

## BOARD OF COUNTY COMMISSIONERS OF DOUGLAS COUNTY, KANSAS

### WEDNESDAY, JULY 19, 2017

6:00 p.m.

-Consider approval of the minutes for March 29, April 5, April 12 (amended), May 10, May 24, May 31, June 7, June 26, June 27 and June 28, (Budget and Regular) 2017.

### CONSENT AGENDA

- (1) (a) Consider approval of Commission Orders; and
- (b) Review and Approve Amendment 1 and Amendment 2 to the Memorandum of Understanding between Douglas County and the Kansas Department of Corrections-Juvenile Services. (Pam Weigand);
- (c) Acquisition of easement for drainage structure replacements Project No. 2013-08 (Str. Nos. 11.50N-00.20E, 11.50N-00.40E, 11.50N-00.67E)-(Kevin Sontag);
- (d) Acquisition of easement for drainage structure replacements and roadway Realignment Project No. 2013-13 (Kevin Sontag);
- (e) Authorize the County Administrator to execute contract with AJW Consulting for communication services. (Weinaug);
- (f) Consider approval of acquisition of Easement; Drainage Structure Replacement; Project No. 2015-56 Structure No. 6.71N – 21.00E (Michael Kelly); and
- (g) Consider approval for Acquisition of Easement for Project No. 2015-05; County Route 458 (Michael Kelly)

### REGULAR AGENDA

- (2) Consider **CUP-17-00215**: Consider a Conditional Use Permit for a new 190 ft self-supporting wireless telecommunications facility (tower), located at 2138 N 1000 Rd. Submitted by MW Towers LLC for F. Dwane Richardson & Valerie Richardson, property owners of record. *Joint meeting with Eudora Planning Commission.*(Sandra Day)
- (3) a) Consider approval of Accounts Payable (if necessary)
- b) Appointments
- Board of Zoning Appeals (1) position 10/16**
- Community Corrections Advisory Board**
- c) Public Comment
- d) Miscellaneous
- (4) Adjourn

### WEDNESDAY, JULY 26, 2017

-Presentation on financial statements (Michael Lowry AGH)

### WEDNESDAY, AUGUST 2, 2017 - cancelled

### WEDNESDAY, AUGUST 9, 2017

-Public Hearing for 2018 Budget

### WEDNESDAY, AUGUST 16, 2017

-Big Springs Quarry update for Certification of Phase 3 Reclamation. The reclamation of Phase 3 has been reviewed by staff and found to be in compliance with the approved reclamation plan. The reclamation is being placed on the County Commission agenda with staff's recommendation that the Commission certify that reclamation of Phase 3 is complete. (Mary Miller is the Planner)

### WEDNESDAY, AUGUST 23, 2017

**WEDNESDAY, AUGUST 30, 2017**

**WEDNESDAY, SEPTEMBER 27, 2017**

-815 Vermont Street NRA (Britt-Crum-Cano)

***Note:** The Douglas County Commission meets regularly on Wednesdays at 4:00 P.M. for administrative items and/or 6:00 P.M. for public items at the Douglas County Courthouse. Specific regular meeting dates that are not listed above have not been cancelled unless specifically noted on this schedule.*

# MEMORANDUM

TO: Board of County Commissioners  
Craig Weinaug, County Administrator

FROM: Pam Weigand, Youth Services Director

SUBJECT: Review and Approve Amendment 1 and Amendment 2 to the Memorandum of Understanding between Douglas County and the Kansas Department of Corrections- Juvenile Services.

DATE: July 13, 2017

The Board of County Commissioners executed the original MOU with the Kansas Department of Corrections-Juvenile Services on November 28, 2016. Amendment 1 of the MOU is due to a rate change with the Youth Advisory Program (YAP) and removes "copy of the payment voucher" as a requirement in the original MOU. Amendment 2 grants a 12-month extension to extend the contract for YAP services from June 30, 2017 to June 30, 2018 as allowed in Section 1.

Thank you for your consideration.

**AMENDMENT to Memorandum of Understanding**  
**KANSAS DEPARTMENT OF CORRECTIONS –**  
**Douglas County, Kansas Division of Youth Services**

This AMENDMENT NO. 1 made and entered into as of this \_\_\_\_ day of \_\_\_\_\_, 2017, by and between the DEPARTMENT of Corrections of the State of Kansas, Division of Juvenile Services (hereinafter called the "KDOC-JS") and Douglas County, Kansas Division of Youth Services (hereinafter called "County");

WHEREAS, the DEPARTMENT desires to modify reimbursement processes and to provide an increase in the daily rate to accommodate organizational changes by the COUNTY; and

WHEREAS, Johnson County is no longer providing free office space for the Youth Advocate Program (YAP) due to changes in the Johnson County and is willing to continue providing YAP under the terms and conditions hereinafter set forth;

NOW THEREFORE, in consideration of the foregoing and of the mutual promises contained in the Memorandum of Understanding, it is mutually agreed as follows:

1. Section 3. (c) Effective for YAP services on and after April 1, 2017, Increase the maximum expenditure to \$571,804 from \$550,177.
2. Section 3. (c) Effective for YAP services on and after April 1, 2017, Increase the rate in c.i. and d.i. by \$2.67 per day from \$54.17 to \$56.84.
3. Section 3. (d) Effective for YAP services on and after April 1, 2017, Increase the maximum expenditure to \$757,598 from \$720,236
4. Section 5. Strike 5.b., which stated "Copy of the payment voucher issued by the County to YAP." So that the County can seek reimbursement from KDOC-JS prior to paying YAP, Inc.

All other terms and conditions of the Contract executed November 28<sup>th</sup>, 2016, shall remain in full force and effect except as specifically amended herein.

IN WITNESS WHEREOF, the parties have caused this contract to be executed on the day and year first above mentioned.

Kansas Department of Corrections

Douglas County, Kansas Division of Youth  
Services

By: \_\_\_\_\_  
Date      Joseph Norwood  
                 Secretary of Corrections

By: \_\_\_\_\_  
Date      Mike Gaughan,  
                 Board Chair

**AMENDMENT No 2 to Memorandum of Understanding**  
**KANSAS DEPARTMENT OF CORRECTIONS –**  
**Douglas County, Kansas Division of Youth Services**

This AMENDMENT NO. 2 made and entered into as of this \_\_\_\_ day of \_\_\_\_\_, 2017, by and between the DEPARTMENT of Corrections of the State of Kansas, Division of Juvenile Services (hereinafter called the "KDOC-JS") and Douglas County, Kansas Division of Youth Services (hereinafter called "County");

WHEREAS, the DEPARTMENT desires to extend the term of this Memorandum of Understanding; and

WHEREAS, County is willing to continue providing YAP under the terms and conditions hereinafter set forth;

NOW THEREFORE, in consideration of the foregoing and of the mutual promises contained in the Memorandum of Understanding, it is mutually agreed as follows:

1. Grant a 12-month extension to extend the contract from June 30, 2017 to June 30, 2018 as allowed in Section 1.

All other terms and conditions of the Contract executed November 28<sup>th</sup>, 2016, and Amendment 1 executed July 19, 2017 shall remain in full force and effect except as specifically amended herein.

IN WITNESS WHEREOF, the parties have caused this contract to be executed on the day and year first above mentioned.

Kansas Department of Corrections

Douglas County, Kansas Division of Youth  
Services

By: \_\_\_\_\_  
Date      Joseph Norwood  
Secretary of Corrections

By: \_\_\_\_\_  
Date      Mike Gaughan,  
Board Chair



## DOUGLAS COUNTY PUBLIC WORKS

3755 E. 25<sup>th</sup> Street  
Lawrence, KS 66046  
(785) 832-5293 Fax (785) 842-1201  
dgcopubw@douglascountyks.org  
www.douglascountyks.org

Keith A. Browning, P.E.  
Director of Public Works/County Engineer

1(4)

### MEMORANDUM

To : Board of County Commissioners

From : Keith A. Browning, P.E., Director of Public Works/County Engineer *KAB*  
Kevin R. Sontag, P.S., Surveying Supervisor *KRS*

Date : July 13, 2017

Re : Consent agenda  
Acquisition of easement for drainage structure replacements  
Project No. 2013-08 (Str. Nos. 11.50N-00.20E, 11.50N-00.40E, 11.50N-00.67E)

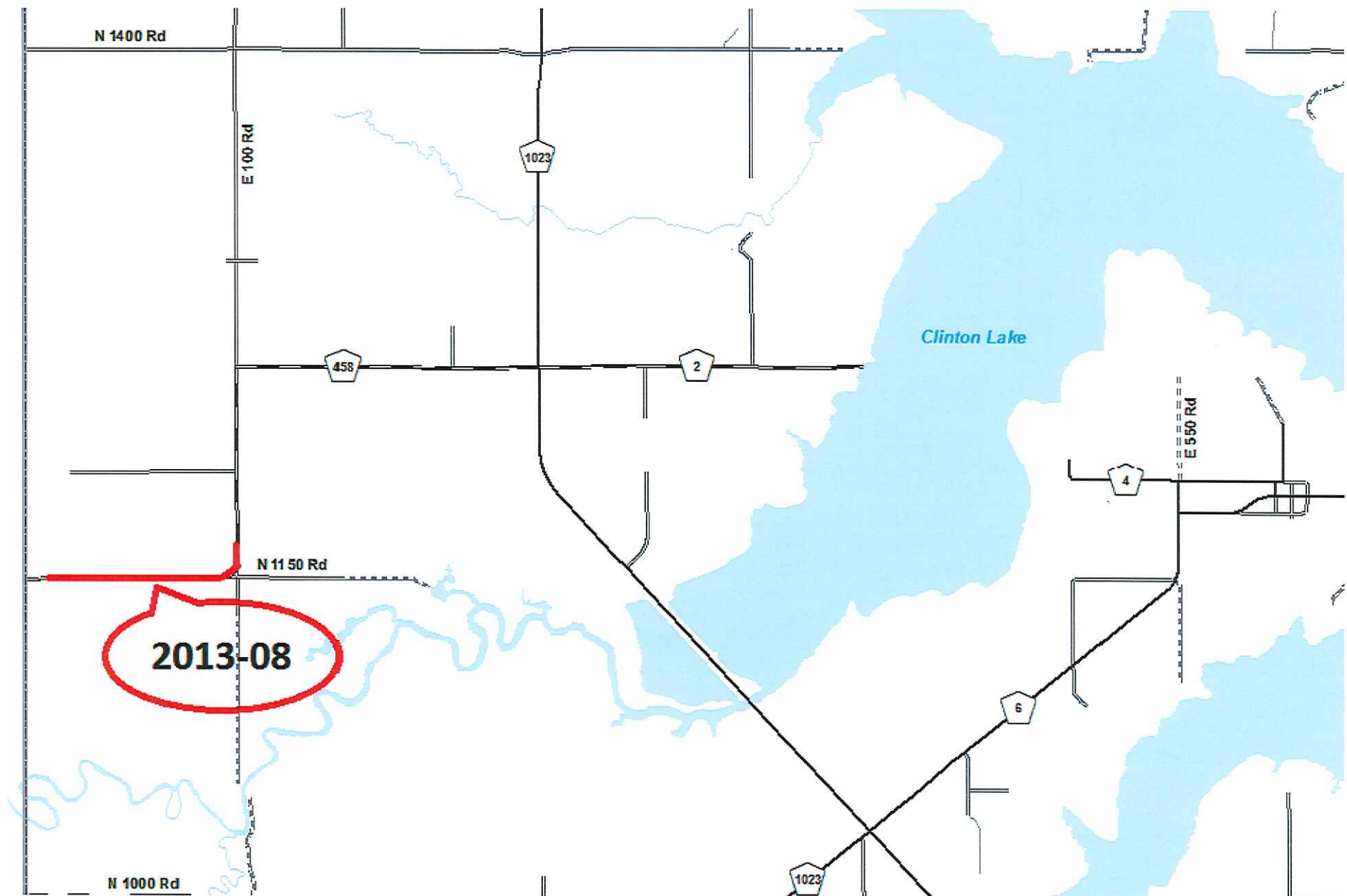
A project has been designed to replace deficient drainage structures on County Route 458 approximately 5 miles west of the town of Clinton. Plans were developed in-house and negotiations with all of the landowners for permanent road easement and temporary construction easement, as well as reimbursement for fence removal and replacement, are now complete.

Construction is currently planned to begin summer 2017 and will be accomplished using county personnel.

To ensure the proper completion of a necessary construction project, approval is recommended for the attached CONTRACTS FOR HIGHWAY PURPOSES.

**ACTION REQUIRED:** Consent agenda approval of two CONTRACTS FOR HIGHWAY PURPOSES for Project No. 2013-08 (Str. Nos. 11.50N-00.20E, 11.50N-00.40E, 11.50N-00.67E)

## General Location Map for Project No. 2013-08











## DOUGLAS COUNTY PUBLIC WORKS

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(785) 832-5293 Fax (785) 842-1201  
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10d  
**Keith A. Browning, P.E.**  
Director of Public Works/County Engineer

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### MEMORANDUM

To : Board of County Commissioners

From : Keith A. Browning, P.E., Director of Public Works/County Engineer *KAB*  
Kevin R. Sontag, P.S., Surveying Supervisor *KRS*

Date : July 13, 2017

Re : Consent agenda  
Acquisition of easement for drainage structure replacements and roadway  
realignment  
Project No. 2013-13

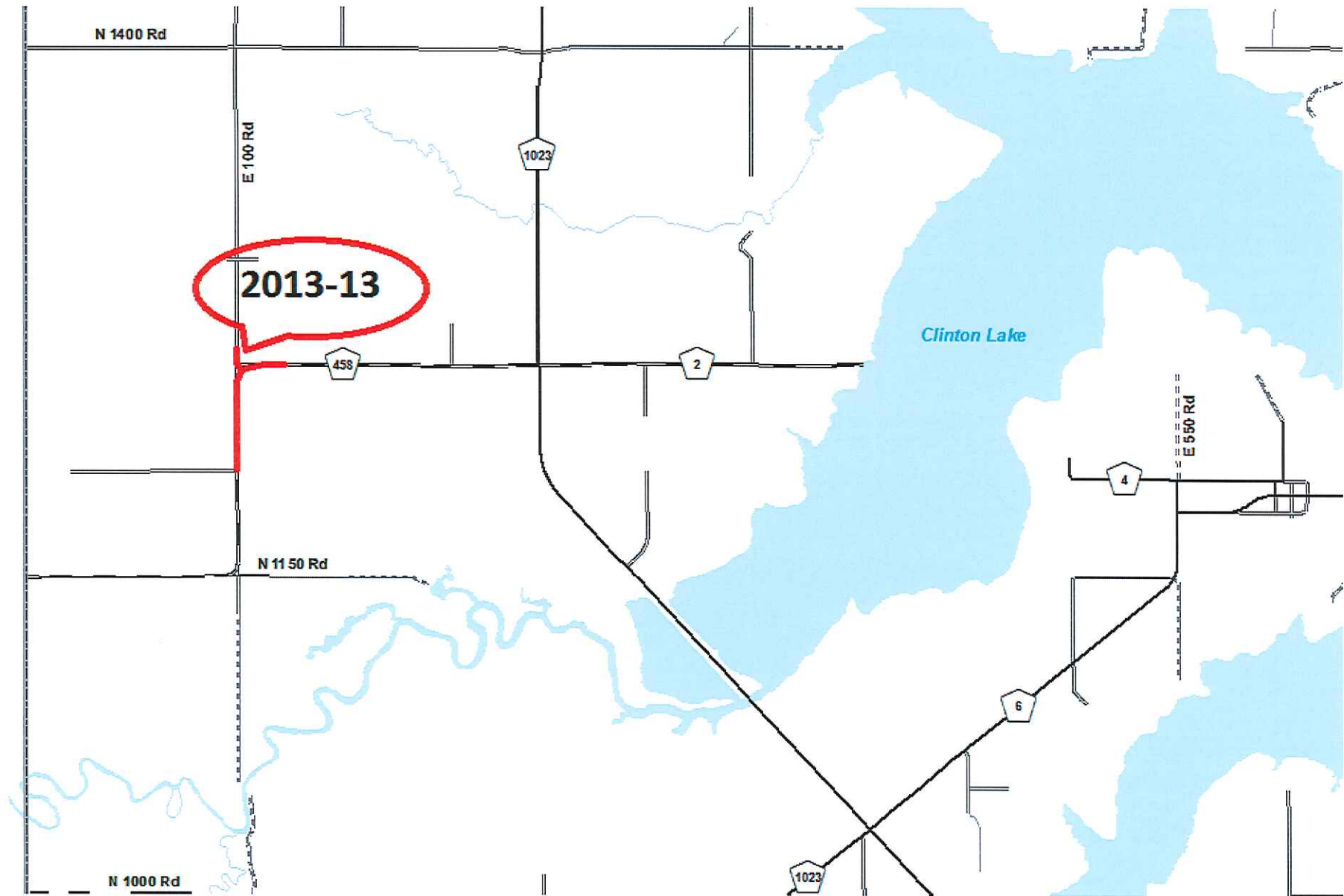
A project has been designed to replace deficient drainage structures and realign a roadway on County Route 458 approximately 5 miles west of the town of Clinton. Plans were developed in-house and negotiations with all of the landowners for permanent road easement and drainage easement, as well as reimbursement for fence removal and replacement, are now complete.

