	-3.60	-9.61	2.05	3.60	9.61	-2.05	0.000%					
36	-4.14	-9.61	0.06	4.14	9.61	-0.06	0.000%					
37	-3.56	-9 .61	-1.94	3.56	9.61	1.94	0.000%					
38	-2.02	- 9.61	-3.45	2.02	9.61	3.45	0.000%					

Non-Linear Convergence Results

Load	Converged?	Number	Displacement	Force
Combination		of Cycles	Tolerance	Tolerance
1	Yes	4	0.00000001	0.00000001
2	Yes	5	0.0000001	0.00007188
3	Yes	5	0.00000001	0.00043596
4	Yes	5	0.00000001	0.00074409
5	Yes	5	0.00000001	0.00034770
6	Yes	5	0.00000001	0.00036678
7	Yes	5	0.00000001	0.00049272
8	Yes	5	0.00000001	0.00013362
9	Yes	5	0.0000001	0.00065395
10	Yes	5	0.0000001	0.00042279
11	Yes	5	0.0000001	0.00029605
12	Yes	5	0.0000001	0.00062925
13	Yes	5	0.0000001	0.00042058
14	Yes	4	0.00000001	0.00005912
15	Yes	5	0.00000001	0.00025325
16	Yes	6	0.0000001	0.00008546
17	Yes	6	0.00000001	0.00013895
18	Yes	6	0.0000001	0.00006970
19	Yes	6	0.0000001	0.00007432
20	Yes	6	0.00000001	0.00009628
21	Yes	5	0.0000001	0.00035584
22	Yes	6	0.0000001	0.00012036
23	Yes	6	0.0000001	0.00008423
24	Yes	5	0.00000001	0.00097439
25	Yes	6	0.0000001	0.00012244
26	Yes	6	0.0000001	0.00008232
27	Yes	4	0.0000001	0.00061465
28	Yes	5	0.0000001	0.00008504
29	Yes	5	0.0000001	0.00016733
30	Yes	5	0.0000001	0.00011146
31	Yes	5	0.0000001	0.00006585
32	Yes	5	0.00000001	0.00008217
33	Yes	4	0.0000001	0.00079153
34	Yes	5	0.00000001	0.00013323
35	Yes	5	0.00000001	0.00009385
36	Yes	5	0.0000001	0.00010445
37	Yes	5	0.00000001	0.00013131
38	Yes	5	0.00000001	0.00006503
· ·				

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Project		Date
	2010185.83	12:04:00 09/13/10
Client	Crown Castle	Designed by londecker

Maximum Tower Deflections - Service Wind

Section No.	Elevation	Horz. Deflection	Gov. Load	Tilt	Twist
	ft	in	Comb.	0	•
Ll	88 - 48	26.295	29	2.5134	0.0710
L2	51 - 0	9.190	29	1.6810	0.0257

Critical Deflections and Radius of Curvature - Service Wind

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
ft		Comb.	in	0	•	fl
94.00	A-ANT-18G-2-C	29	26.295	2.5134	0.0712	9259
88.00	Platform Mount [LP 713-1]	29	26.295	2.5134	0.0712	9259
79.00	Stadium Light Rack	29	21.632	2.3295	0.0588	5144

Maximum Tower Deflections - Design Wind

Elevation	Horz.	Gov.	Tilt	Twist
	Deflection	Load		
ft	in	Comb.	0	
88 - 48	58.720	11	5.6093	0.1659
51 - 0	20.575	11	3.7611	0.0629
•	ft 88 - 48	ft in 88 - 48 58.720	ft in Load Comb. 88 - 48 58.720 11	Deflection Load ft in Comb. 88 - 48 58.720 11 5.6093

Critical Deflections and Radius of Curvature - Design Wind

Elevation	Appurtenance	Gov. Load	Deflection	Tilt	Twist	Radius of Curvature
ft		Comb.	in	•	•	ft
94.00	A-ANT-18G-2-C	11	58.720	5.6093	0.1665	4209
88.00	Platform Mount [LP 713-1]	11	58.720	5.6093	0.1665	4209
79.00	Stadium Light Rack	11	48.325	5.2021	0.1383	2337

Compression Checks

Pole Design Data

Section No.	Elevation	Size	L	L_u	Kl/r	F_a	A	Actual P	Allow. P _a	Ratio P
	ft		ft	ft		ksi	in ²	K	K	P_a
L1	88 - 48 (1)	TP23.461x16.5x0.1875	40.00	0.00	0.0	39.000	13.5399	-5.18	528.06	0.010
L2	48 - 0 (2)	TP31.44x22.5639x0.2188	51.00	0.00	0.0	39.000	21.6773	-9.59	845.41	0.011

GPD Associates 520 S. Main St. Suite 2531 Akron, OH 44311 Phone: (614) 859-1618 FAX: (330) 572-2101

Job		Page
	F2-4812 ET-Hoffman Estates H (BU# 875447)	14 of 15
Project		Date
•	2010185.83	12:04:00 09/13/10
Client	Crown Castle	Designed by londecker

Section	Elevation	Size	L	Lu	Kl/r	F_a	A	Actual	Allow.	Ratio
No.							_	P	P_a	P
	ft		ft	ft		ksi	in ²	K	K	P_a

Section Elevation No.		Size	Actual M _x	Actual f_{bx}	Allow. F_{bx}	Ratio f _{bx}	Actual M _y	Actual f _{by}	Allow. F _{by}	Ratio f _{by}
	ft		kip-ft	ksi	ksi	F_{bx}	kip-ft	ksi	ksi	$\overline{F_{by}}$
L1	88 - 48 (1)	TP23.461x16.5x0.1875	248.68	39.272	39.000	1.007	0.00	0.000	39.000	0.000
L2	48 - 0 (2)	TP31.44x22.5639x0.2188	685.78	49.234	39.000	1.262	0.00	0.000	39.000	0.000

Pole Shear Design Data

Section	Elevation	Size	Actual	Actual	Allow.	Ratio	Actual	Actual	Allow.	Ratio
No.			V	f_{ν}	F_{v}	f_{ν}	T	f_{vt}	$F_{\nu\prime}$	f_{v_l}
	ft		K	ksi	ksi	$\overline{F_{\mathbf{v}}}$	kip-ft	ksi	ksi	$\frac{J_{vl}}{F_{vl}}$
L1	88 - 48 (1)	TP23.461x16.5x0.1875	7.81	0.577	26.000	0.044	5.13	0.396	26.000	0.015
L2	48 - 0 (2)	TP31,44x22,5639x0.2188	9.34	0.431	26.000	0.033	5.10	0.179	26.000	0.007
	, ,									

Pole Interaction Design Data

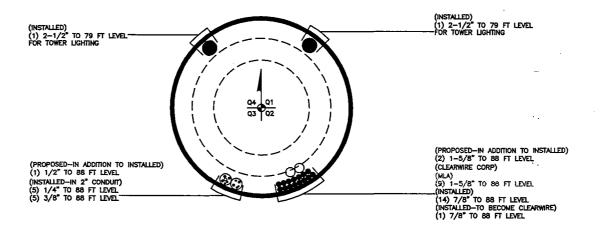
Section No.	Elevation	Ratio P	Ratio f _{bx}	Ratio f _{by}	Ratio f _v	Ratio f _{vi}	Comb. Stress	Allow. Stress	Criteria
	ft	$\overline{P_a}$	$\overline{F_{bx}}$	$\overline{F_{by}}$	$\overline{F_{\nu}}$	F_{vt}	Ratio	Ratio	
L1	88 - 48 (1)	0.010	1.007	0.000	0.044	0.015	1.018	1.333	H1-3+VT 🗸
L2	48 - 0 (2)	0.011	1.262	0.000	0.033	0.007	1.274	1.333	H1-3+VT 🗸