Construction is currently planned to begin summer 2017 and will be accomplished using county personnel.

To ensure the proper completion of a necessary construction project, approval is recommended for the two attached CONTRACTS FOR HIGHWAY PURPOSES.

**ACTION REQUIRED:** Consent agenda approval of two CONTRACTS FOR HIGHWAY PURPOSES for Project No. 2013-13.

## General Location Map for Project No. 2013-13







Douglas County Public Works  
1342 Massachusetts  
Lawrence, Kansas 66044



Project: ROAD AND DRAINAGE IMPROVEMENTS  
Location: A.S. County: C.V. Date: 07/18

GENERAL LAYOUT AND RW

ROAD AND DRAINAGE IMPROVEMENTS FOR  
ROUTE 458 AND E100 RD.  
PROJECT# 2013-13

SHEET 6 OF 35

SMITH, HAYDEN K. CO-TRUSTEE  
SMITH, ALBERTA L. CO-TRUSTEE  
1261 E 100 RD  
BERRYTON, KS 66409  
B947 P561

SMITH, GARY A.  
SMITH, MARSHA L.  
117 N 1300 RD  
BERRYTON, KS 66409  
B1060 P2377

PETERFISH, DARYLE  
PETERFISH, MARCELLA A.  
113 N 1250 RD  
BERRYTON, KS 66409  
B243 P273

FUSCO, ROBERT C. TRUSTEE  
FUSCO, SHARON K. TRUSTEE  
125 N 1150 RD  
BERRYTON, KS 66409  
B1097 P1131

WULFKUHL, MARK E.  
WULFKUHL, BRENNIA M.  
198 N 1250 RD  
BERRYTON, KS 66409  
B1109 P3723

### ROAD CURVE DATA

**CURVE DATA ROUTE 458**  
P.C. = 45+98.85  
N = 223435.34  
E = 2028554.59  
P.T. = 52+28.30  
N = 223847.20  
E = 2028945.62  
Δ = 90°27'09"  
R = 400'  
L = 631.42'  
T = 403.14'

**CURVE DATA E100 RD**  
P.C. = 10+85.59  
N = 223781.64  
E = 2028502.28  
P.T. = 12+41.82  
N = 223920.85  
E = 2028540.07  
Δ = 44°45'44"  
R = 200'  
L = 156.23'  
T = 82.35'

### ROAD LINE SEGMENTS

| NO.      | P.I. STA. BEG. | DISTANCE  | P.I. STA. END | BEARING     |
|----------|----------------|-----------|---------------|-------------|
| RT. 458  |                |           |               |             |
| 1.       | STA. 22+50.01  | 250.03'   | STA. 25+00.03 | N02°15'43"W |
| 2.       | STA. 25+00.03  | 1,349.97' | STA. 38+50.00 | N01°42'43"W |
| 3.       | STA. 38+50.00  | 100.00'   | STA. 39+50.00 | N00°16'48"W |
| 4.       | STA. 39+50.00  | 648.85'   | STA. 45+98.85 | N01°42'43"W |
| 5.       | STA. 52+28.30  | 221.70'   | STA. 54+50.00 | N88°44'28"E |
| E100 RD. |                |           |               |             |
| 6.       | STA. 10+00.00  | 85.59'    | STA. 10+85.59 | N48°28'02"W |
| 7.       | STA. 12+41.82  | 308.18'   | STA. 15+50.00 | N01°43'18"W |

### SECTION CORNER INFORMATION

| SECTION CORNER                | R/CODE | SECTION CORNER COORDINATE    | CORNER STATUS | STATION                             |
|-------------------------------|--------|------------------------------|---------------|-------------------------------------|
| CTR CORNER SEC. 13-T13-R17    | L20L   | N: 223896.687 E: 2031195.768 | FOUND - RTK   | STA. 76+53.87<br>E/W : SECTION LINE |
| NW CORNER SEC. 13-T13-R17     | L21J   | N: 226482.175 E: 2028463.070 | RECORD        | STA. 36+45.04<br>N/S : SECTION LINE |
| WL 1/4 CORNER SEC. 13-T13-R17 | L21L   | N: 223838.334 E: 2028542.542 | RECORD        | STA. 50+00.00<br>N/S : SECTION LINE |
| WL 1/4 CORNER SEC. 14-T13-R17 | L17L   | N: 223858.611 E: 2023292.423 | FOUND - RTK   |                                     |
| NW CORNER SEC. 24-T13-R17     | L21N   | N: 221192.178 E: 2028621.632 | RECORD        | STA. 23+52.68<br>N/S : SECTION LINE |
| NL 1/4 CORNER SEC. 23-T13-R17 | L19N   | N: 221099.204 E: 2025993.732 | RECORD        |                                     |
| WL 1/4 CORNER SEC. 24-T13-R17 | L21P   | N: 218545.973 E: 2028686.114 | RECORD        | STA. 42+04.85<br>N/S : SECTION LINE |
| CTR CORNER SEC. 24-T13-R17    | L23P   | N: 218598.061 E: 2031365.137 | RECORD        |                                     |
| CTR CORNER SEC. 23-T13-R17    | L19P   | N: 218461.528 E: 2028070.798 | RECORD        |                                     |
| WL 1/4 CORNER SEC. 23-T13-R17 | L17P   | N: 218359.536 E: 2023438.553 | RECORD        |                                     |
| EL 1/4 CORNER SEC. 13-T13-R17 | M01L   | N: 223955.471 E: 2033854.030 | RECORD        |                                     |
| SL 1/4 CORNER SEC. 23-T13-R17 | L19R   | N: 215810.354 E: 2028157.588 | FOUND - RTK   |                                     |
| SE CORNER SEC. 23-T13-R17     | L21R   | N: 215801.816 E: 2028787.573 | FOUND - RTK   |                                     |
| NL 1/4 CORNER SEC. 24-T13-R17 | L23N   | N: 221281.842 E: 2031279.480 | FOUND - RTK   |                                     |

### BENCHMARK INFORMATION

| BENCHMARK NUMBER | ELEVATION | BENCHMARK COORDINATE       | DESCRIPTION                           | STATION                             |
|------------------|-----------|----------------------------|---------------------------------------|-------------------------------------|
| BM # 1           | 988.27    | N: 221225.82 E: 2028641.94 | 80D NAIL IN E FACE OF PP              | STA. 23+65.49<br>N/S : SECTION LINE |
| BM # 2           | 998.88    | N: 222276.98 E: 2028587.10 | TRIPLE 80D NAIL IN E FACE OF PP       | STA. 34+40.01<br>N/S : SECTION LINE |
| BM # 3           | 894.88    | N: 222922.32 E: 2028547.42 | PK NAIL & SHINER IN TOP OF FENCE POST | STA. 40+34.25<br>N/S : SECTION LINE |
| BM # 4           | 1006.81   | N: 223796.01 E: 2028517.83 | PLUS CUT IN TOP OF CONCRETE WELL      | STA. 48+08.33<br>N/S : SECTION LINE |

## **SERVICES CONTRACT**

This Agreement is entered into effective the 1st day of August, 2017, by and between the BOARD OF COUNTY COMMISSIONERS OF DOUGLAS COUNTY, KANSAS ("County"), and AJW CONSULTING, LLC ("Contractor").

### **RECITALS**

WHEREAS, the County desires to contract with Contractor to provide communications services to the County as described herein;

WHEREAS, the Contractor wishes to provide such communication services to the County on the terms and conditions contained herein.

### **TERMS AND CONDITIONS**

NOW THEREFORE, it is agreed as follows:

1. **Services Provided.** County hereby engages Contractor to provide the communication services set forth in Exhibit A ("Services"), and Contractor agrees to provide such Services.

2. **Compensation.** As compensation for providing the Services, the County shall pay Contractor \$5,000.00 per month during the Term of this Agreement. It shall be a condition precedent to payment of any invoice from Contractor that Contractor is in compliance with, and not in breach or default of, all terms, covenants and conditions of this Contract. If damages are sustained by County as a result of breach or default by Contractor, County may withhold payment to Contractor until such time as the exact amount of damages due County from Contractor may be determined. The County is not liable for any obligation incurred by Contractor except as approved under the provisions of this Contract.

3. **Term of Contract.** This Contract shall commence on August 1, 2017 and terminate on January 31, 2018. The contract may be extended at the option of the County for two three (3) month terms on the same terms and conditions herein.

4. **Termination.** Either party has the right to terminate this Agreement upon thirty (30) calendar days' written notice to the other party. County will pay Contractor for fees earned through the date of termination.

5. **Confidentiality.** Contractor will not, directly or indirectly, divulge, furnish, make accessible, or permit the disclosure to anyone (other than persons employed or designated by the County) any confidential information including any non-public knowledge, lists, or information acquired by Contractor.

6. **Indemnification.** Contractor must pay County for any loss of the County's that is caused by Contractor's negligence, intentional misconduct, or breach of this agreement. The County must pay Contractor for any loss of Contractor's that is caused by the County's negligence, intentional misconduct, or breach of this agreement. In addition, the County will pay

for costs incurred by Contractor in connection with responding to or defending against any government inquiry or investigation of the County, provided that Contractor is not the cause of the inquiry or investigation. "Loss" means an amount or amounts that a party is legally responsible for or pays in any form. For example, a loss includes, a judgment, a settlement, a fine, damages, injunctive relief, staff compensation, and expenses for responding to or defending against an inquiry, investigation, or a claim for a loss.

7. **Notices.** All notices required by this Contract shall be in writing sent to the following:

**County:**

Craig Weinaug  
Office of the County Administrator  
1100 Massachusetts Street  
Lawrence, KS 66044  
Phone: (785) 832-5268  
weinaug@douglas-county.com

**Contractor:**

Amy Jordan Wooden  
President  
AJW Consulting, LLC  
805 Romany Road  
Kansas City, MO 64113  
Phone: (816) 668-6946  
ajwooden@gmail.com

All notices are effective (a) when delivered in person, (b) upon confirmation of receipt when transmitted by electronic mail, or (c) on the next business day if transmitted by overnight courier (with confirmation of delivery).

8. **Independent Contractor Status.** For all purposes, including but not limited to income tax withholding, payroll taxes, unemployment compensation, employment law, workers compensation, and all other purposes, the parties agree that Contractor shall be an independent contractor of the County and no person with which Contractor contracts or hires to provide the Services shall, under any circumstance, be considered an employee of the County. Contractor shall be solely responsible for the means, manner, and method of providing the Services. Contractor shall be responsible for all matters related to federal and state payroll and withholding taxes, workers compensation insurance, salaries, fringe benefits, and all other matters of those with which it contracts or hires to provide the Services, and shall require such persons to agree in writing to all terms of this Agreement.

9. **Default.** In the event Contractor fails to provide the Services in compliance with this Agreement and any such default is not cured within 10 days after County has provided Contractor with notice of such default, County shall have the option to terminate this Agreement, with the effective date of such termination being 5 days after the expiration of the cure.

10. **Miscellaneous.** This Agreement shall be binding upon the parties hereto and their successors in interest. Failure to insist upon strict compliance with any provision hereof shall not be deemed a waiver of such provision or any other provisions hereof. This Agreement may not be modified except by an agreement in writing, executed by the parties hereto. This Agreement shall be governed in all respects, including validity, interpretation and effect by the laws of the State of Kansas. Nothing with this Agreement shall serve to create any duty to or rights in third parties. This Agreement constitutes the entire understanding between the parties and supersedes all prior negotiations and understandings, whether written or oral. The Douglas County Contractual Provisions Attachment (Revised 2006) is attached hereto and incorporated herein by reference.

IN WITNESS WHEREOF, the parties have executed this Agreement effective as of the day and year first written above.

**COUNTY:** Board of County Commissioners of  
Douglas County, Kansas

ATTEST:

By: \_\_\_\_\_  
Mike Gaughan, Chair

\_\_\_\_\_  
Jameson D. Shew, County Clerk

**CONTRACTOR:** AJW CONSULTING, LLC

By: \_\_\_\_\_  
Amy Jordan Wooden, Managing Member

## **EXHIBIT A**

### **SCOPE OF SERVICES**

#### **Strategic Communications Counsel**

Amy Jordan Wooden, d.b.a. AJW Consulting, LLC will work with the Douglas County Commission, County Administrator and senior staff to provide strategic communications advice on several county issues. Absent a full-time Public Information Officer (PIO), AJW Consulting will help fulfill those duties and evaluate whether the County should consider a full-time PIO position. Communications counsel will include:

1. External Communications
  - a. As directed by County leadership, AJW Consulting will help develop a comprehensive communications strategy for specific public policy initiatives that may require targeted outreach to specific audiences.
2. Crisis Communications
  - a. AJW Consulting will work with County leadership to craft a comprehensive communications strategy as it may relate to any current or potential crisis situations. Work included may include but not be limited to;
    - i. Message development
    - ii. Document creation
    - iii. Identifying various communications tactics
    - iv. Practice sessions and mock interviews
    - v. Internal communications
3. Media Relations
  - a. As directed by County leadership, AJW Consulting will work with staff to develop accurate and timely responses to media inquiries and identify important proactive media stories for consideration. This is especially critical should misinformation start to spread and a rapid response from the County is needed.
4. Public Speaking Professional Development
  - a. On a mutually agreeable timeframe, AJW Consulting will work with identified individuals to conduct professional development sessions tailored specifically to public speaking needs including community presentations, effective power point creation, on-camera interviews and crisis communications.
5. PIO Evaluation
  - a. Throughout the duration of the contract, AJW Consulting will constantly be evaluating the communications' needs of the County and whether or not those duties can be fulfilled with existing personnel or if a full-time PIO is needed.

## DOUGLAS COUNTY CONTRACTUAL PROVISIONS ATTACHMENT

Important: This Attachment contains contract provisions to attach to or incorporate of any contract entered into by Douglas County or any of its agencies, offices, or departments (unless the contract is prepared by Douglas County and the terms hereof are already included). If it is attached to a separate contract, then that contract shall be altered to contain the following provision:

"The Provisions found in Douglas County Contractual Provisions Attachment (Revised April-2006), which is attached hereto, are hereby incorporated in this contract and made a part hereof."

The parties agree that the following provisions are hereby incorporated into the contract to which it is attached and made a part thereof:

1. **Terms Herein Controlling Provisions:** It is expressly agreed that the terms of each and every provision in this attachment shall prevail and control over the terms of any other conflicting provision in any other document relating to and a part of the contract in which this attachment is incorporated. As used herein, the term "Douglas County" shall refer to Douglas County and any of its agencies, offices, and departments entering into the contract.
2. **Agreement With Kansas Law:** All contractual agreements shall be subject to, governed by, and construed according to the laws of the State of Kansas.
3. **Termination Due To Lack Of Funding Appropriation:** If, in the judgment of the County Administrator, sufficient funds are not appropriated to continue the function performed in this agreement and for the payment of the charges hereunder, Douglas County may terminate this agreement at the end of its current fiscal year. Douglas County agrees to give written notice of termination to vendor/contractor at least 30 days prior to the end of its current fiscal year, and shall give such notice for a greater period prior to the end of such fiscal year as may be provided in this contract, except that such notice shall not be required prior to 90 days before the end of such fiscal year. Vendor/contractor shall have the right, at the end of such fiscal year, to take possession of any unpaid equipment provided Douglas County under the contract. Douglas County will pay to the vendor/contractor all regular contractual payments incurred through the end of such fiscal year, plus contractual charges incidental to the return of any such equipment. Upon termination of the agreement by Douglas County, title to any such unpaid equipment shall revert to vendor/contractor at the end of Douglas County's current fiscal year. The termination of the contract pursuant to this paragraph shall not cause any penalty to be charged to Douglas County or the vendor/contractor.
4. **Disclaimer Of Liability:** Douglas County shall not hold harmless or indemnify any vendor/contractor beyond that liability under the Kansas Tort Claims Act (K.S.A. 75-6101 et seq.).
5. **Anti-Discrimination Clause:** The vendor/contractor agrees: (a) to comply with the Kansas Act Against Discrimination (K.S.A. 44-1001 et seq.) and the Kansas Age Discrimination in Employment Act (K.S.A. 44-1111 et seq.) and the applicable provisions of the Americans With Disabilities Act (42 U.S.C. 12101 et seq.) (ADA) and to not discriminate against any person because of race, religion, color, sex, disability, national origin or ancestry, or age in the admission or access to, or treatment or employment in, its programs or activities; (b) to include in all solicitations or advertisements for employees, the phrase "equal opportunity employer"; (c) to comply with the reporting requirements set out at K.S.A. 44-1031 and K.S.A. 44-1116; (d) to include those provisions in every subcontract or purchase order so that they are binding upon such subcontractor or vendor; (e) that a failure to comply with the reporting requirements of (c) above or if the vendor/contractor is found guilty of any violation of such acts by the Kansas Human Rights Commission, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part, by Douglas County; (f) if it is determined that the vendor/contractor has violated applicable provisions of ADA, such violation shall constitute a breach of contract and the contract may be cancelled, terminated or suspended, in whole or in part, by Douglas County.

Parties to this contract understand that the provisions of this paragraph number 5 (with the exception of those provisions relating to the ADA) are not applicable to a vendor/contractor who employs fewer than four employees during the term of such contract or whose contracts with Douglas County cumulatively total \$5,000 or less during the fiscal year of Douglas County.

6. **Arbitration, Payment Due, Interest, Warranties:** Notwithstanding any language to the contrary, no interpretation shall be allowed to find Douglas County has agreed to binding arbitration, or the payment of damages or penalties upon the occurrence of a contingency. Payment from Douglas County to vendor/contractor shall not be due sooner than 30 days after the delivery of an invoice from vendor/contractor to Douglas County. Further, Douglas County does not agree to pay attorney fees or late payment charges beyond those available under K.S.A. 16-201, and no provision will be given effect which attempts to exclude, modify, disclaim or otherwise attempt to limit implied warranties of merchantability and fitness for a particular purpose.
7. **Representative's Authority To Contract:** By signing this contract, the representative of the vendor/contractor hereby represents that such person is duly authorized by the vendor/contractor to execute this contract on behalf of the vendor/contractor and that the vendor/contractor agrees to be bound by the provisions thereof.
8. **Responsibility For Taxes:** Douglas County shall not be responsible for, nor indemnify vendor/contractor for, any federal, state or local taxes which may be imposed or levied upon the subject matter of this contract.



## DOUGLAS COUNTY PUBLIC WORKS

3755 East 25<sup>th</sup> Street  
Lawrence, KS 66046  
(785) 832-5293 Fax (785) 842-1201  
dgcopubw@douglas-county.com  
www.douglas-county.com

**Keith A. Browning, P.E.**  
Director of Public Works/County Engineer

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### MEMORANDUM

TO : Board of County Commissioners

FROM : Keith A. Browning, P.E., Director of Public Works  
Michael D. Kelly, P.S., County Surveyor

DATE : July 14, 2017

RE : Consent agenda  
Acquisition of Easement; Drainage Structure Replacement  
Project No. 2015-56 Structure No. 6.71N – 21.00E;

A project has been designed to replace a deficient drainage structure located approximately 5 miles south of Eudora on E2100 Road. Plans were developed in-house and negotiations with pertinent landowners for permanent and temporary easement have been completed.

Construction is currently underway and is being accomplished using county personnel.

To ensure the proper completion of a necessary construction project approval is recommended for the attached CONTRACT's FOR HIGHWAY PURPOSES.

**ACTION REQUIRED:** Consent agenda approval of the CONTRACT's FOR HIGHWAY PURPOSES for Drainage Structure No. 6.71N – 21.00E.

Project No.2016 - 56  
Structure No. 6.71N - 21.00E  
R/W Offer Details

22-Jun-17

**Tract 1 - E. Moore**

|                    |           |     |             |      |             |
|--------------------|-----------|-----|-------------|------|-------------|
| R/W                | 0.0000    | ac. | \$ 4,400.00 | /ac. | \$ -        |
| Temp. Esmt *       | 0.0286    | ac. | \$ 440.00   | /ac. | \$ 250.00   |
| Drainage Esmt      | 0.0000    | ac. | \$ 4,400.00 | /ac. | \$ -        |
| Fence **           |           |     |             |      | \$ 2,515.00 |
| Temporary Fence ** |           |     |             |      | \$ 700.00   |
|                    | sub-total |     |             |      | \$ 3,465.00 |
| rounding           |           |     |             |      | \$ -        |
|                    | total     |     |             |      | \$ 3,465.00 |

**Tract 2 - D. Moore**

|                     |           |     |             |      |           |
|---------------------|-----------|-----|-------------|------|-----------|
| R/W                 | 0.0000    | ac. | \$ 4,400.00 | /ac. | \$ -      |
| Temp. Esmt *        | 0.0174    | ac. | \$ 440.00   | /ac. | \$ 250.00 |
| Drainage Esmt       | 0.0000    | ac. | \$ 4,400.00 | /ac. | \$ -      |
| Fence ***           |           |     |             |      | \$ -      |
| Temporary Fence *** |           |     |             |      | \$ -      |
|                     | sub-total |     |             |      | \$ 250.00 |
| rounding            |           |     |             |      | \$ -      |
|                     | total     |     |             |      | \$ 250.00 |

**Prairie Joy LLC**

|                     |           |      |             |       |             |
|---------------------|-----------|------|-------------|-------|-------------|
| Perm. Esmt.         | 0.0230    | ac.  | \$ 4,400.00 | /ac.  | \$ 101.20   |
| Temp. Esmt.         | 0.0918    | ac.  | \$ 440.00   | /ac.  | \$ 40.39    |
| Hackberry trees (5) | 5         | each | \$ 350.00   | /tree | \$ 1,750.00 |
| Cedar tree          | 1         | each | \$ 300.00   | /tree | \$ 300.00   |
| Fence **            |           |      |             |       | \$ 1,525.00 |
| Temporary Fence **  |           |      |             |       | \$ 925.00   |
|                     | sub-total |      |             |       | \$ 4,641.59 |
| rounding            |           |      |             |       | \$ 8.41     |
|                     | total     |      |             |       | \$ 4,650.00 |

\* Amount based on minimum award

\*\* Amount based on quote from Doyle Morgan, fence builder.

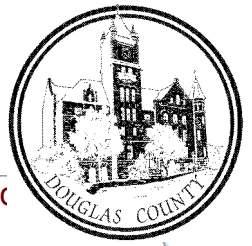
\*\*\* Fence relocation compensation provided to Tract 1 for both Tracts 1 and 2.

**Grand Total:**

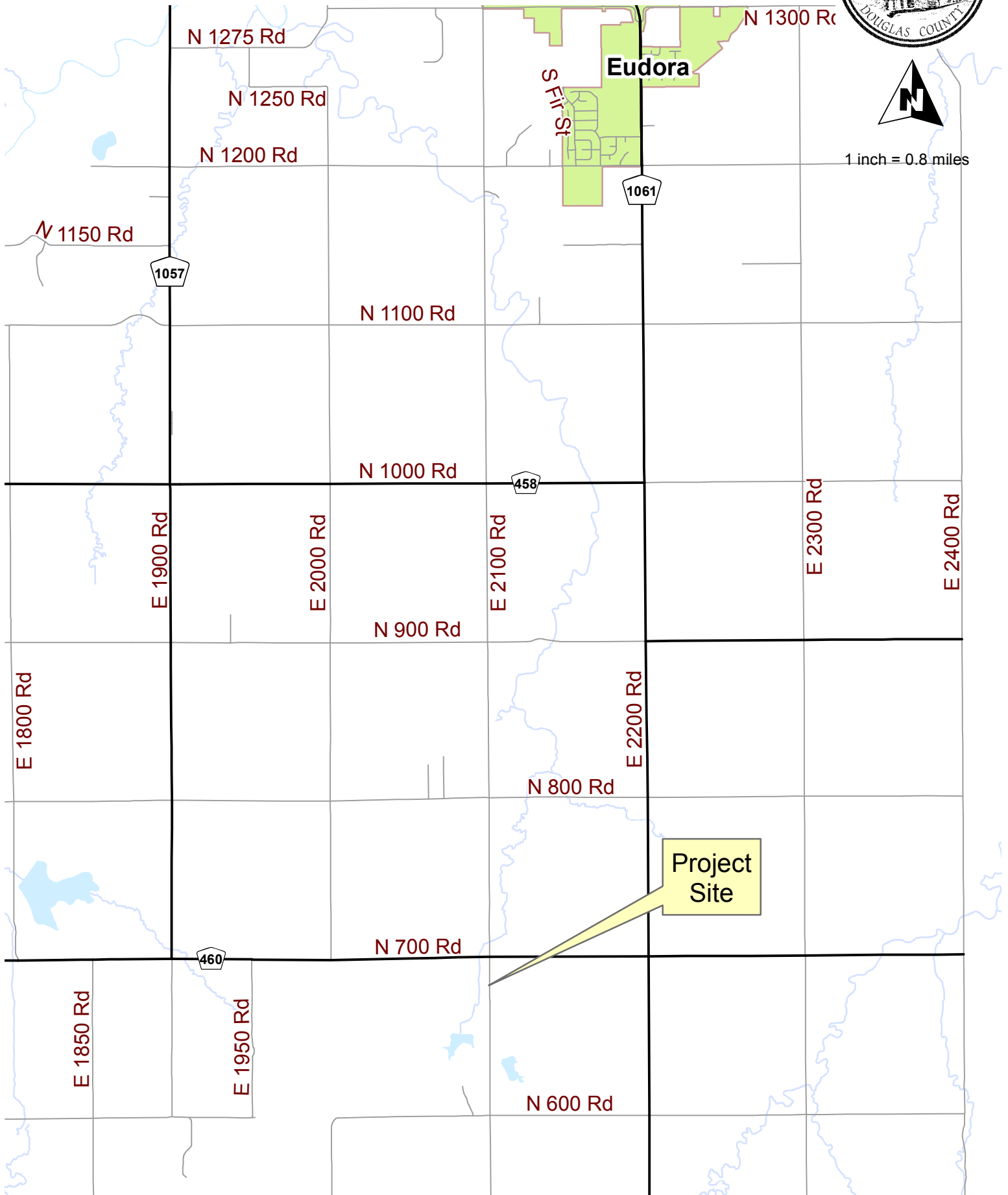
**\$ 8,365.00**

# General Location Map

Str. No. 6.71N - 21.00E



1 inch = 0.8 miles







## DOUGLAS COUNTY PUBLIC WORKS

3755 East 25<sup>th</sup> Street  
Lawrence, KS 66046  
(785) 832-5293 Fax (785) 842-1201  
dgcopubw@douglas-county.com  
www.douglas-county.com

**Keith A. Browning, P.E.**  
Director of Public Works/County Engineer

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### MEMORANDUM

TO : Board of County Commissioners

FROM : Keith A. Browning, P.E., Director of Public Works  
Michael D. Kelly, P.S., County Surveyor

DATE : July 14, 2017

RE : Project No. 2015-05; County Route 458; Acquisition of Easement;  
Consent agenda

As you are aware Douglas County is currently improving County Route 458, from the intersection of N1156 Rd (near the south end of the Clinton Lake dam) south and west a distance of approximately 4 miles, by adding 6.5 ft. shoulders as well as pavement rehabilitation. The project began June 8, 2017 and is proceeding well.

One contract for permanent easement acquisition as part of the project was returned late to the county for execution. The amount for the attached contract is \$250.00.

Approval is recommended for the attached CONTRACT FOR HIGHWAY PURPOSES.

**ACTION REQUIRED:** Consent agenda approval to authorize the Chair to affix his signature to the CONTRACT FOR HIGHWAY PURPOSES for Project No. 2015-05.