Section Capacity Table

Section No.	Elevation ft	Component Type	Size	Critical Element	P K	SF*P _{allow} K	% Capacity	Pass Fail
L1	88 - 48	Pole	TP23.461x16.5x0.1875	1	-5.18	703.90	76.4	Pass
L2	48 - 0	Pole	TP31.44x22.5639x0.2188	2	-9.59	1126.94	95.6	Pass
							Summary	
						Pole (L2)	95.6	Pass
						RATING =	95.6	Pass

APPENDIX B BASE LEVEL DRAWING

~ 對





BUSINESS UNIT: 875447 TOWER ID: C_BASELEVEL

LEGEND: FEEDLINES

- SOLID BLUE CIRCLE DENOTES EXISTING FEEDLINE
- OPEN RED CIRCLE DENOTES PROPOSED FEEDLINE
- X BLUE "X" DENOTES LOCATION NOT GIVEN

NOTE: ASSUME FEEDLINE ATTACHMENT HEIGHT TO TOWER STEEL AT 8-FEET ABOVE FINISHED GRADE UNLESS OTHERWISE SPECIFIED

APPENDIX C ADDITIONAL CALCULATIONS

Square, Unstiffened Base Plate, Any Rod Material - Rev. F

Assumptions: Rod groups at corners. Total # rods divisible by 4. Maximum total # of rods = 48.

Rod Spacing = Straight Center-to-Center distance between any (2) adjacent rods (same corner)

Site Data

BU#: 875447

Site Name: F2-4812 ET-HOFFMAN ESTATES H

App #: 107367 Rev. 2

Reactions							
Moment:	686	ft-kips					
Axial:		kips					
Shear:	9	kips					

Connection Type: Butt

Anch	Anchor Rod Data									
Qty:	8									
Diam:	2.25	in								
Rod Material:	A615-J									
Grade(Fy):	75	ksi								
Bolt Circle:	38	in								
Anchor Spacing:	6	in								

Plate Data								
W=Side:	36	in						
Thick:	2.25	in						
Grade:	55	ksi						
B effective	19.47	in						

Pole Data							
Diam: 31.44 in							
Thick:	0.21875	in					
Grade:	65	ksi					

Stress	Increase Factor	
ASIF	1.333	

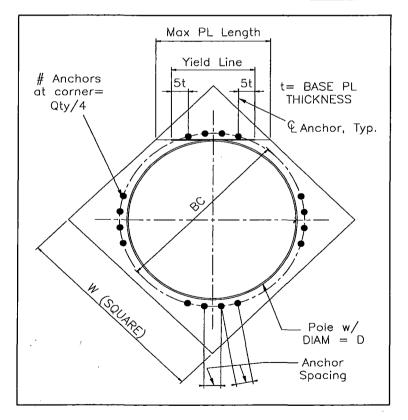
Anchor Rod Results

Maximum Rod Tension:107.1 KipsAllowable Tension:195.0 KipsAnchor Rod Stress Ratio:54.9% Pass

Base Plate Results

Base Plate Stress:40.1 ksiAllowable Plate Stress:55.0 ksiBase Plate Stress Ratio:72.9% Pass

PL Ref. Data
Yield Line (in):
19.47
Max PL Length:
19.47



GPD ASSOCIATES

CAISSON ANALYSIS WORKSHEET

Client: Crown Castle USA 2010185.83 Job No.: Site ID: 875447 Of Sheet No: LRO 9/13/2010 Site Name: F2-4812 ET-HOFFMAN ESTATES H Made By: Date: Location: Cook County, IL Chk'd By: Date: Loading Type: Wind Code: E

FOUNDATION DATA

Diameter = ft Length = ft 16 Rebar Size = #11 # of bars = 12 Tie Size = #5 Clear Cover = 3 inches Edge to Bar Center = 4.33 inches ksi

RISA Reactions (Service)

Moment = 686 | ft-k
Axial = 10 | kips
Shear = 9 | kips

SOIL CAPACITY FROM CAISSON PROGRAM USING ADDITIONAL SAFETY FACTORS

ADDITIONAL SAFETY FACTOR FROM CAISSON = 3.85

Capacity = Safety Factor of 2 = 2.00 = 51.9% O.K.
Additional Safety Factor = 3.85

GPD Calsson Analysis Worksheet - V1.01

*** PIER PROPERTIES	CONCRETE STRENGTH (ksi) =	3.00	STEEL STRENGTH (ksi) =	60.00
	DIAMETER (ft) = 5.000	DISTANCE FROM TOP OF PIER	TO GROUND LEVEL (ft) =	0.50

***	SOIL	PROPERTIES	LAYER	TYPE	THICKNESS	DEPTH AT TOP OF	LAYER	DENSITY	CÜ	KP	PHI
					(ft)		(ft)	(pcf)	(psf)		(degrees)
			1	C	5.00		0.00	114.0	0.0		_
			2	С	6.00		5.00	116.0	3000.0		
			3	С	5.00		11.00	55.0	2500.0		

*** DESIGN (FACTORED) LOADS AT TOP OF PIER MOMENT (ft-k) = 686.0 VERTICAL (k) = 10.0 SHEAR (k) = 9.0 ADDITIONAL SAFETY FACTOR AGAINST SOIL FAILURE = 3.85

*** CALCULATED PIER LENGTH (ft) = 16.000

*** CHECK OF SOILS PROPERTIES AND ULTIMATE RESISTING FORCES ALONG PIER

TYPE	TOP OF LAYER	BELOW TO	OF PIER	THICKNESS	DENSITY	CU	KP	FORCE	ARM
		~	(ft)	(ft)	(pcf)	(psf)		(k)	(ft)
С	,		0.50	5.00	114.0	0.0		0.00	3.00
C	•		5.50	5.02	116.0	3000.0		602.62	8.01
С			10.52	0.98	116.0	3000.0		-117.37	11.01
С			11.50	4.50	55.0	2500.0		-450.00	13.75

*** SHEAR AND MOMENTS ALONG PIER

	WITH THE ADDITIONAL	SAFETY FACTOR	WITHOUT ADDITIONAL	SAFETY FACTOR
DISTANCE BELOW TOP OF PIER (ft)	SHEAR (k)	MOMENT (ft-k)	SHEAR (k)	MOMENT (ft-k)
0.00	35.2	2652.3	9.2	688.9
1.60	35.2	2708.7	9.2	703.6
3.20	35.2	2765.1	9.2	718.2
4.80	35.2	2821.5	9.2	732.9
6.40	-72.7	2829.3	-18.9	734.9
8.00	-264.7	2559.3	-68.8	664.8
9.60	- 456.7	1982.1	-118.6	514.8
11.20	-486.0	1152.9	-126.2	299.5
12.80	-320.0	512.0	-83.1	133.0
14.40	-160.0	128.0	-41.6	33.2
16.00	0.0	-0.0	0.0	-0.0

```
*** TOTAL REINFORCEMENT PCT = 0.30 REINFORCEMENT AREA (in^2) =
                                                                           8.48
*** USABLE AXIAL CAP. (k) = 10.0 USABLE MOMENT CAP. (ft-k) = 945.4
*** US Standard Re-Bars (Select one of the following):
    43 BARS #4 (AREA = 0.20 \text{ in}^2 \text{ DIA} = 0.500 \text{ in}) AT SPACING (in) =
    28 BARS #5 (AREA = 0.31 \text{ in}^2 DIA = 0.625 \text{ in}) AT SPACING (in) = 5.61
    20 BARS #6 (AREA = 0.44 \text{ in}^2 DIA = 0.750 \text{ in}) AT SPACING (in) = 7.85
    15 BARS #7 (AREA = 0.60 \text{ in}^2 DIA = 0.875 \text{ in}) AT SPACING (in) = 10.47
    11 BARS #8 (AREA = 0.79 in^2 DIA = 1.000 in) AT SPACING (in) = 14.28
        BARS #9 (AREA = 1.00 \text{ in}^2 DIA = 1.128 \text{ in}) AT SPACING (in) = 17.45
        BARS #10 (AREA = 1.27 \text{ in}^2 DIA = 1.270 \text{ in}) AT SPACING (in) = 22.44
      BARS #11 (AREA = 1.56 \text{ in}^2 DIA = 1.410 \text{ in}) AT SPACING (in) = 26.18
        BARS #14 (AREA = 2.25 in^2 DIA = 1.693 in) AT SPACING (in) = 39.27
*** PRESSURE UNDER CAISSON DUE TO DESIGN AXIAL LOAD (psf) =
                                                                  509.3
```