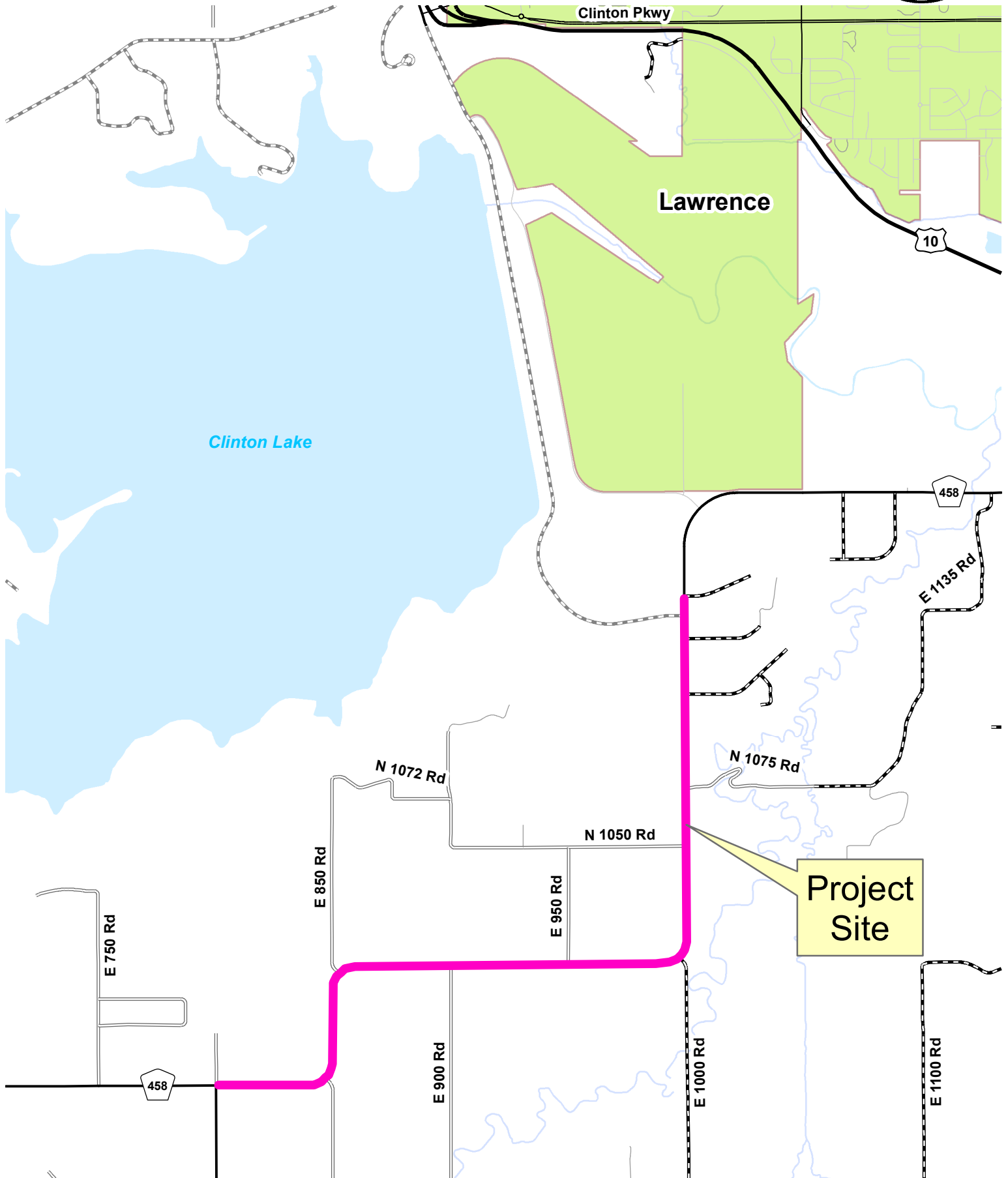
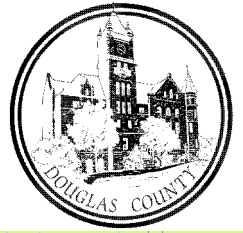
# Project No. 2015-05

## Route 458

### General Location Map

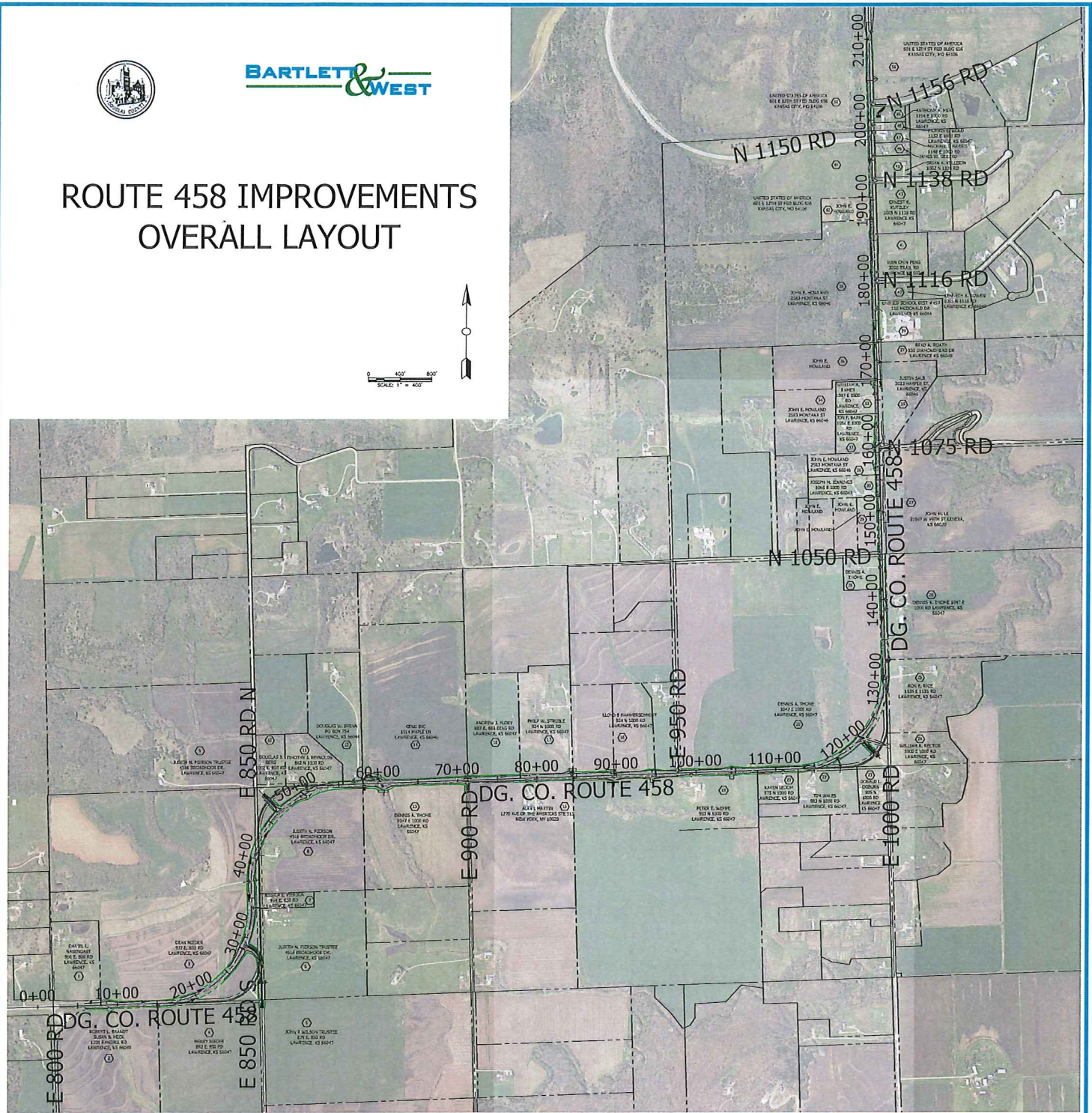
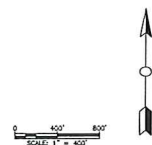


0.5 0.25 0 0.5 Miles





## ROUTE 458 IMPROVEMENTS OVERALL LAYOUT



| <b>PLANNING COMMISSION REPORT</b><br><b>Regular Agenda –Public Hearing Item</b>                                                                                                                                                                                                                                                                                                                                                                                                                           |                                                                    |
|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------|
| PC Staff Report<br>6/24/17                                                                                                                                                                                                                                                                                                                                                                                                                                                                                |                                                                    |
| <b>ITEM NO. 1</b>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                         | <b>CONDITIONAL USE PERMIT FOR CELL TOWER; 2138 N 1000 RD (SLD)</b> |
| <b>CUP-17-00215:</b> Consider a Conditional Use Permit for a new 190 ft self-supporting wireless telecommunications facility (tower), located at 2138 N 1000 Rd. Submitted by MW Towers LLC for F. Dwane Richardson & Valerie Richardson, property owners of record. <i>Joint meeting with Eudora Planning Commission.</i> (Eudora Planning Commission has sent a written response and will not attend.                                                                                                   |                                                                    |
| <b>STAFF RECOMMENDATION:</b> Staff recommends approval of the Conditional Use Permit for a <i>Communication Tower (Wireless Facility)</i> use, subject to the following conditions: <ol style="list-style-type: none"><li>1. Provision of a revised site plan drawing that shows the location of the tower enclosure setback at least 60' from the right-of-way line and the tower shall be setback 150' from the future right-of-way line per section 12-310 of the County Zoning Regulations.</li></ol> |                                                                    |

**Reason for Request:**

Applicant's Response:

*"To construct and maintain a 190 foot wireless telecommunications facility and related equipment shelters/cabinets."*

**ATTACHMENTS**

1. Lease area survey and fall zone
2. Site plan
3. Memo summarizing City of Eudora recommendation
4. Letter from applicant regarding tower design and fall zone
5. Recommended setback exhibit

**KEY POINTS**

- Proposed location for new wireless communication facility.
- Structures less than 200' are generally not required to provide lighting per FAA.
- Access to site is from N 1000 Road.
- Property is located within 3 miles of the City of Eudora.

**ASSOCIATED CASES/OTHER ACTION REQUIRED**

- Existing home occupation – non-compliant. Use has expanded beyond allowable limits. Conditional use permit required for home business. (CUP application submitted on 6/19/2017 for a future Planning Commission meeting.)
- Approval of the Conditional Use by the Board of County Commissioners.
- Applicant shall obtain a permit for the Conditional Use from the Zoning and Codes Office prior to commencing the use.
- Applicant shall obtain a building permit from the Zoning and Codes Office prior to any construction.

## PUBLIC COMMUNICATION

1. Communication from the City of Eudora Planning Commission.
2. Multiple calls from property owners requesting clarification of proposed tower location.
3. Nearby property owner called to express concerns that tower will conflict with aerial spraying, use of ultra-light aircraft, impact local wetlands and the Santa Fe Trail.
4. Hiquan Ma and Zongwu Cai; 2115 N 1000 Road letter.

|                                  |                                                                                                                                               |
|----------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------|
| <b>GENERAL INFORMATION</b>       |                                                                                                                                               |
| Current Zoning and Land Use:     | A (County-Agricultural) District; <i>Agriculture</i> . This property includes 94 acres with a rural residence, out buildings and crop land.   |
| Surrounding Zoning and Land Use: | A (County-Agricultural); <i>Agriculture</i> in all directions. Existing agricultural area with scattered rural residences along county roads. |

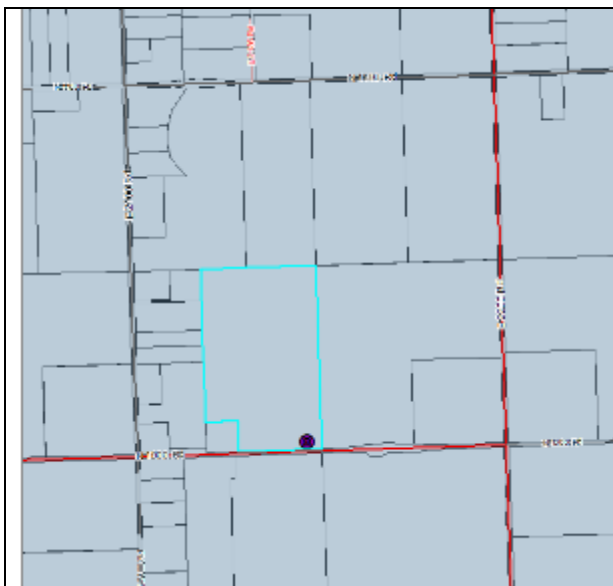


Figure 1: Existing Zoning; A (Agricultural) District

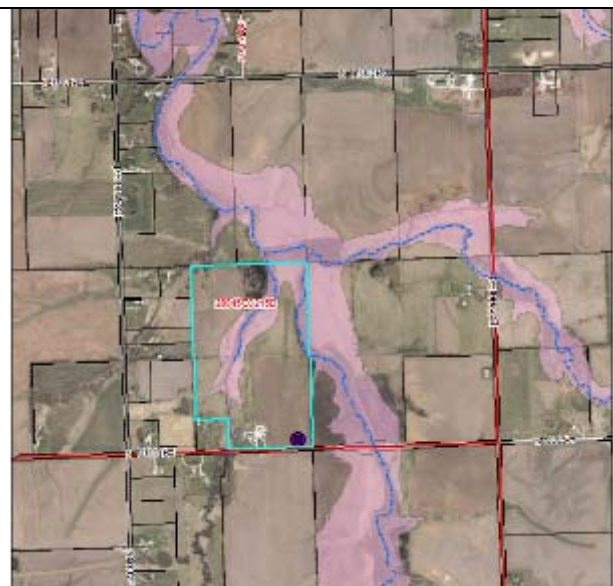


Figure 2: Existing Land Use and Regulatory Floodplain

## Summary of Request

This application is for the construction of a new 190' self-support structure to be located on the north side of N 1000 Road. The structure is designed to provide platforms for multiple wireless communication providers. This project has been submitted in accordance with criteria set out in Section 12-319-1.02 of the County Zoning Ordinance. It should be noted that the application was submitted (April 24, 2017) and reviewed based on regulations in effect on the date of the submittal. Recent changes to wireless communications uses were not in effect until May 24, 2017 (TA-16-00511).

The text amendment was made to align the local zoning code regulations with the adopted State and Federal changes to law regarding wireless communication made effective last July.

This application does not include any justification reports or propagation maps. The applicant did provide the extra one mile notice that is required by the County Zoning Regulations.

## I. ZONING AND USES OF PROPERTY NEARBY

The 93-acre parent parcel includes active agricultural land and accessory buildings. The nearby and surrounding area is uniformly zoned A (Agricultural). Land uses include large tracts of land with smaller rural residential parcels located along County roads. Smaller lots are concentrated along E 2100 Road west of the property. Larger land tracts are located to the east, north and south.

Section 20-319-4.31 (d) (5) states that towers “should be located in areas zoned commercial, industrial or agricultural” zoning district. The existing zoning is consistent with this land use preference and proposed development request.

**Staff Finding** – The subject property and immediately surrounding land area are zoned and used for agricultural activities and include rural residences along County roads. The proposed location of the tower (*Wireless Support Structure*) is consistent with the zoning district location requirements of the County Zoning Regulations.

## II. CHARACTER OF THE AREA

The property is located within the Eudora Township. The area is characterized by agricultural uses and rural residential homes located along county roads. Both N 1000 and E 2200 Roads are principal arterial thoroughfares in the area. The north property line of the parent parcel is located approximately one mile south of the City of Eudora. The proposed tower would be located about 1.7 miles south.

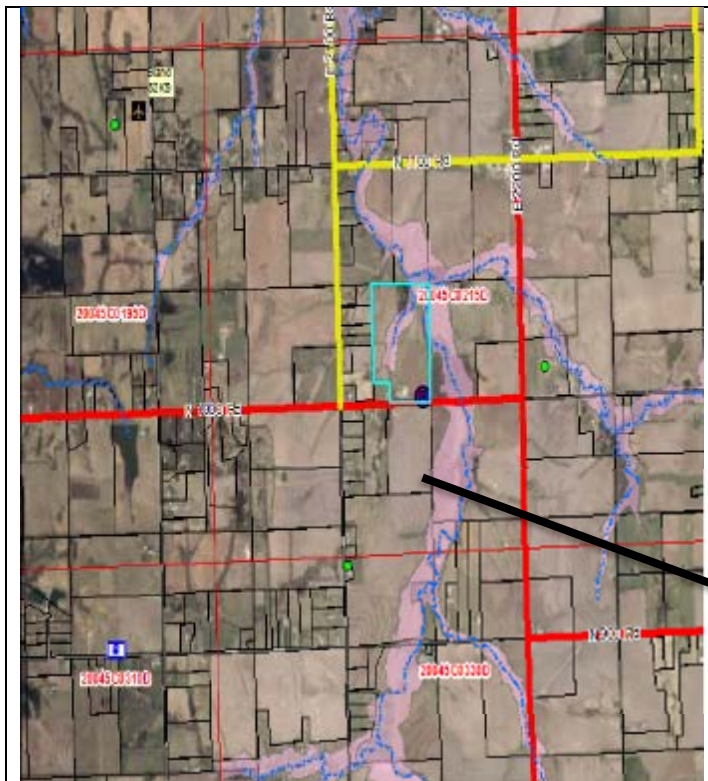


Figure 3: Area Map

The property and proposed tower location are located outside of the Eudora growth area but are located within three miles of the incorporated City Limits.