U.W. Short Course - 1998

Moment Capacity of Drilled Concrete Shaft (Caisson) for TIA Rev F or G

Note: Shaft assumed to have ties, not spiral, transverse reinforcing

S	ite	Data

BU#: 875447

Site Name: F2- 4812 ET- HOFFMAN ESTATES

App #: 107367 Rev. 2

	ad Factors	
For M (WL)	1.3	< Enter Factor
For P (DL)	1.3	< Enter Factor

$\overline{}$	na	roto	

Pier Diameter = 5.0 ft

Pier Properties

Concrete Area = 2827.4

Reinforcement:

Clear Cover to Tie= Horiz. Tie Bar Size= 5

3.00 lin

Vert. Cage Diameter =

4.28 51.34

ft

in

in in²

in²

Vert. Cage Diameter = Vertical Bar Size = 11

Bar Diameter = 1.41

Bar Area =

1.56 Number of Bars = 12

As Total=

18.72

A s/ Aconc, Rho: 0.0066 0.66%

ACI 10.5, ACI 21.10.4, and IBC 1810.

Min As for Flexural, Tension Controlled, Shafts:

(3)*(Sqrt(f'c)/Fy: 0.0027

200 / Fy: 0.0033

IBC 1810.1.2: 0.0025 SDC C 0.33%

Governing:

0.0033

ACI 10.8 and 10.9

Min As for Columns, Comp. Controlled, Shafts:

Min As:

0.0050

0.50%

Minimum Rho Check:

Actual Reg'd Min. Rho: 0.33%

Provided Rho: 0.66%

Flexural OK

Maximum Shaft Superimposed Forces TIA Revision F Max. Service Shaft M: 734.9 ft-kips (* Note) Max. Service Shaft P: 10 kips Max Axial Force Type: Comp.

(*) Note: Max Shaft Superimposed Moment does not necessarily equal to the shaft top reaction moment

Load Factor	Sha	ft Factore	ed Loads
1.30	Mu:	955.37	ft-kips
1.30	Pu:	13	kips

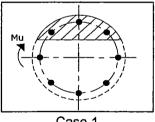
Material Proper	ties	
Concrete Comp. strength, fc =	3000	psi
Reinforcement yield strength, Fy =	60	ksi
Reinforcing Modulus of Elasticity, E =	29000	ksi
Reinforcement yield strain =	0.00207	- -
Limiting compressive strain =	0.003	
ACI 318 Code	e	_
Select Analysis ACI Code=	2002]
Seismic Proper	ties	_
Seismic Design Category =	C C	
Seismic Risk =	Moderate	

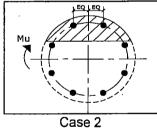


<-- Press Upon Completing All Input

Results:

Governing Orientation Case: 2





Case 1

Dist. From Edge to Neutral Axis:

10.49

Extreme Steel Strain, et:

0.0127

et > 0.0050, Tension Controlled

Reduction Factor,φ:

0.900

<-- Comment Box

Ref. Shaft Max Axial Capacities, φ Max(Pn or Tn):					
Max Pu = (φ=0.65) Pn.					
Pn per ACI 318 (10-2)	4308.42	kips			
at Mu=(φ=0.65)Mn=	1857.14	ft-kips			
Max Tu, (φ=0.9) Tn =	1010.88	kips			
at Mu=φ=(0.90)Mn=	0.00	ft-kips			
aι iviu=φ=(0.90)ivin=	0.00	пт-кірѕ			

Output Note: Negative Pu=Tension

For Axial Compression, φ Pn = Pu:

13.00 2034.91

kips ft-kips ft-kips

in

Drilled Shaft Superimposed Mu:

955.37

46.95%

(Mu/φMn, Drilled Shaft Flexure CSR:

SHEET INDEX NO DESCRIPTION TAL TITLE SHEET LS-I SITE SURVEY C-I SITE PLAN C-2 ENLARGED SITE PLAN C-3 SHELTER/ANTENNA PLAN C-4 SITE ELEVATION AND DETAILS E-I SINGLE LINE AND NOTES DRIVING DIRECTIONS

DEPART FROM CLEARWIRE OFFICE: DEPART ON SR-12 (W HIGGINS RD) (WEST) TURN RIGHT ONTO RAMP TOLL ROAD MERGE ONTO 1-90 KEEP LEFT TO STAY ON RAMP BEAR LEFT (SOUTH) ONTO N ROSELLE RD TURN RIGHT (WEST) ONTO SR-58 (W GOLF RD) BEAR RIGHT (NORTH-WEST) ONTO SR-72 (W HIGGINS RD) ARRIVE AT SITE

clearw re®

wireless broadband

SITE NAME

HOFFMAN HS.

SITE NUMBER

II -CHI5456

SITE ADDRESS

1000 W. HIGGINS RD. SCHAUMBURG, IL 60195

PROJECT TYPE

BACKHAUL PROJECT

VICINITY MAP



clear wire wireless broadband

SUITE 150 ROSEMONT, IL 60018 TEL (841) 792-9951 FAX (841) 292-9958 APPLICANT

EVEREST GROUP

PROJECT TEAM

THE EVEREST GROUP, LLC TOTA W WITH ST WORTH, IL 60482 TEL: (708) 923-1363

REAL ESTATE

Fullence Engineering Consult 9600 W. BRYN MAUR AVE.

ROSEMONT, ILL INOIS 60018 TEL: 847-252-0700 FAX: 841-292-0206 ENGINEER

HANDICAR ACCESS REQUIREMENTS ARE NOT REQUIRED

- FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
- 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 BACKHAUL DISH ANTENNAS INSTALLED ON EXISTING MONOPOLE
- NEW CLEARWIRE BACKHAUL EQUIPMENT INSTALLED

PROJECT SUMMARY

SITE NAME:

HOFFMAN U.S.

SITE NO

IL -CHI5456

SPRINT HOST NO: TOWER NO:

11 8114 CCI* 875447

1000 W. HIGGINS RD. SCHAUMBURG IL 60195

COUNTY

LANDLORD ADDRESS

CROWN CASTLE INTERNATIONAL 9450 III BRYN MAUR AVE, STE 340 ROSEMONT, IL 60018

SITE COORDINATES (FROM CLEARVISION): LATITUDE: N 42.0525* LONGITUDE: UI 881046*

N 42.0525* W 88.1046*

(NAD 83)

ZONING:

JURISDICTION:

BUILDING CODE

INTERNATIONAL BUILDING CODE 2006 EDITION

ELECTRICAL CODE:

NATIONAL ELECTRIC CODE

ENGINEER'S LICENSE

I CERTIFY THAT THESE DRAWING 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 2006 EDITION

LICENSED ENGINEER - STATE OF ILLINOIS



EXPIRES: // 30/1 SIGNED (0/22/10

APPROVALS				
CLEARWIRE CONST.	DATE			
CLEARWIRE RF	DATE			
CLEARWIRE OP5	DATE			
LANDLORD	DATE			

DRAWING SCALED TO II"xIT"

clearw re

wireless broadbace

SECTION HIGGINS RD SUITE 150 ROSEMONT IL 60018 TEL (847) 292-9951 FAX (847) 292-9958



Fullerion Engineering Consultants 3600 W. BRYN MAWR AVE SUITE 200 ROSEMONT, ILLINOIS 60018 TEL: 847-292-0200 FAX: 847-292-0206 DESIGN FIRM NO. 184-007498

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_	05/06/03	90% REVIEW	RO
_	05/73/09	FINAL	RA
	05/04/10	REVISIONS	JC
_	06/22/10	REVISIONS	x
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SITE HAME

HOFFMAN H.S.

SITE NO

IL-CHI5456

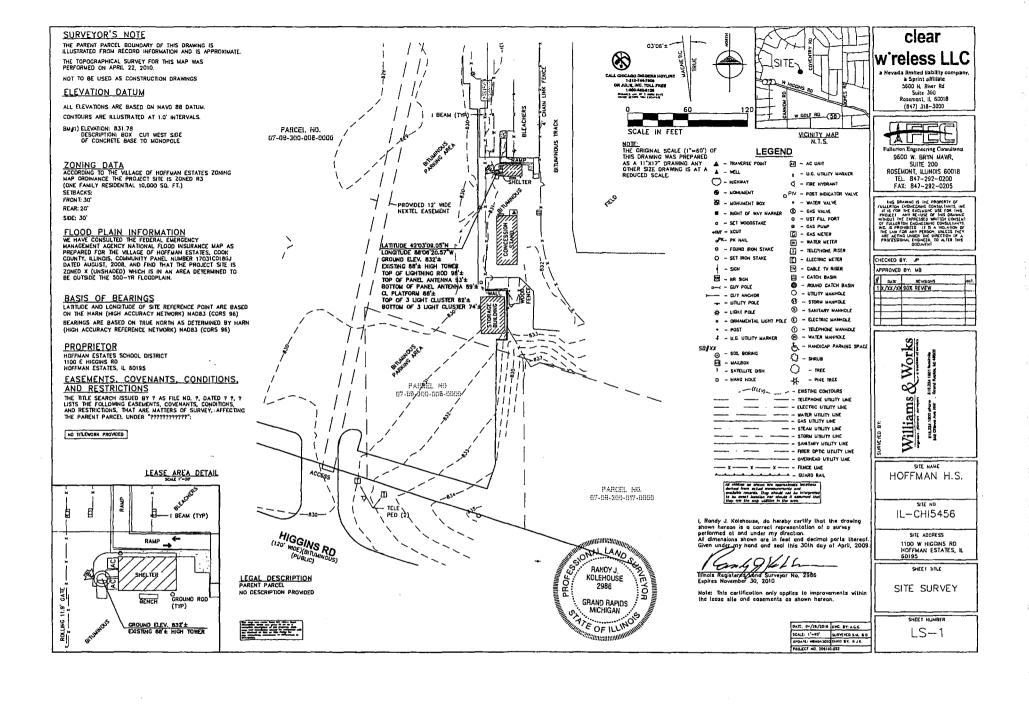
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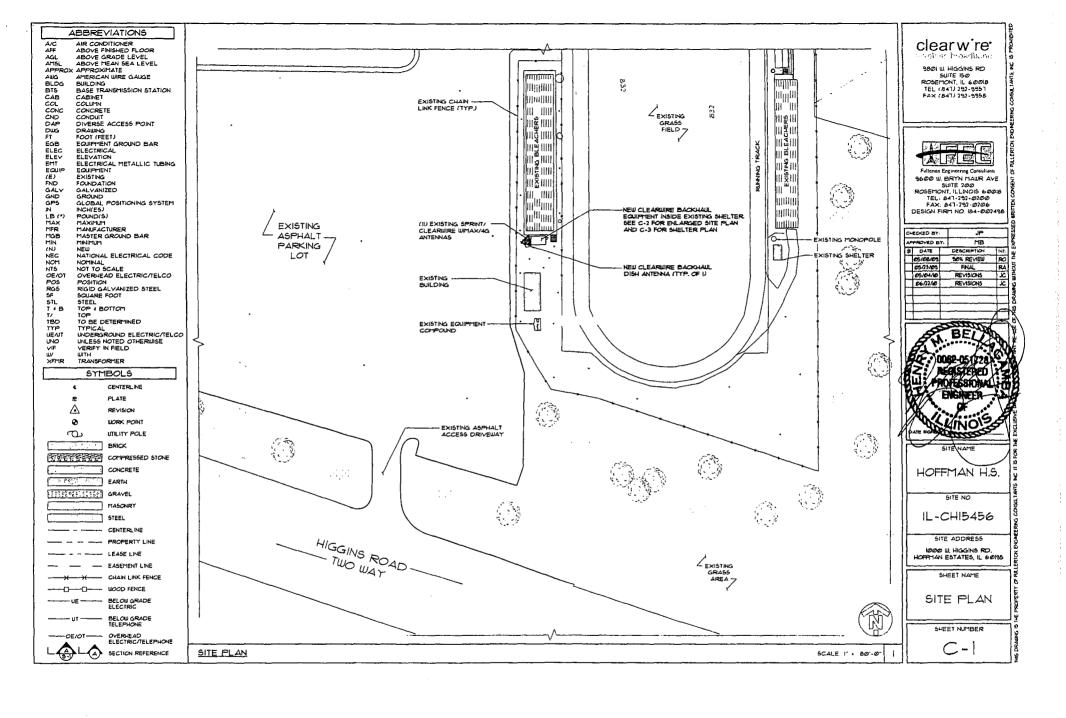
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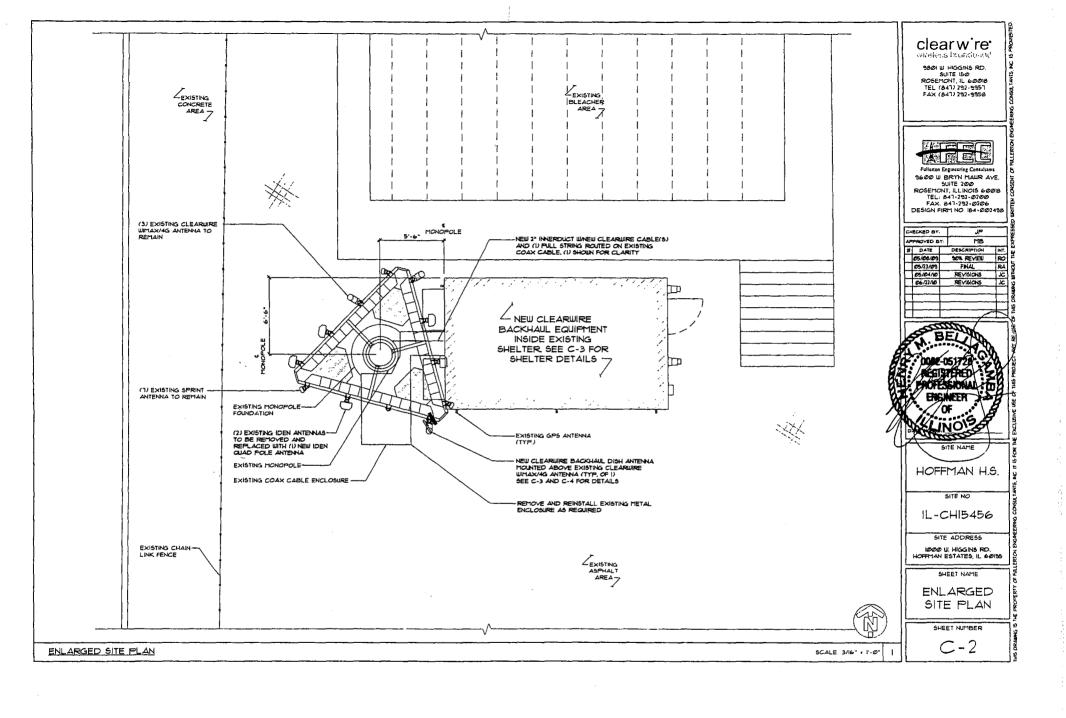
TITLE SHEET