The Little Wakarusa Creek is located to the east of the property. A tributary to the creek is located within the subject property.

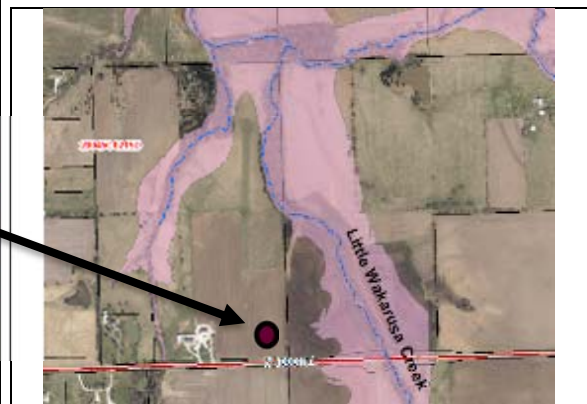


Figure 4: Little Wakarusa Creek

**Staff Finding** – The subject property is located within three miles of the City of Eudora within the unincorporated portion of Douglas County. The predominant characteristic of the area is agricultural.

### **III. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED**

Applicant's Response: *"The subject property is agricultural. The subject property is suitable for a wireless telecommunications facility because it is geographically located in an area where public and private demand for high speed data and wireless communications exceed existing capacity and additional wireless equipment and access is needed to serve the demand."*

The proposed request does not alter the base zoning A (Agricultural) District. Uses permitted in this district include agricultural activities such as farms, truck gardens, nurseries, grazing and similar activates. Residential uses are also permitted. Certain uses are permitted in the A (Agricultural) District subject to review and approval of a Conditional Use Permit such as *Wireless Facilities* and support structures (towers). Section 12-319.4.31(d) specifically identifies commercial, industrial or agricultural zoning districts as suitable for communication towers (*Wireless Facilities*).

The specific location of the tower within the property is discussed later in this report as it pertains to building setbacks.

**Staff Finding** – The property, as zoned A (Agricultural) District, is suitable for the proposed use.

### **IV. LENGTH OF TIME SUBJECT PROPERTY HAS REMAINED VACANT AS ZONED**

The proposed location of the tower is on the southeast corner of a 95 acre parcel. The property is undeveloped except for an area to the west along N 1000 Road which includes a residence and multiple agricultural buildings. Improvements appear on the parcel in the 1941 Aerial. Zoning was established in Douglas County in 1966.

**Staff Finding** –The property has been used for agricultural uses since before the adoption of the Zoning Regulations in 1966. The majority of the 95 acres is undeveloped except for the area located in the southwest corner of the property noted above.

### **V. EXTENT TO WHICH REMOVAL OF RESTRICTIONS WILL DETRIMENTALLY AFFECT NEARBY PROPERTY**

Applicant's Response: *The granting of a Conditional Use Permit will not detrimentally affect nearby property because the wireless telecommunications facility will be located on a 95 acre farm tract with no direct visibility to any existing residences."*

Section 12-319-1.01 of the County Zoning Regulations recognize that *"....certain uses may be desirable when located in the community, but that these uses may be incompatible with other uses permitted in a district...when found to be in the interest of the public health, safety, morals and general welfare of the community may be permitted, except as otherwise specified in any district from which they are prohibited."*

Communication towers are specifically recommended to be located in commercial, industrial or agricultural zoning districts. This proposed development request is located within the existing A (Agricultural) District.

The subject property is encumbered by regulatory floodplain. However, the proposed location of the tower is identified in the southeast corner of the property along N 1000 Road and will not encroach on the floodplain.

Nearby uses include a private air strip located approximately two miles to the northwest. This private air strip is oriented north and south and located west of E 2000 Road. The proposed tower would not be located in direct alignment with the air strip.

**Staff Finding** –The proposed request is comparable to similar wireless facility requests made in Douglas County.

**VI. RELATIVE GAIN TO THE PUBLIC HEALTH, SAFETY AND WELFARE BY THE DESTRUCTION OF THE VALUE OF THE PETITIONER’S PROPERTY AS COMPARED TO THE HARDSHIP IMPOSED UPON THE INDIVIDUAL LANDOWNERS**

Applicant’s Response: *N/A. No property values will be destroyed and no hardship imposed on landowners. The public health, safety and welfare will be improved by increased access to high speed data and wireless telecommunications services provide by tower tenants.*

Evaluation of the relative gain weighs the benefits to the community-at-large vs. the benefit of the owners of the subject property. Approval of the request expands the structural network of towers that are capable of supporting wireless communication equipment. The proposed request facilitates wireless communications and wireless data use within the community. The proposed equipment does not conflict with existing emergency communication equipment. The majority of the property will remain viable for existing land uses and uses permitted within the A (Agricultural) District.

The County Public Works Director noted in the review that the proposed location of the tower, in proximity to the existing road right-of-way, will cause a conflict in the future with widening and improvement of N 1000 Road (County Route 458). N 1000 Road is classified as a Principal Arterial. The Subdivision Regulations require 120’ of right-of-way (50’ from center line.) The existing right-of-way along this road segment is only 30’ from centerline, so the fence enclosure should be moved at least 30’ north to preserve future right-of-way.

New structures are required to be setback 150’ from the right-of-way along Principal Arterial roads. The following graphs represents the location of the enclosure based on the existing and future right of way.

*Table 1: Setback Requirements*

| Proposed enclosure setback from Right-of-way |          |                    |  |
|----------------------------------------------|----------|--------------------|--|
| Roadway from center line.                    | Set back | Proposed Enclosure |  |
| 30’ ROW                                      | 30’      | 75’                |  |

| Recommended enclosure setback from right-of-way |          |  |                    |
|-------------------------------------------------|----------|--|--------------------|
| Roadway from center line.                       | Set back |  | Proposed Enclosure |
| 60’ ROW                                         | 150’     |  | 75’                |

By moving the tower and enclosure farther north appropriate right-of-way is preserved for future improvements to the roadway.

**Staff Finding** – In staff’s opinion, the approval of this request as proposed does not preserve the necessary right-of-way for N 1000 Road, a Principal Arterial. Shifting the base of the tower and enclosure to the north right-of-way will be preserved. Staff recommends the tower site be relocated to the north to accommodate a future road improvement along N 1000 Road.

## **VII. CONFORMANCE WITH THE COMPREHENSIVE PLAN**

Applicant’s Response: *North 1000 Road is designed as a principal arterial road. Having a facility to provide high speed data and wireless communications is paramount for economic growth. Additionally, reliable wireless services are critical for public safety and emergency services.*

Chapter 10; Community Facilities of *Horizon 2020* addresses public utilities. Key strategies (Page 10-10) primarily address municipal utilities such as water and wastewater planning. One strategy states:

- *The visual appearance of utility improvements will be addressed to ensure compatibility with existing and planned land use areas.*

The plan specifically addressed electric and telephone services and encourages this infrastructure to be placed underground in conjunction with new development where feasible. Wireless communication towers support the wireless industry and accommodate the reduction of hardwire infrastructure. However, it should not be interpreted that wireless communication will replace hardwire needs in the community.

The plan recognizes that *"telephone and electric utilities have a strong visual presence in the unincorporated Douglas County Landscape."* Large transmission lines and easements should be coordinated throughout the community to minimize visual and environmental impacts.

The Comprehensive Plan does not explicitly address communication towers.

**Staff Finding** – The comprehensive plan does not provide any specific land use recommendations regarding *Wireless Facilities*. A Conditional Use Permit can be used to allow specific non-residential uses subject to approval of a site plan. This tool allows proportional development in harmony with the surrounding area. The proposed request is consistent with the Comprehensive Plan.

## **CUP PLAN REVIEW**

In addition to typical site plan design standards, communication towers must address specific requirements of section 12-319-4.31 of the County Zoning Regulations. As discussed above, the proposed use is located in an appropriate zoning district.

New communication towers require design that shall accommodate at least three two-way antennas for every 150’ of tower height or co-location space. The proposed tower site plan includes four co-location spaces on this tower.

The proposed project locates the wireless tower facility within a 75’ square enclosure area. The enclosure would be fenced and is shown graphically to include two future 12’ by 20’ tenant ground lease areas within the proposed fence enclosure (50’ by 50’). The current project does not include or show the location of a generator. Generators are typically provided by individual communication providers to support equipment during times of power loss. Tenant co-location on the tower in the future would be considered through an administrative site plan application review.

### **Parking and Access:**

*Wireless Facilities* do not require traditional off-street parking. Access to the tower enclosure area is provided from a driveway access from N 1000 Road. Access to the site is limited to construction and maintenance. There are no offices or manned operations at this location. A county driveway permit would be required separately.

### **Utilities**

Typical utilities are not required for this use. The site plan shows the location of an access and utility easement that will accommodate services (electric and phone) connections to the site. Water and sanitary sewer serves are not required.

### **Landscape and Screening:**

This site will not be irrigated and will not be staffed. The survival of vegetation used for screening is usually unsuccessful especially in a rural application. The project as proposed does not include a landscape plan. An existing tree line is located along the east property line.

### **Tower Design**

- Accommodations for the co-location of equipment for multiple tenants is provided with this proposed structure design.
- The overall tower height is less than 200'. Mandatory lighting is not required or proposed for the structure.

### **Setback**

As discussed above the building setback for structures is 150' from the right-of-way for buildings located along Principal Arterial roads. For example, a new residence would be required to be setback 150' from the north right-of-way line along this segment of N 1000 Rod.

The tower is required, per section 12-319-4.31(d), to be setback at least equal to the height of the tower to the nearest property line measured from the center of the tower. The tower (center of tower), as proposed, is located 67' from the north right-of-way line (south property line) and approximately 80' from the east property line. The fence enclosure is proposed to be located 31' north of the right-of-way and 42.4' west of the east property line. While the tower is setback an additional distance, the location of the fence enclosure would not be adequately setback once the roadway for N 1000 Road is widened.

The typical right-of-way profile for a rural Primary Arterial Road is 120' (without a median) or 150' (with a median). The existing right-of way for this segment of N 1000 Road is 60'. Each property owner would provide one half of the right-of-way or roadway easement as applicable.

Primary structures are typically required to be setback 150' from the right-of-way for properties located along Principal Arterial roads per 12-318. This setback standard applies to residential structures. The existing residence to the west does not appear to meet this design standard. The following graphic shows the location of the tower and lease area in relationship to the right-of-way lines (south property line).



Figure 5: Proposed location of tower and enclosure

The proposed tower location is setback in line with the existing residence. The enclosure area would be located one foot north of the easement.

Wireless communication towers must meet the minimum setback established by Section 12-319-4.31(d) or provide documentation certified by a registered engineer certifying that in the event of a failure or collapse, the fall zone will be contained within the proposed setback area. The applicant has provided a letter from the tower designer indicating the intended design for the tower to result in collapse radius equal to the identified distance in the attached survey (67.5').

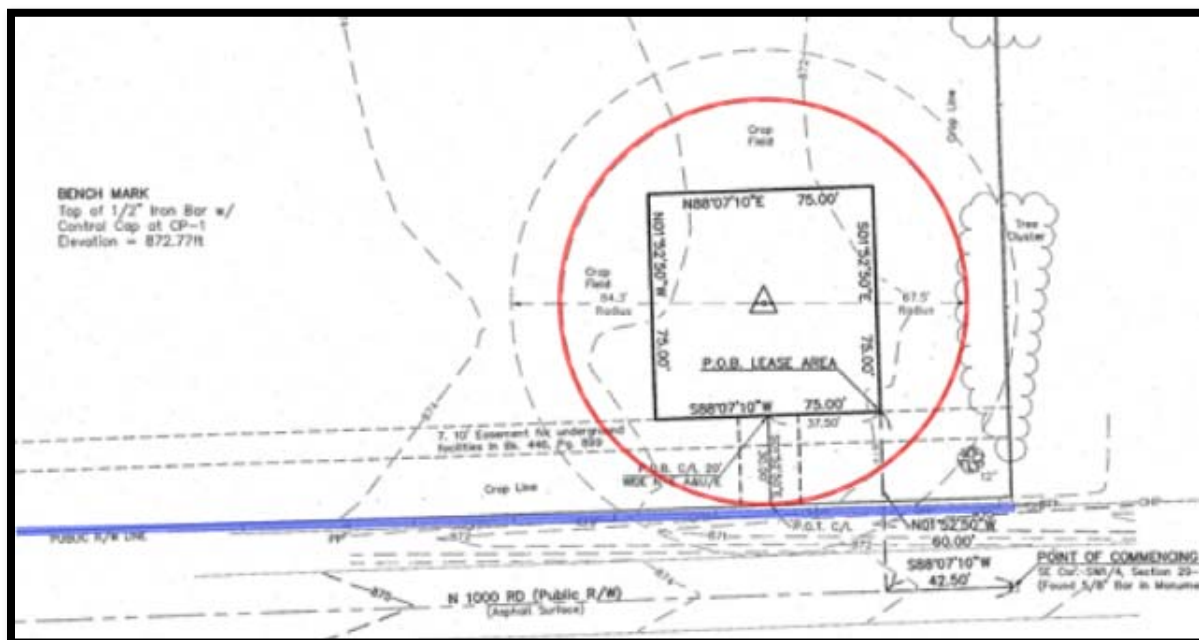


Figure 6: Fall Zone

Evaluation of the required structural documentation will continue to be reviewed with the submission of a building permit to the County Zoning and Codes Office. The lease area is located 42.5' from the east property line. The fall zone is located completely within the parent parcel.

The tower and ground equipment will be located in a 50' by 50' enclosure area within the larger lease area of 75' by 75'. Additional ground equipment could result in the need to expand the ground enclosure to accommodate added equipment in the future.

Staff recommends the enclosure area be setback the tower enclosure setback at least 60' from the right-of-way line and the tower shall be setback 150' from the future right-of-way line. This is intended to preserve the right-of-way for improvements to N 1000 Road.

### **Lighting**

Lighting is not proposed with this application for the communication tower. The tower will need to meet any applicable FAA requirements. Generally, towers less than 200' are not required to be lit. ground equipment will have lighting on front and rear sides of the building. Lighting must be shielded and directed down.