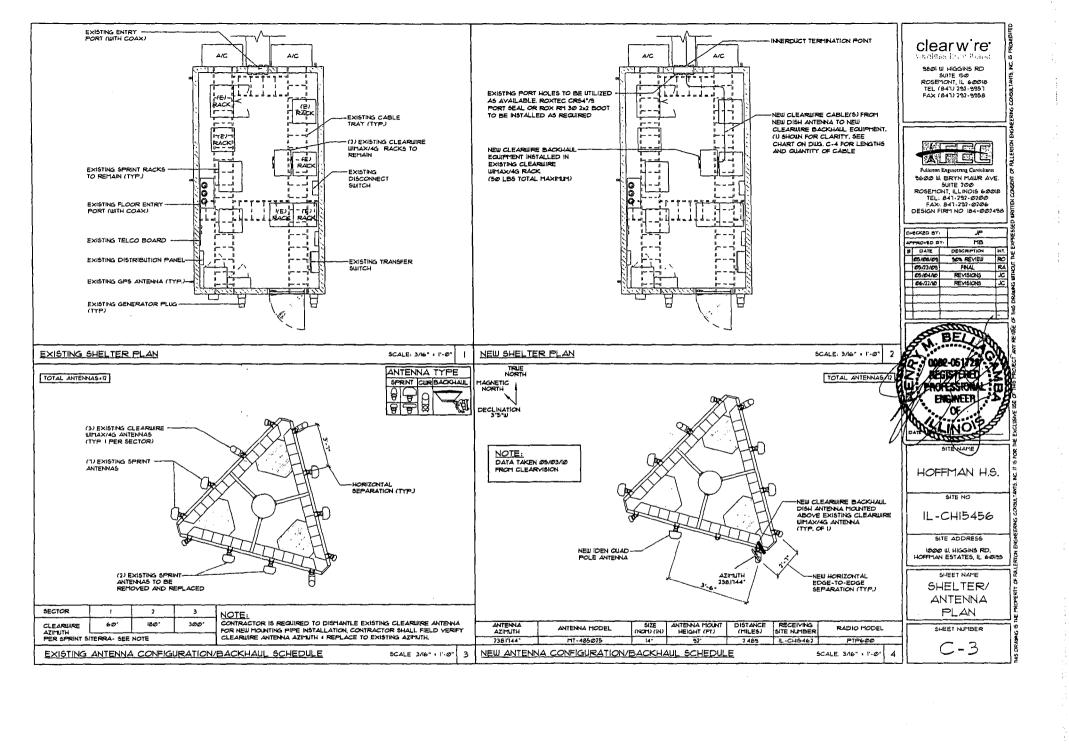
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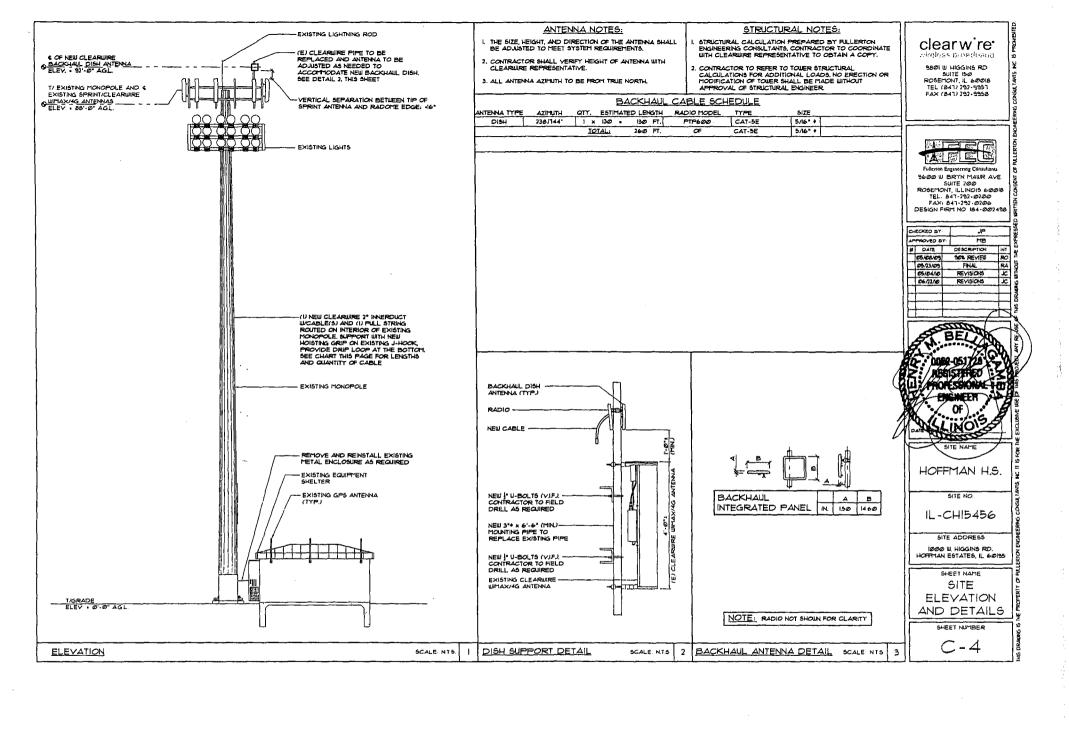
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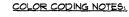












ITEMS

LOCATED

ARE IN THE

RED

SECTOR

ITEMS

LOCATED IBI' TO 300' ARE IN THE

YELLOW SECTOR

ITEMS

LOCATED

ARE IN THE

BLUE

- THE EQUIPAGE OF THE RRUS (DAP HEADS) MUST FOLLOW THE MOTOROLA COLOR ASSIGNTENT OF RED/BLUE/TELLOW REGARDLESS OF THE ACTUAL ANTENNA ORIENTATION. (FOR EXAMPLE, THE FIRST EQUIPPED SECTOR IS RED, BUT IN A STRUATION WHERE THE RED SECTOR IS NOT EQUIPPED WITH AN FRU, THE FIRST RRU (DAP HEAD) MUST BE LABELED RED EVEN IF IT LIES WITHIN THE BLUE SECTOR BASED ON AMENNA ORIENTATION, ANY MICROMARY ANTENNAS MUST BE LABELED BASED ON THE ORIENTATION, IN SUCH CASE THERE WOULD BE AN RRU (DAP HEAD) LABELED RED OR THE ORIENTATION. MICROWAYE ANTENNA'S) LABELED BLUE WITHIN THE BLUE SECTOR LOCATED BETWEEN 61 AND 180 DEGREES)
- THE CONTRACTOR SHALL USE SECTOR APPROPRIATE COLORED TAPE TO DENOTE THE ANTENNA AND MICROULAVE DISHES, TAPE SHOULD BE WRAPPED AROUND THE TOP AND BOTTOM OF THE SUPPORT PIPE AS DEPICTED IN THE TABLE ABOVE.

No.	SECTOR DEGREE RANGE	MARKING METHOD COLOR BANDS	MARKING METHOD NUMBER OF BANDS
I	30160.	₽€D	SMALLEST NUMBER WILL BE LABELED "RI". THE NEXT LARGER NUMBER WILL BE LABELED "RI"
2	61"-180"	BLUE	6MALLEST NUMBER WILL BE LABELED "BI". THE NEXT LARGER NUMBER WILL BE LABELED "BZ"
3	151-300	YELLOW	SHALLEGT NUMBER WILL BE LABELED "Y!", THE NEXT LARGER NUMBER WILL BE LABELED "Y?"

- ANTENNA INSTALLATION SHALL BE CONDUCTED BY FIELD CREUS EXPERIENCED IN THE ASSEMBLY AND ERECTION OF RADIO ANTENNAS, TRANSMISSION LINES, AND SUPPORT STRUCTURES.
- 2. CONTRACT COMPANIES AND THEIR EMPLOYEES SHALL OBSERVE AND PRACTICE ALL OSHA SAFETY GUIDELINES WHILE PERFORMING SERVICE FOR CLEARWIRE.
- 3. CONTRACTOR SHALL PERFORM A SAFETY INSPECTION FRIOR TO CONTRIVING ALL WORK ACTIVITIES AT A CLEARWINE, LEASED OR QUINED SITE, CLEARWINE, SHOULD BE INTEDIATELY NOTIFIED OF SAFETY HAZARDYS) FOUND CURING THE INSPECTION THAT COULD CAUSE DATAGE TO PROPERTY, ALL WORK SHALL BE HALTED WITL SUCH TIME THE REPORTED SAFETY HAZARD IS CORRECTED. THE SAFETY HAZARD, IF POSSIBLE, SHOULD BE CORRECTED BY THE CONTRACTOR WHILE ON SITE, AFTER THE CONTRACTOR WHALE ON SITE, AFTER THE CONTRACTOR HAS NOTIFIED CLEARWINE TO PERFORM THE CORRECTION

clear wire

9801 W. HIGGINS RD SUITE 150 ROSEMONT, IL 60018 TEL (841) 292-9951 FAX (847) 292-9958



9600 W. BRYN MAUR AVE. SUITE 200 ROSEMONT, ILLINOIS 60018 TEL. 841-292-0200 FAX. 847-292-0206 DESIGN FIRM NO 184-002498

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	AF	PROVED BY	MB		
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١	Г	05/23/09	FRIAL	RA	
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ļ	Г	06/22/10	REVISIONS	Jc	
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l	Ε			\perp	



SITE NO. IL-CHI5456

SITE ADDRESS

1000 W. HIGGINS RD. HOPPMAN ESTATES, IL 60195

SHEET NAME

SINGLE LINE AND NOTES

SHEET NUMBER

E -

ANTENNA INSTALLATION NOTES

ALL BASE TRANSCEIVER 61TE EQUIPMENT SHALL BE GROUNDED IN ACCORDANCE WITH THE LATEST EDITIONS OF THE NATIONAL ELECTRICAL CODE (NEC.) LIGHTNING PROTECTION CODE (NEPA 180) AND CLEARWIRE

- 2. ALL INDERGROUND (BELOW GRADE) GROUNDING CONNECTIONS SHALL ALL INDERGROUND (BELOU GRADE) GROUNDING CONNECTIONS SHALL BE MADE BY THE EXOTHERMIC PROCESS (MECHANICAL LUS ATTACHTEMS BELOUI GRADE ARE NOT ACCEPTABLE; CONNECTIONS SHALL INCLIDE ALL CABLE TO CABLE SPLICES (TEES, W., ETC.), ALL CABLE CONNECTIONS TO GROUND ROOS, GROUND ROO SHILCES, AND LIGHTHING PROTECTION SYSTEM AS INDICATED. ALL HATERIALS USED (MOLDS, UELDING METAL, TOOS, ETC.) SHALL BE INSTALLED FER MANFACTURER'S RECOTTENDATION AND PROCECURES.
- 3. ALL GROUNDING AND BONDING CONDUCTORS THAT ARE CONNECTED ABOVE GRADE OR INTERIOR TO A BUILDING SHALL BE CONNECTED USING TILD HOLE CRITIP TYPE (COMPRESSION) CONNECTIONS FOR 72 AND S ALL INSULATED COPPER CONDUCTOR
- 4. ALL GROUNDING CONNECTIONS, INTERIOR AND EXTERIOR MADE THROUGHOUT THIS DOCUMENT SHALL BE MADE USING AN ANTI-OXIDATION COMPOUND. THE ANTI-OXIDATION COMPOUND SHALL BE THOMAS AND BETTS KOPR-SHIELD (THI OF LET LUISE INC.) OR APPROVED EQUAL, COAT
- 5. ALL CONNECTIONS SHALL BE MADE TO BARE METAL. ALL PAINTED SURFACES SHALL BE FIELD INSPECTED AND MODIFIED TO ENSURE PROPER CONTACT, PRIOR TO EXCHEMICALLY CONNECTION, GALVANIZING SHALL BE REMOVED BY GRINDING BURFACE TO BARE TETAL. "SI AG" PROM EXCHIENCE CONNECTION HIST BE REMOVED AND SHALL BE SPRAYED WITH COLD GALVANIZE AFTER COMPLETION.
- 6. FERROUS METAL CLIPS WHICH COMPLETELY SURROUND THE GROUNDING CONDUCTOR SHALL NOT BE USED. CLIPS OF THE FOLLOWING MATERIALS AND TYPES MAY BE USED TO SUPPORT GRONDING CONDUCTORS.

PLASTIC CLIPS
STAINLESS STEEL CLIPS WHICH DO NOT COMPLETELY SURROUND THE GROUNDING CONDUCTOR

PERROUS METAL CLIPS WHICH DO NOT COMPLETELY SURROUND THE GROUNDING CONDUCTOR

1. ALL HARDWARE, BOLTS, NUTS, WASHERS AND LOCK WASHERS SHALL BE ID-B STAINLESS STEEL EVERY CONNECTION SHALL BE BOLT-FLAT WASHER-PLOCK WASHER-NUTS IN ITAIT EXACT ORDER, WITH MIT FACING OUTWARD, BACK-TO-BACK LUGGING, BOLT-FLAT WASHER-LUG-HLUG-BUSS-LUG-FLAT WASHER-LOCK WASHER-NUT, IN THAT EXACT ORDER IS ACCEPTED WHERE NECESSARY TO CONNECT HANT LUGS TO A BUSS BAR STACKING OF LUGS, BUSS-LUG-LUG-LUG, IN NOT ACCEPTEBLE.

DISH/ANTENNA COLOR CODING NOTES						
IB' RF JUMPER CABLE (N-MALE TO N-MALE) MOTOROLA PIP 400 CUTDOOR INIT H POLYPHASER (LSXL-ME) LIGHTING ARRESTOR (N-MALE TO N-PEMALE NEW SECTOR BUSS BAR (NIN) TO TOUER STEEL FROM BACK OF ANTENNA						
CAT 56 BELDEN 1919A						
TRANSTECTOR • TO EXISTING GROUND						
ETHERNET ID/100/1000 BASE-T CHNITRONIX SN-17-1_INK SL81						
FOUNDRY NETWORKS FAST EDGE 2402 CONTRONIX POURE BUS PBI VALERE POURE POURE						
MOTOROLA SINGLE LINE DIAGRAM SCALE NTS. 3						

NOT USED SCALE NTS. 3

GROUNDING NOTES

SCALE: N.T.S.

SCALE: N.T.S.