### **Other**

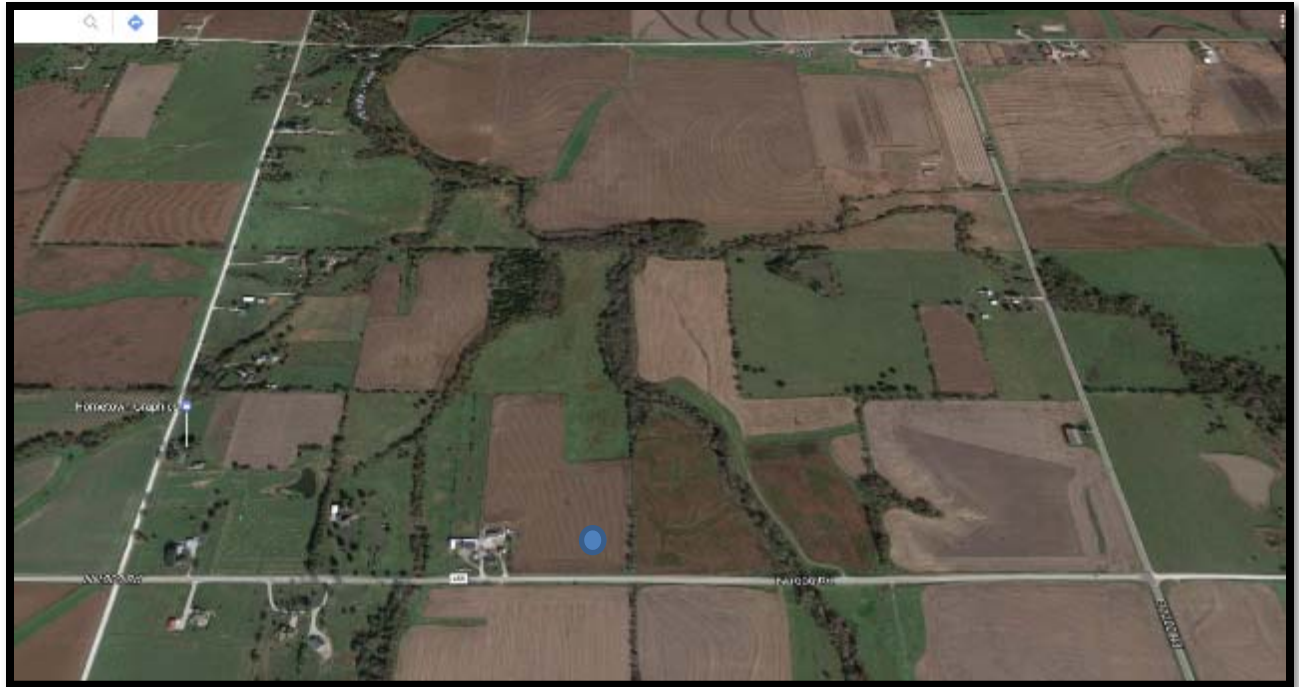
Prior to construction of the tower the applicant will be required to obtain a Conditional Use Permit, issued by the County Zoning and Codes office as well as applicable building and floodplain development permits.

Recent changes to federal laws allow some future modifications to approved and existing communication towers, base stations, co-location equipment and other features. The full scope of these changes has not been assessed by staff. Changes can include expanding the tower by up to an additional 20' and increasing the base station (enclosure area) by up to 10%.

### **Conclusion**

The proposed application meets the required documentation requirements of the County Zoning Regulations. Staff recommends a changes to the site plan to facilitate the project compatibility with future roadway improvements along N 1000 Road as discussed in the body of this staff report.

The property owner has a current home-based business that is currently not in compliance with the home occupation regulations. The property owner has submitted a separate Conditional Use Permit for the continuation of the business at this location. The application will be considered on a future Planning Commission agenda.



*Figure 7: Aerial of surrounding property*

# EUDORA PART OF THE SW 1/4, SECTION 29, T13S, R21E, IN DOUGLAS COUNTY, KANSAS

## PROPERTY DESCRIPTION: Parent Parcel as Provided

The East 100 acres of the Southwest Quarter of Section 29, Township 13 South, Range 21 East of the 5th P.M., in Douglas County, Kansas.

## LESS AND EXCEPT:

Beginning at the Southwest corner of the East 100 acres of the Southwest Quarter of Section 29, Township 13 South, Range 21 East of the 5th P.M.; thence North 487 feet; thence East 487 feet; thence South 487 feet; thence West to the point of beginning, Douglas County, Kansas, 525 feet to easements, reservations, and restrictions, if any of record.

NOTE: The parent parcel, graphically shown hereon, in full or in part, is the same as that described above.

Property information shown hereon was provided by Premier Title of Kansas, Inc., Case No. 35318, effective November 6, 2016 at 8:00 a.m.

## Schedule B-II Information:

6. R/W Easement granted to Rural Water Dist. No. 4 in Blk. 306, Pg. 1715. (Blanket in nature, unable to plot)

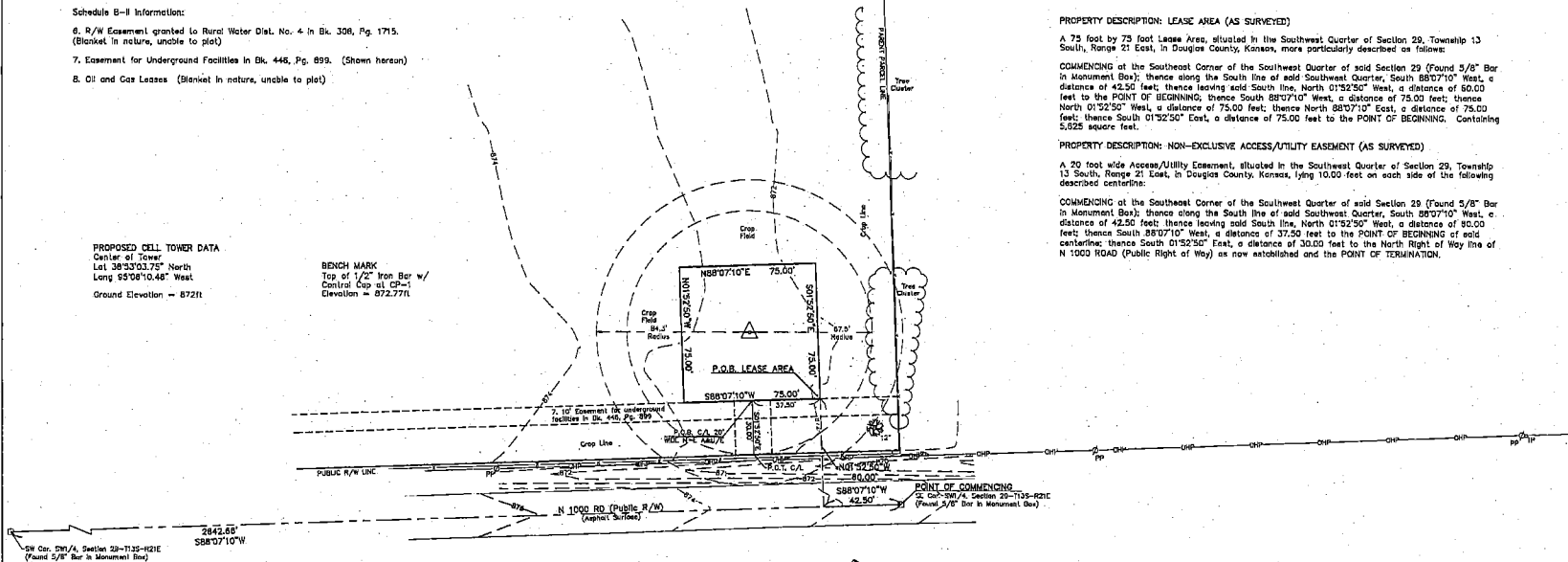
7. Easement for Underground Facilities in Blk. 446, Pg. 893. (Shown hereon)

8. Oil and Gas Leases (Blanket in nature, unable to plot)

## PROPOSED CELL TOWER DATA

Center of Tower  
Lat. 38°53'03.75" North  
Long 95°08'10.48" West  
Ground Elevation = 872.77ft

BENCH MARK  
Top of 1/2" Iron Bar w/  
Central Cap at 12-2-  
Elevation = 872.77ft



## Notes:

Bearings shown hereon are referenced to Grid North of the Kansas State Plane Coordinate System of 1983 (NAD 83), (2011 ADJ), North Zone. Obtained by static GPS observations and RINEX file submissions for NGS Opus solutions.

Vertical Datum = NAVD83 using GGD0128

The purpose of this survey is to establish and describe a Lease Area and associated Easements. This is not a boundary survey of the Parent Parcel.

The utilities as shown on this drawing were developed from the information available (existing utility maps, aboveground observations and/or surface markings placed on the ground by the utility company or a representative thereof). This company has made no attempt to excavate or go below surface to locate utilities and does not extend or imply a warranty or warranty as to the exact location of or complete inventory of utilities in this area. It shall be the contractor's responsibility to verify the location and depth of all utilities (whether shown or not) prior to excavation or construction and to protect said utilities from damage.

## PROPERTY LEGEND

|                         |        |
|-------------------------|--------|
| SECTION CORNER          | LI     |
| RIGHT OF WAY            | R/W    |
| CENTERLINE              | C/L    |
| POINT OF BEGINNING      | P.O.B. |
| POINT OF TERMINATION    | P.O.T. |
| ACCESS/UTILITY EASEMENT | AAU/E  |
| NON-EXCLUSIVE           | N-E    |
| BROKEN SCALE            |        |

## LEGEND

|                     |     |
|---------------------|-----|
| POWER POLE          | PP  |
| TELEPHONE PEDISTAL  | TP  |
| PROPOSED TOWER      |     |
| TREE (DIA)          |     |
| TREE LINE           |     |
| FENCE               |     |
| OVERHEAD POWER LINE | OPH |
| BENCHMARK           |     |
| CONTROL POINT       |     |

## PROPERTY DESCRIPTION: LEASE AREA (AS SURVEYED)

A 75 foot by 75 foot Lease Area, situated in the Southwest Quarter of Section 29, Township 13 South, Range 21 East, in Douglas County, Kansas, more particularly described as follows:

COMMENCING at the Southeast Corner of the Southwest Quarter of said Section 29 (Found 5/8" Bar in Monument Box); thence along the South line of said Southwest Quarter, South 88°07'10" West, a distance of 42.50 feet; thence leaving said South line, North 01°52'50" West, a distance of 80.00 feet to the POINT OF BEGINNING; thence South 88°07'10" West, a distance of 75.00 feet; thence North 01°52'50" West, a distance of 75.00 feet; thence North 88°07'10" East, a distance of 75.00 feet; thence South 01°52'50" East, a distance of 75.00 feet to the POINT OF BEGINNING. Containing 5,625 square feet.

## PROPERTY DESCRIPTION: NON-EXCLUSIVE ACCESS/UTILITY EASEMENT (AS SURVEYED)

A 20 foot wide Access/Utility Easement, situated in the Southwest Quarter of Section 29, Township 13 South, Range 21 East, in Douglas County, Kansas, lying 10.00 feet on each side of the following described centerline:

COMMENCING at the Southeast Corner of the Southwest Quarter of said Section 29 (Found 5/8" Bar in Monument Box); thence along the South line of said Southwest Quarter, South 88°07'10" West, a distance of 42.50 feet; thence leaving said South line, North 01°52'50" West, a distance of 80.00 feet; thence South 88°07'10" West, a distance of 37.50 feet to the POINT OF BEGINNING of said centerline; thence South 01°52'50" East, a distance of 30.00 feet to the North Right of Way line of N 1000 ROAD (Public Right of Way) as now established and the POINT OF TERMINATION.

**LOVELACE & ASSOCIATES**  
Land Surveying - Land Planning  
Telecommunications Surveys  
233 S. 3rd Street, Lawrence, Kansas 66044  
Phone: (816) 347-9977 Fax: (816) 347-9979

## SURVEY COORDINATED BY:

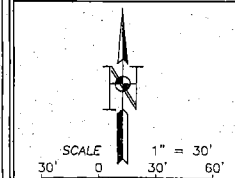
LOVELACE AND ASSOCIATES, LLC  
P.O. BOX 68  
LEE'S SUMMIT, MO 64063  
TELEPHONE: 816-347-9997  
FAX: 816-347-9979

## SURVEY PROVIDED BY:

LOVELACE AND ASSOCIATES, LLC  
P.O. BOX 68  
LEE'S SUMMIT, MO 64063  
TELEPHONE: 816-347-9997  
FAX: 816-347-9979

## SURVEY PROVIDED FOR:

MW TOWERS, LLC  
3804 WEST 75TH ST.  
PRAIRIE VILLAGE, KS 66208  
TELEPHONE: 913-449-4774



## FLOOD NOTE:

According to my interpretations of Community Panel No. 2004500210 of the Flood Insurance Rate Map for Douglas County, Kansas, dated 08-05-2010, the subject property is in Flood Zone "X", a "area determined to be outside the 0.2% annual chance floodplain".

**LOVELACE & ASSOCIATES**  
233 S. 3rd Street, Lawrence, Kansas 66044  
Phone: (816) 347-9977 Fax: (816) 347-9979

## SITE ID: NA

SITE NAME: CN35318

SITE LOCATION:  
CITY OF EUDORA,  
DOUGLAS COUNTY, KS

LA PROJECT NO.: 17023

DRAWN BY: A.C.T.

CHECKED BY: J.B.L.

DATE: 02-07-17

FIELDWORK DATE: 02-01-17

SHEET NUMBER  
1 OF 1

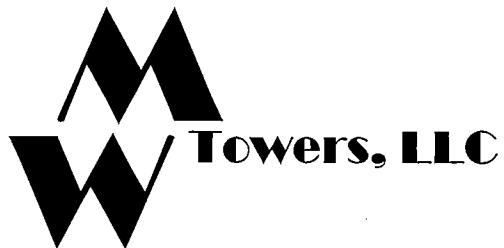
## CERTIFICATION:

I HEREBY CERTIFY THAT A SURVEY WAS MADE BY ME, OR UNDER MY DIRECT SUPERVISION, ON THE GROUND OF THE LEASE AREA, AND ASSOCIATED EASEMENT PREMISES HEREIN DESCRIBED, AND THE RESULTS OF SAID SURVEY ARE REPRESENTED HEREON TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF.