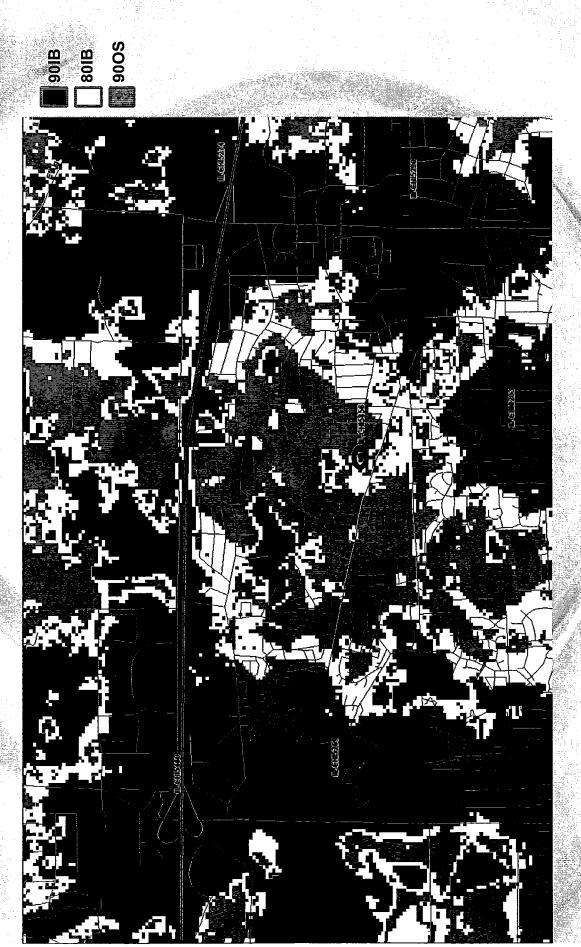
5

SCALE: N.T.S.

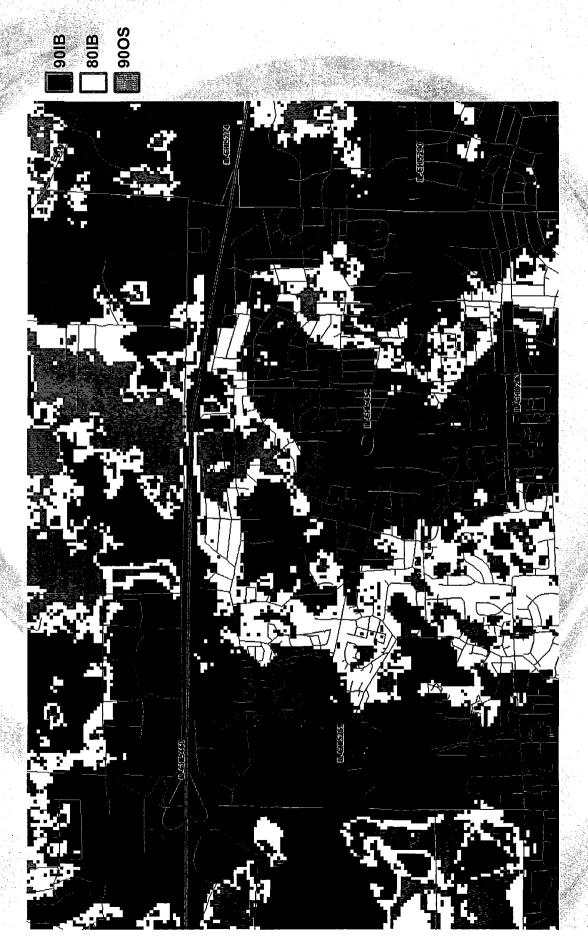
Propagation Maps

(IL-CHI5456)

Market: Chicago Date: 04/14/2010





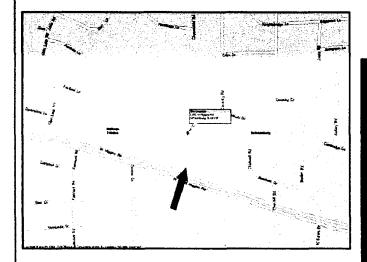




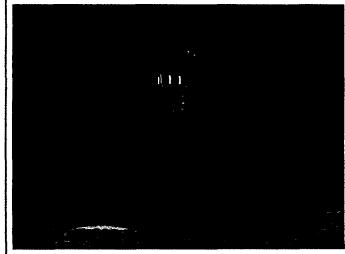
clearw re

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of site.





Map of Area



Before



After

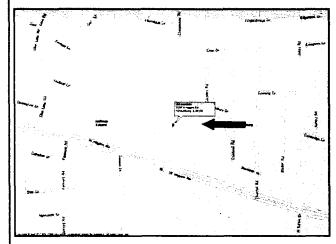
Looking North

IL-CHI5456 Hoffman Estates HS 1000 W. Higgins Rd. Hoffman Estates, IL 60195

clearw're

These depictions are for demonstrative purposes only. They are to be used in addition to the engineering drawings for an accurate representation of site.

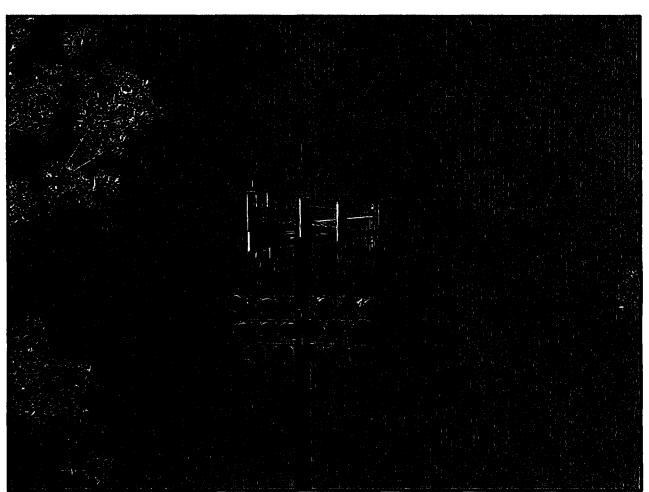




Map of Area



Before



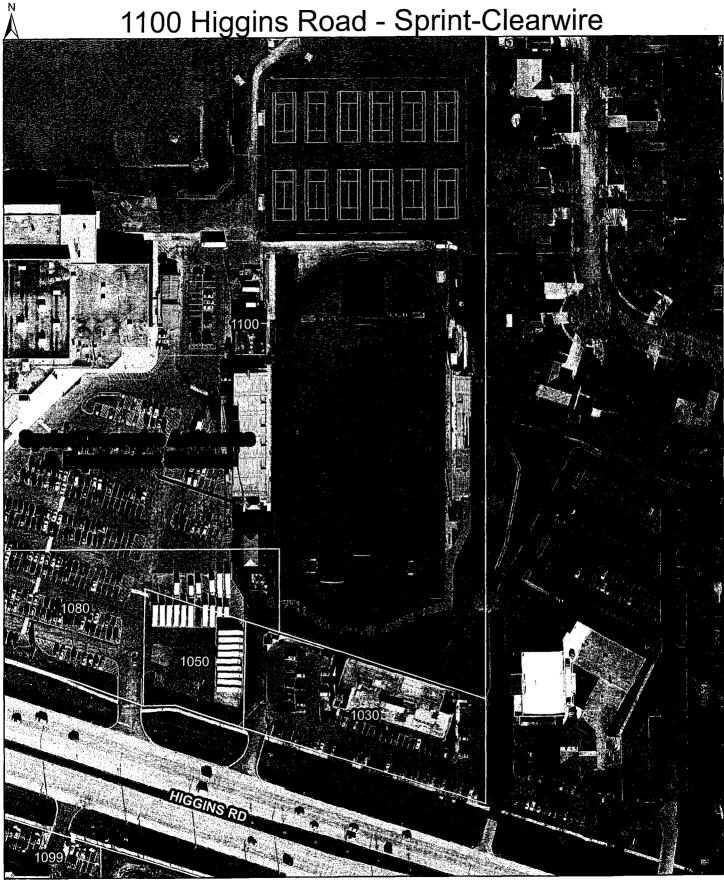
After

Looking West

IL-CHI5456 Hoffman Estates HS 1000 W. Higgins Rd. Hoffman Estates, IL 60195

CHI5456 Site Location - Google View





1 inch = 150 feet

Planning Division Village of Hoffman Estates July 2010

ADDITIONAL BUSINESS

ORDINANCE NO. - 2009

VILLAGE OF HOFFMAN ESTATES

AN ORDINANCE GRANTING A SPECIAL USE AND HEIGHT VARIATION TO TOWNSHIP HIGH SCHOOL DISTRICT 211 (OWNER), AND FMHC, AGENT FOR CLEARWIRE (LESSEE), (HOFFMAN ESTATES HIGH SCHOOL)