JEFFREY L. LOVELACE  
DATE: 02-07-17

05-18-17: REVISED TYP  
05-02-17: REVISED FOR COMMENTS  
03-09-17: ADDED A/C

Certificate of Authority  
Kansas - LS-154



# EUDORA SOUTH

SITE NAME:  
CN35318

ADDRESS  
EUDORA, KS 66025

## PROPOSED 190'-0" SELF-SUPPORT TOWER



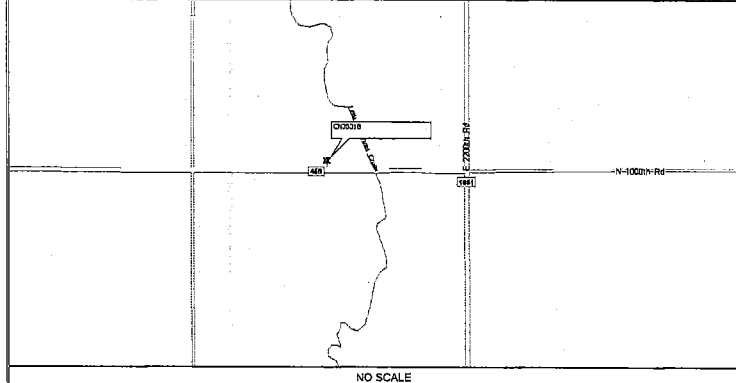
EUDORA SOUTH

ADDRESS  
EUDORA, KS 66025  
PROPOSED SELF-SUPPORT TOWER

### PROJECT SUMMARY

SITE NAME: EUDORA SOUTH  
SITE NUMBER: CN35318  
SITE ADDRESS: EUDORA, KS 66025  
JURISDICTION: DOUGLAS COUNTY  
TOWER OWNER: MW TOWERS, LLC  
3864 WEST 75TH STREET  
PRAIRIE VILLAGE, KS 66208  
(913) 449-4774  
NAD83  
LATITUDE: 38° 53' 03.75" N  
LONGITUDE: 95° 06' 10.48" W  
CUSTOMER/  
APPLICANT: MW TOWERS, LLC  
3864 WEST 75TH STREET  
PRAIRIE VILLAGE, KS 66208  
(913) 449-4774  
OCCUPANCY TYPE: UNMANNED  
A.D.A. COMPLIANCE: FACILITY IS UNMANNED AND NOT  
FOR HUMAN HABITATION

### LOCATION MAP



### DRAWING INDEX

| SHEET # | SHEET DESCRIPTION                   | REV. #   |
|---------|-------------------------------------|----------|
| T-1     | TITLE SHEET                         | A        |
| GN-1    | GENERAL NOTES                       | A        |
| GN-2    | GENERAL NOTES                       | A        |
| GN-3    | GENERAL NOTES                       | A        |
| C-1     | SURVEY                              | 02/01/17 |
| C-1.1   | OVERALL SITE PLAN & TOWER ELEVATION | A        |
| C-2     | COMPOUND DETAILS                    | A        |
| C-3     | FENCE DETAILS                       | A        |
| E-1     | POWER/TELCO ROUTING AND DETAILS     | A        |
| E-2     | UTILITY RACK ELEVATIONS             | A        |
| G-1     | GROUNDING PLAN AND DETAILS          | A        |

### JURISDICTION

JURISDICTION: DOUGLAS COUNTY  
ZONING: N/A  
POWER PROVIDER: BALDWIN CITY MUNICIPAL LIGHT AND WATER  
(785) 594-6427  
TELCO PROVIDER: CENTURYLINK  
(877) 290-5458

### DRIVING DIRECTIONS

DEPART KANSAS CITY INTERNATIONAL AIRPORT ON INTERNATIONAL CIRCLE. KEEP RIGHT ONTO LP COOKINGHAM DR. TAKE RAMP (RIGHT) ONTO MO-D [LP COOKINGHAM DR]. TAKE RAMP (RIGHT) ONTO I-29 [US-71]. AT EXIT 3B, TAKE RAMP (RIGHT) ONTO I-635. AT EXIT 1A, TURN RIGHT ONTO RAMP. TAKE RAMP (RIGHT) ONTO I-35, AT EXIT 222B, TAKE RAMP (RIGHT) ONTO I-435 [FRONTIER MILITARY SCENIC BYWAY]. AT EXIT 1B, TURN RIGHT ONTO RAMP. ROAD NAME CHANGES TO KS-10 [GOVERNOR JOHN ANDERSON JR HWY]. KEEP RIGHT ONTO RAMP, TURN LEFT ONTO CR-1061 [CHURCH ST]. KEEP STRAIGHT ONTO CR-1061 [E 2200TH RD]. KEEP STRAIGHT ONTO CR-1061 [CHURCH ST]. KEEP STRAIGHT ONTO CR-1061 [E 2200TH RD], TURN RIGHT ONTO CR-458 [N 1000TH RD]. TURN RIGHT ONTO ACCESS ROAD AND ARRIVE AT CN35318.

### A/E DOCUMENT REVIEW STATUS

| TITLE                         | SIGNATURE | DATE |
|-------------------------------|-----------|------|
| MW TOWERS LLC PROP:           |           |      |
| MW TOWERS LLC R.F. MGR.:      |           |      |
| MW TOWERS LLC NetOps:         |           |      |
| MW TOWERS LLC CONST. MGR.:    |           |      |
| INTERCONNECT:                 |           |      |
| MW TOWERS LLC SITE DEV. MGR.: |           |      |
| PROPERTY OWNER:               |           |      |
| PLANNING:                     |           |      |

THE FOLLOWING PARTIES HEREBY APPROVE AND ACCEPT THESE DOCUMENTS AND AUTHORIZE THE CONTRACTOR TO PROCEED WITH THE CONSTRUCTION DESCRIBED HEREIN. ALL DOCUMENTS ARE SUBJECT TO REVIEW BY THE LOCAL BUILDING DEPARTMENT AND MAY IMPOSE CHANGES OR MODIFICATIONS.



CALL KANSAS ONE CALL  
(800) DIG-SAFE  
CALL 3 WORKING DAYS  
BEFORE YOU DIG!



### CODE COMPLIANCE

ALL WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY THE LOCAL GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES:

| CODE TYPE         | CODE     |
|-------------------|----------|
| BUILDING/DWELLING | IBC 2012 |
| STRUCTURAL        | IBC 2012 |
| MECHANICAL        | IMC 2012 |
| ELECTRICAL        | NEC 2011 |

### PROJECT DESCRIPTION

- THE PROPOSED PROJECT INCLUDES:
- INSTALL 190'-0" SELF-SUPPORT TOWER.
  - INSTALL 50'-0" x 50'-0" COMPOUND.
  - INSTALL MULTI-METER RACK.

### DO NOT SCALE DRAWINGS

ALL DRAWINGS CONTAINED HEREIN ARE FORMATTED FOR 11X17. CONTRACTOR SHALL VERIFY ALL PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.

SEE SHEET GN-1, GN-2 & GN-3  
FOR ADDITIONAL CONSTRUCTION NOTES

PROJECT NO: 112623.001  
CHECKED BY: SLM

| ISSUED FOR: |         |      |                    |
|-------------|---------|------|--------------------|
| REV         | DATE    | DRWN | DESCRIPTION        |
| A           | 3/28/17 | RPS  | PRELIMINARY REVIEW |

B&T ENGINEERING, INC.

THIS DOCUMENT IS  
PRELIMINARY IN  
NATURE AND IS NOT  
A FINAL, SIGNED  
AND SEALED  
DOCUMENT

IT IS A VIOLATION OF LAW FOR ANY PERSON,  
UNLESS THEY ARE ACTING UNDER THE DIRECTION  
OF A LICENSED PROFESSIONAL ENGINEER,  
TO ALTER THIS DOCUMENT.

SHEET NUMBER: T-1  
REVISION: A

### IMPORTANT NOTE:

THE CONTRACTOR MUST PROVIDE CLOSE-OUT DOCUMENTS AT THE FINAL INSPECTION WALK BEFORE PAYMENTS WILL BE MADE.

### GENERAL REQUIREMENTS

1. THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY, SPECIFICATIONS AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
2. THE ARCHITECT/ENGINEER HAVE MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS, THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND/OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
3. THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE OWNERS REPRESENTATIVE OF ANY CONFLICTS, ERRORS OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK.
4. THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED THEREIN.
5. THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK AND FAMILIARIZE THEMSELVES WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT.
6. THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWINGS/CONTRACT.
7. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATIONS UNLESS OTHERWISE NOTED OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
8. THE CONTRACTOR SHALL MAINTAIN A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE, UPDATED WITH THE LATEST REVISIONS AND ADDENDUMS OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
9. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES, AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
10. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE WORK BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
11. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC., DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
12. THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS/RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PLAIN SPOTS, DUST OR SMUDGES OF ANY KIND.
13. THE CONTRACTOR SHALL COMPLY WITH ALL PERTINENT SECTIONS OF THE APPLICABLE BUILDING CODES AND ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. THE CONTRACTOR SHALL NOTIFY THE TOWER OWNERS REPRESENTATIVE WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL THAT CONFLICT IS RESOLVED BY TOWER OWNERS REPRESENTATIVE.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC., ON THE JOB.
16. THE CONTRACTOR SHALL SUBMIT, AT THE END OF THE PROJECT, A COMPLETE SET OF AS-BUILT DRAWINGS TO TOWER OWNERS PROJECT MANAGER.

### SITE WORK AND DRAINAGE

EARTHWORK, EXCAVATION AND GRADING

#### PART 1 GENERAL

- 1.01 WORK INCLUDED: REFER TO SURVEY AND SITE PLAN FOR WORK INCLUDED.
- 1.02 RELATED WORK
  - A. CONSTRUCTION OF EQUIPMENT FOUNDATIONS
  - B. INSTALLATION OF ANTENNA SYSTEM
- 1.03 DESCRIPTIONS
  - A. ACCESS ROAD, TURNAROUND AREAS AND SITES ARE CONSTRUCTED TO PROVIDE A WELL DRAINED, EASILY MAINTAINED, EVEN SURFACE FOR MATERIAL AND EQUIPMENT DELIVERIES AND MAINTENANCE PERSONNEL ACCESS.
- 1.04 QUALITY ASSURANCE
  - A. APPLY SOIL STERILIZER IN ACCORDANCE WITH MANUFACTURER'S RECOMMENDATION (USE AS NEEDED)
  - B. VEGETATION LANDSCAPING, IF INCLUDED WITHIN THE CONTRACT WILL BE PLACED AND MAINTAINED AS RECOMMENDED BY NURSERY INDUSTRY STANDARDS.
- 1.05 SEQUENCING
  - A. CONTRACTOR IS RESPONSIBLE FOR LAYOUT AND CONSTRUCTION STAKING.
  - B. GRUB THE COMPLETE ROAD AND SITE AREA PRIOR TO FOUNDATION CONSTRUCTION OR PLACEMENT OF BACK FILL OR SUB-BASE MATERIAL.
  - C. CONSTRUCT TEMPORARY CONSTRUCTION ZONE ALONG ACCESS DRIVE.
  - D. THE SITE AREA WILL BE BROUGHT TO SUB-BASE COURSE ELEVATION AND THE ACCESS ROAD TO BASE COURSE ELEVATION PRIOR TO FORMING FOUNDATIONS.
  - E. APPLY SILT STERILIZER PRIOR TO PLACING BASE MATERIALS.
  - F. IF REQUIRED, GRADE, SEED, FERTILIZE AND MULCH DISTURBED AREAS IMMEDIATELY AFTER BRINGING THE SITE AND ACCESS ROAD TO BASE ELEVATION. WATER TO ENSURE GROWTH.
  - G. REMOVE EXCESS GRAVEL FROM TEMPORARY CONSTRUCTION ZONE.
  - H. AFTER APPLICATIONS OF FINAL SURFACES, APPLY SOIL STERILIZER TO THE STONE SURFACES.
- 1.06 SUBMITTALS
  - A. BEFORE CONSTRUCTION
    1. IF LANDSCAPING IS APPLICABLE TO THE CONTRACT, SUBMIT TWO COPIES OF THE LANDSCAPING PLAN UNDER NURSERY LETTERHEAD, IF A LANDSCAPE ALLOWANCE IS INCLUDED IN THE CONTRACT, PROVIDE AN ITEMIZED LISTING OF PROPOSED COSTS UNDER NURSERY LETTERHEAD (REFER TO SITE PLAN FOR LANDSCAPING REQUIREMENT).
    2. SUBMIT FOR APPROVAL, 1/2 CUBIC FOOT OF THE PROPOSED SURFACE COURSE MATERIAL.
    3. LANDSCAPING WARRANTY STATEMENT, IF REQUIRED.

#### PART 2 PRODUCTS

- 2.01 MATERIALS
  - A. ROAD AND SITE MATERIALS: FILL MATERIAL SHALL BE ACCEPTABLE. SELECT FILL AND SHALL BE IN ACCORDANCE WITH LOCAL DEPARTMENT OF HIGHWAY AND PUBLIC TRANSPORTATION STANDARD SPECIFICATIONS.
  - B. SOIL STERILIZER SHALL BE EPA REGISTERED OF LIQUID COMPOSITION AND OF PRE-EMERGENCE DESIGN.
  - C. SOIL STABILIZER FABRIC SHALL BE MIRAFI OR GREATER - 500% AT ACCESS ROAD AND SOAK AT COMPOUND.
  - D. GRAVEL FILL: WELL GRADED, HARD, DURABLE, NATURAL SAND AND GRAVEL FREE FROM ICE AND SNOW, ROOTS, SOD RUBBISH AND OTHER DELETERIOUS OR ORGANIC MATTER. MATERIAL SHALL CONFORM TO THE FOLLOWING GRADATION REQUIREMENTS.

#### U.S. SIEVE NO. PASSING BY WEIGHT

|      |       |
|------|-------|
| 4"   | 100   |
| 1/2" | 50-85 |
| #4   | 40-75 |
| #10  | 30-60 |
| #40  | 10-30 |
| #100 | 5-20  |
| #200 | 0-5   |

GRAVEL FILL TO BE PLACED IN LIFTS OF 9" MAXIMUM THICKNESS AND COMPACTED TO 95% DENSITY.

#### 2.02 EQUIPMENT

- A. COMPACTION SHALL BE ACCOMPLISHED BY MECHANICAL MEANS. LARGER AREAS SHALL BE COMPACTED BY SHEEP'S FOOT, VIBRATORY OR RUBBER TIED ROLLERS WEIGHING AT LEAST 5 TONS. SMALLER AREAS SHALL BE COMPACTED BY POWER-DRIVEN, HAND-HELD TAMPER.
- B. PRIOR TO OTHER EXCAVATION AND CONSTRUCTION EFFORTS, GRUB ORGANIC MATERIAL TO A MINIMUM OF 6" BELOW ORIGINAL GROUND LEVEL.
- C. UNLESS OTHERWISE INSTRUCTED BY MW TOWERS, REMOVE TREES, BRUSH AND DEBRIS FROM THE PROPERTY TO AN AUTHORIZED DISPOSAL LOCATION.
- D. PRIOR TO PLACEMENT OF FILL OR BASE MATERIALS, ROLL THE SOIL.
- E. WHERE UNSTABLE CONDITIONS ARE ENCOUNTERED, LINE THE RUBBED AREAS WITH STABILIZER MAT PRIOR TO PLACEMENT OFFILL OR BASE MATERIAL.

#### 3.03 INSTALLATION

- A. THE SITE AND TURNAROUND AREAS SHALL BE AT THE SUB-BASE COURSE ELEVATION PRIOR TO FORMING FOUNDATIONS, GRADE OR FILL THE SITE AND ACCESS ROAD AS REQUIRED TO PRODUCE EVEN DISTRIBUTION OF SPOILS RESULTING FROM FOUNDATION EXCAVATIONS. THE RESULTING GRADE SHALL CORRESPOND WITH SAID SUB-BASE COURSE. ELEVATIONS ARE TO BE CALCULATED FROM FINISHED GRADES OR SLOPES INDICATED.
- B. CLEAR EXCESS SPOILS, IF ANY, FROM JOB SITE AND DO NOT SPREAD BEYOND THE LIMITS OF THE OWNERS LEASE PROPERTY UNLESS AUTHORIZED BY PROJECT MANAGER.
- C. THE ACCESS ROAD SHALL BE BROUGHT TO BASE COURSE ELEVATION PRIOR TO FOUNDATION CONSTRUCTION.
- D. DO NOT CREATE DEPRESSIONS WHERE WATER MAY POND.
- E. THE CONTRACT INCLUDES ALL NECESSARY GRADING, BANKING, DITCHING AND COMPLETE SURFACE COURSE FOR ACCESS ROAD. ALL ROADS OR ROUTES UTILIZED FOR ACCESS TO PUBLIC THOROUGHFARE IS INCLUDED SCOPE OF WORK UNLESS OTHERWISE INDICATED.
- F. WHEN IMPROVING AN EXISTING ACCESS ROAD, GRADE THE EXISTING ROAD TO REMOVE ANY ORGANIC MATTER AND THEN SMOOTH SURFACE BEFORE PLACING FILL OR STONE.
- G. PLACE FILL OR STONE IN 3" MAXIMUM LIFTS AND COMPACT BEFORE PLACING NEXT LIFT.
- H. THE FINISH GRADE, INCLUDING TOP SURFACE COURSE SHALL EXTEND A MINIMUM OF 12" BEYOND THE SITE FENCE AND SHALL COVER THE AREA AS INDICATED.
- I. RIPRAP SHALL BE APPLIED TO THE SIDE SLOPES OF ALL FENCED AREAS, PARKING AREAS AND TO ALL OTHER SLOPES GREATER THAN 2:1.
- J. RIPRAP SHALL BE APPLIED TO THE SIDES OF DITCHES OR DRAINAGE SWALES AS INDICATED ON PLANS.
- K. RIPRAP ENTIRE DITCH FOR 6'-0" IN ALL DIRECTIONS AT CULVERT OPENINGS.
- L. SEED, FERTILIZER AND STRAW COVER SHALL BE APPLIED TO ALL OTHER DISTURBED AREAS AND DITCHES. DRAINAGE SWALES, NOT OTHERWISE RIPRAPPED.
- M. UNDER NO CIRCUMSTANCES SHALL DITCHES, SWALES OR CULVERTS BE PLACED SO THEY DIRECT WATER TOWARDS OR PERMIT STANDING WATER IMMEDIATELY ADJACENT TO SITE. IF OWNER DESIGNS OR IF DESIGN ELEVATIONS CONFLICT WITH THIS GUIDANCE, ADVISE THE OWNER IMMEDIATELY.
- N. IF A DITCH LIES WITH SLOPES GREATER THAN TEN PERCENT, MOUNT DIVERSIONARY HEADWALLS IN THE DITCH FOR 6'-0" ABOVE THE CULVERT ENTRANCE.
- O. SEED AND FERTILIZER SHALL BE APPLIED TO SURFACE CONDITIONS WHICH WILL ENCOURAGE ROOTING. RAKE AREAS TO BE SEED TO EVEN THE SURFACE AND TO LOOSEN THE SOIL.
- P. SOW SEEDS IN TWO DIRECTIONS IN TWICE THE QUANTITY RECOMMENDED BY THE SEED PRODUCER.
- Q. IT IS THE CONTRACTOR'S RESPONSIBILITY TO ENSURE GROWTH OF SEEDING AND LANDSCAPED AREAS BY WATERING TO THE POINT OF RELEASE FROM THE CONTRACT. CONTINUE TO REWORK BARE AREAS UNTIL COMPLETE COVERAGE IS OBTAINED.