WHEREAS, the Zoning Board of Appeals of the Village of Hoffman Estates, at a public hearing duly called and held according to law on July 20, 2010 considered the request of a special use and a height variation to Township High School District 211 (owner) and FMHC, as agent for Clearwire (lessee), to permit the installation of a maximum of eleven (11) cellular antennas and one (1) microwave dish antenna to be no greater than 94 feet high and associated equipment at Hoffman Estates High School, 1100 W. Higgins Road, on one (1) light pole on the southwest corner of the football field, and legally described hereinafter; and

WHEREAS, the Zoning Board of Appeals made certain Finding of Fact attached hereto and made a part hereof as Exhibit "B" and recommended approval of said special use and height variation to the Board of Trustees; and

WHEREAS, the President and Board of Trustees of the Village of Hoffman Estates, after reviewing the recommendation of said Zoning Board of Appeals, find and believe it to be in the best interest of the Village that such special use and height variation be granted.

NOW, THEREFORE, BE IT ORDAINED by the President and Board of Trustees of the Village of Hoffman Estates, Cook and Kane Counties, Illinois, as follows:

Section 1: That there be granted a special use under Sections 9-3-9-A and 9-5-3-C-4 to Township High School District 211 (owner) and FMHC as agent for Clearwire (lessee), to permit the installation of a maximum of eleven (11) cellular antennas and one (1) microwave dish antenna to be no greater than 94 feet high and associated equipment at Hoffman Estates High School, 1100 W. Higgins Road, on one (1) light pole on the southwest corner of the football field.

Section 2: That a thirty-four foot (34') height variation of Hoffman Estates Municipal Code Section 9-3-9-A be granted to Township High School District 211 (owner) and FMHC as agent for Clearwire (lessee), to permit the installation of a maximum of eleven (11) cellular antennas and one (1) microwave dish antenna to be no greater than 94 feet high and associated equipment at Hoffman Estates High School, 1100 W. Higgins Road, on one (1) light pole on the southwest corner of the football field.

Section 3: That this special use and variation is granted upon the conditions that Ordinance No. 3955-2007 is hereby repealed and the new 2010 ordinance shall hereafter apply to the subject special use and height variations, and per Zoning Code Section 9-1-18-L, should the operation of this cellular facility cease for a period of six (6) months, the antennas shall be removed, and that no signs, cabinets, conduits, or other fixtures shall be installed on the exterior of the shelter beyond those shown on the approved building plans.

<u>Section 4</u>: That property benefiting from the special use and variation is legally described on the attached Exhibit "A".

Section 5: That the Village Clerk is hereby authorized to publish this ordinance in pamphlet form.

Section 6: That this Ordinance shall be in full force and effect immediately from and after its passage and approval.

PASSED THIS	_ day of		, 2010		
VOTE		AYE	NAY	ABSENT	ABSTAIN
Trustee Karen V. Mills					
Trustee Cary J. Collins					
Trustee Raymond M. Kir	ncaid				
Trustee Jacquelyn Green					
Trustee Anna Newell					
Trustee Gary J. Pilafas					
Mayor William D. McLe	od				
APPROVED THIS	DAY OF		, 2010		
			Village Presi	dent	
ATTEST:					
Village Clerk			·		
Published in namphlet for	rm this	day of		. 2010	

EXHIBIT "A"

LEGAL DESCRIPTION:

P.I.N.: 07-09-300-008

THAT PART OF THE WEST HALF OF THE SOUTHWEST OUARTER OF SECTION NINE, TOWNSHIP FORTY-ONE NORTH, RANGE TEN, EAST OF THE THIRD PRINCIPAL MERIDIAN, LYING NORTH OF THE NORTHERLY LINE OF HIGGINS ROAD, (EXCEPT THAT PART DESCRIBED AS FOLLOWS: BEGINNING AT THE INTERSECTION OF THE NORTHERLY LINE OF HIGGINS ROAD AND THE EAST LINE OF THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION; THENCE WESTERLY ALONG SAID NORTHERLY LINE OF HIGGINS ROAD, A DISTANCE OF 536.0 FT.; THENCE NORTH PARALLEL WITH THE EAST LINE OF THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION, A DISTANCE OF 170.29 FT.; THENCE EASTERLY, PARALLEL WITH THE NORTHERLY LINE OF SAID ROAD, EASTERLY OF A POINT OF CURVE IN SAID ROAD, A DISTANCE OF 536.0 FT. TO THE EAST LINE OF THE WEST HALF OF THE SOUTHWEST QUARTER OF SECTION; THENCE SOUTH, 170.29 FT. TO THE POINT OF BEGINNING), IN COOK COUNTY, ILLINOIS.

VILLAGE OF HOFFMAN ESTATES ZONING BOARD OF APPEALS

FINDING OF FACT

DATE OF PUBLIC HEARINGS: July 20, 2010

DATE OF PRESENTATION TO VILLAGE BOARD: August 2, 2010

<u>PETITION</u>: Hearing held at the request of Township High School District 211 (Owner) and FMHC as agent for Clearwire (Lessee) to consider a variation and special use under the Zoning Code to permit the installation of communication antennas and accompanying equipment on the property located at 1100 W. Higgins Road (Hoffman Estates High School).

DISTRICT IN WHICH PROPERTY IS LOCATED: R-3, One Family Residential

ZONING CODE SECTION(S) FOR VARIATION: 9-3-9-A

ZONING CODE SECTION(S) FOR SPECIAL USE: 9-3-9-A and 9-5-3-C-4

<u>FINDING-OF-FACT:</u> The ZBA found that the Standards for a Variation (9-1-15-C) and Standards for a Special Use (9-1-18-I) were met.

MOTION: Request to grant Township High School District 211 (Owner) and FMHC as agent for Clearwire (Lessee) at 1100 W. Higgins Road, a special use under Section 9-3-9-A and Section 9-5-3-C-4 and a thirty four(34) foot height variation from Section 9-3-9-A to permit a maximum of eleven (11) cellular antennas and one (1) microwave dish antenna at ninety four (94) feet high and associated equipment on a light pole on the southwest corner of the football field. The following conditions shall apply:

- 1. Ordinance No. 3955-2007 is hereby repealed and the new 2010 ordinance shall hereafter apply to the subject special use and height variations.
- 2. Per Zoning Code Section 9-1-18-L, should the operation of this cellular facility cease for a period of six (6) months, the antennas shall be removed.
- 3. No signs, cabinets, conduits, or other fixtures shall be installed on the exterior of the shelter beyond those shown on the approved building plans.

The petitioner was agreeable to the above listed conditions.

<u>RECOMMENDATION:</u> The Zoning Board of Appeals (ZBA) recommends approval of this request.

AUDIENCE COMMENTS

None.

VOTE:

5 Ayes 0 Nay

2 Absent (Ali, Wilson)

ZONING BOARD OF APPEALS

Chairman William Weaver

Vice-Chairperson Denise Wilson

Michael Ciffone

Masoom Ali

Donna Boomgarden

Michael Gaeta

Gaurav Patel

* IMMEDIATE AUTHORIZATION TO APPLY FOR PERMITS IS REQUESTED *

THIS SPECIAL USE AND VARIATION WILL EXPIRE UNLESS ACTED UPON WITHIN ONE (1) YEAR OF VILLAGE BOARD APPROVAL

FINDING OF FACT WRITTEN BY DEVELOPMENT SERVICES STAFF