#### 3.04 FIELD QUALITY CONTROL

- A. COMPACTION SHALL BE 90% MAXIMUM DENSITY IN ACCORDANCE WITH ASTM D-1557 FOR SITE WORK AND 95% MAXIMUM DENSITY UNDER SLAB AREAS. AREAS OF SETTLEMENT WILL BE EXCAVATED AND REFILLED AT CONTRACTOR'S EXPENSE.

#### 3.05 PROTECTION

- A. PROTECT SEEDING AREAS FROM EROSION BY SPREADING STRAW TO A UNIFORM LOOSE DEPTH OF 1'-2". STAKE AND TIE DOWN AS REQUIRED. USE OF EROSION CONTROL MESH OR MULCH NET SHALL BE AN ACCEPTABLE ALTERNATIVE.
- B. ALL TIRES PLACED IN CONJUNCTION WITH A LANDSCAPE CONTRACT SHALL BE WRAPPED/TIED WITH HOSE PROTECTED WIRE AND SECURED TO STAKES EXTENDING 2'-0" INTO THE GROUND ON FOUR SIDES OF THE TREE.
- C. ALL EXPOSED AREAS SHALL BE PROTECTED AGAINST WASHOUTS AND SOIL EROSION. STRAW BALES SHALL BE PLACED AT THE INLET APPROACH TO ALL NEW OR EXISTING CULVERTS.



CN25318

EUDORA SOUTH

ADDRESS  
EUDORA, KS 66025

PROPOSED SELF-SUPPORT TOWER

PROJECT NO: 112623.001

CHECKED BY: SLM

#### ISSUED FOR:

| REV | DATE    | DRWN | DESCRIPTION        |
|-----|---------|------|--------------------|
| A   | 2/28/17 | RPS  | PRELIMINARY REVIEW |
|     |         |      |                    |
|     |         |      |                    |
|     |         |      |                    |
|     |         |      |                    |

B&T ENGINEERING, INC.

**THIS DOCUMENT IS  
PRELIMINARY IN  
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IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

SHEET NUMBER: REVISION:

GN-1 A

## CONCRETE

### CAST-IN-PLACE CONCRETE PART 1 - GENERAL

#### 1.01 DESCRIPTION

WORK INCLUDES CONSTRUCTION OF CAST-IN-PLACE CONCRETE FOUNDATIONS, INCLUDING FURNISHING AND INSTALLING READY-MIX CONCRETE, REINFORCING, FORMWORK AND ACCESSORY MATERIALS AS SHOWN ON THE DRAWINGS. CAST-IN-PLACE CONCRETE INCLUDES ALL SITE CONCRETE, INCLUDING FOUNDATIONS, SLABS ON GRADE, EQUIPMENT PADS AND GUARDPOST FOUNDATIONS.

#### 1.02 RELATED WORK

- A. COORDINATE UNDER SLAB CONDUITS
- B. COORDINATE WITH GROUNDING

#### 1.03 APPLICABLE STANDARDS

- A. ACI 301 - SPECIFICATIONS FOR STRUCTURAL CONCRETE BUILDINGS
- B. ACI 347 - GUIDE TO FORMWORK FOR CONCRETE
- C. ASTM C33 - CONCRETE AGGREGATES
- D. ASTM C94 - READY-MIXED CONCRETE
- E. ASTM C150 - PORTLAND CEMENT
- F. ASTM C250 - AIR-ENTRAINING ADMIXTURES FOR CONCRETE
- G. ASTM C309 - LIQUID MEMBRANE FORMING COMPOUNDS FOR CURING CONCRETE
- H. ASTM C494 - CHEMICAL ADMIXTURES FOR CONCRETE
- I. ASTM A615 - STEEL WELDED WIRE FABRIC FOR CONCRETE REINFORCEMENT
- J. ASTM A185 - STEEL WELDED WIRE FABRIC FOR CONCRETE REINFORCEMENT

#### 1.04 QUALITY ASSURANCE

CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER.

#### 1.05 TESTS

CONCRETE MATERIALS AND OPERATIONS SHALL BE TESTED AND INSPECTED BY THE ENGINEER AS THE WORK PROGRESSES. FAILURE TO DETECT ANY DEFECTIVE WORK OR MATERIAL SHALL NOT IN ANY WAY PREVENT LATER MATERIAL REJECTION WHEN SUCH DEFECT IS DISCOVERED, NOR SHALL IT OBLIGATE THE ENGINEER FOR FINAL ACCEPTANCE.

- A. FIVE CONCRETE TEST CYLINDERS SHALL BE TAKEN OF THE TOWER AND PIER FOUNDATION. TWO SHALL BE TESTED AT THREE DAYS AND TWO AT TWENTY-EIGHT DAYS. THE FIFTH CYLINDER SHALL BE KEPT SEPARATELY, IF REQUIRED TO BE USED IN THE FUTURE.
- B. ONE ADDITIONAL TEST CYLINDER SHALL BE TAKEN DURING COLD WEATHER AND CURED ON SIDE UNDER SAME CONDITIONS AS CONCRETE IT REPRESENTS.

### PART 2 - PRODUCT

#### 2.01 CONCRETE MATERIALS

CONCRETE SHALL BE COMPOSED OF PORTLAND CEMENT, WATER, FINE COARSE AGGREGATES AND ADMIXTURES AS SPECIFIED BELOW. ALL WELL MIXED AND BROUGHT TO PROPER CONSISTENCY.

- A. CEMENT: CEMENT SHALL BE IN TYPE II, GRAY COLOR, LOW-ALKALI PORTLAND CEMENT CONFORMING TO ASTM C150.
- B. FINE AND COARSE AGGREGATES: AGGREGATES FOR USE IN CONCRETE SHALL COMPLY WITH ASTM C33.
- C. WATER: WATER FOR MIXING AND CURING CONCRETE SHALL BE FREE FROM SEWAGE, OIL, ACID, ALKALI, SALTS AND SHALL BE FREE FROM OBJECTIONABLE QUANTITIES OF SILT AND OTHER DELETERIOUS SUBSTANCES.

#### 2.02 ADMIXTURES

- A. AIR ENTRAINMENT: AIR ENTRAINING AGENT SHALL CONFORM TO ASTM C250. THE ADMIXTURE SHALL BE ADDED AS PART OF THE COMPUTED MIXING WATER REQUIREMENTS. AGENTS PREPARED IN SOLUTION SHALL BE MAINTAINED AT A UNIFORM STRENGTH AND SHALL BE BATCH BY MEANS OF RELIABLE MECHANICAL DISPENSERS.

- B. CHEMICAL ADMIXTURES: ASTM 494, TYPE A - WATER REDUCING AND RETARDING.

#### 2.03 CURING COMPOUND: ASTM C309, TYPE 1, CLASS B, TRANSLUCENT.

#### 2.04 ACCESSORIES

- A. NON-SHRINK GROUT: PREMIXED COMPOUND CONSISTING OF NON-METALLIC AGGREGATE, CEMENT, WATER AND PLASTICIZING AGENTS; CAPABLE OF DEVELOPING MINIMUM COMPRESSIVE STRENGTH OF 7,000 PSI IN 28 DAYS.
- B. JOINT FILLERS BITUMINOUS TYPE, ASTM D1751 OR NON-BITUMINOUS TYPE, ASTM D1752.
- C. ANCHOR BOLTS: ASTM A307; UNPRIMED.

#### 2.05 CONCRETE MIX

- A. CONCRETE SHALL BE PROPORTIONED FOR WORKABILITY, MAXIMUM DENSITY, STRENGTH AND DURABILITY REQUIREMENTS IN ACCORDANCE WITH ACI 301. THE 28 DAY DESIGN COMPRESSIVE STRENGTH OF CONCRETE SHALL BE SPECIFIED ON THE DRAWINGS. CONCRETE FURNISHED MAY BE A COMMERCIAL READY-MIX PROVIDED THAT DELIVERY TO THE PLACING LOCATION IS SATISFACTORILY ESTABLISHED AS OCCURRING NOT LATER THAN 45 MINUTES AFTER ADDITION OF WATER TO THE MIX. SLUMP OF DELIVERED CONCRETE SHALL NOT EXCEED 5".
- B. THE FOLLOWING STRENGTHS SHALL BE USED:
  - 1. FENCE POST FOUNDATIONS - DESIGN COMPRESSIVE STRENGTH AT 28 DAYS OF 2,000 PSI.
  - 2. EQUIPMENT FOUNDATIONS - DESIGN COMPRESSIVE STRENGTH AT 28 DAYS OF 4,000 PSI.
  - 3. ALL OTHER CONCRETE NOT SPECIFIED - DESIGN COMPRESSIVE STRENGTH AT 28 DAYS OF 3,000 PSI.
  - 4. CONCRETE SPECIFICATION FOR MONOPOLE OR TOWER FOUNDATION SHALL CONFORM TO MANUFACTURER'S RECOMMENDATIONS.
- C. USE ACCELERATING ADMIXTURES IN COLD WEATHER ONLY WHEN APPROVED BY THE ENGINEER. USE OF ADMIXTURES WILL NOT RELAX COLD WEATHER PLACEMENT REQUIREMENTS.
- D. USE SET-RETARDING ADMIXTURES DURING HOT WEATHER ONLY WHEN APPROVED BY THE ENGINEER.
- E. ADD AIR ENTRAINING AGENT TO CONCRETE MIX FOR CONCRETE WORK SUBJECT TO OR EXPOSED TO EXTERIOR.

### PART 3 - EXECUTION

#### 3.01 INSPECTION

THE CONTRACTOR SHALL VERIFY ANCHORS, SEATS, PENETRATIONS, PLATES, REINFORCEMENT AND OTHER ITEMS TO BE CAST INTO CONCRETE ARE ACCURATELY PLACED, HELD SECURELY AND SHALL NOT CAUSE HARDSHIP IN PLACING CONCRETE.

#### 3.02 PREPARATION

- A. THE CONTRACTOR SHALL PREPARE PREVIOUSLY PLACED CONCRETE BY CLEANING WITH STEEL BRUSH AND APPLYING BONDING AGENT. APPLY BONDING AGENT IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.

#### 3.03 PLACING CONCRETE

- A. THE ENGINEER SHALL BE NOTIFIED NOT LESS THAN 24 HOURS IN ADVANCE OF CONCRETE PLACEMENT. UNLESS INSPECTION IS WAIVED IN EACH CASE, PLACING OF CONCRETE SHALL BE PERFORMED ONLY IN THE PRESENCE OF THE ENGINEER. CONCRETE SHALL NOT BE PLACED UNTIL ALL FORMWORK, EMBEDDED PARTS, STEEL REINFORCEMENTS FOUNDATION SURFACES AND JOINTS INVOLVED IN THE PLACING HAVE BEEN APPROVED AND UNTIL FACILITIES ACCEPTABLE TO THE ATC REPRESENTATIVE HAVE BEEN PROVIDED AND MADE READY FOR ACCOMPLISHMENT OF THE WORK AS SPECIFIED. CONCRETE MAY NOT BE ORDERED FOR PLACEMENT UNTIL ALL ITEMS HAVE BEEN APPROVED AND ATC HAS PERFORMED A FINAL INSPECTION AND GIVEN APPROVAL TO START PLACEMENT TESTING.

- B. PLACEMENT OF CONCRETE SHALL BE IN ACCORDANCE WITH ACI 301.

- C. THE CONTRACTOR SHALL ENSURE THAT REINFORCEMENT, INSERTS, EMBEDDED PARTS, FORMED JOINTS AND VAPOR BARRIERS ARE NOT DISTURBED DURING CONCRETE PLACEMENT.

#### 3.04 SURFACE FINISHES

- A. SURFACES AGAIN WHICH BACKFILL OR CONCRETE SHALL BE PLACED REQUIRE NO TREATMENT EXCEPT REPAIR OF DEFECTIVE AREAS.
- B. SURFACES THAT WILL BE PERMANENTLY EXPOSED SHALL PRESENT A UNIFORM FINISH PROVIDED BY THE REMOVAL OF FINIS AND THE FILLING OF HOLES AND OTHER IRREGULARITIES WITH DRY PACK GROUT, OR BY SACKING WITH UTILITY OR ORDINARY GROUT.
- C. SURFACES THAT WOULD NORMALLY BE LEVEL AND WHICH WILL BE PERMANENTLY EXPOSED TO THE WEATHER SHALL BE SLOPED FOR DRAINAGE. UNLESS ENGINEER'S DESIGN DRAWING SPECIFIES A HORIZONTAL SURFACE OR SURFACES, SUCH AS STAIR TREADS, WALLS, CURBS, AND PARAPETS SHALL BE SLOPED APPROXIMATELY 1/4 INCH PER FT.
- D. SURFACES THAT WILL BE COVERED BY BACKFILL OR CONCRETE SHALL BE SMOOTH SCREENED.
- E. EXPOSED SLAB SURFACES SHALL BE CONSOLIDATED, SCREENED, FLOATED, AND STEEL TROWEL. HAND OR POWER-DRIVEN EQUIPMENT MAY BE USED FOR FLOATING SLAB SHALL BE STARTED AS SOON AS THE SCREENED SURFACE HAS ATTAINED A STIFFNESS TO PERMIT FINISHING OPERATIONS. FLOATING SHALL BE CONTINUED THE MINIMUM TIME REQUIRED TO PRODUCE A SURFACE UNIFORM IN TEXTURE AND FREE FROM SCREENED MARKS OR OTHER IMPERFECTIONS. THE FINAL FINISH SHALL BE PRODUCED BY USE OF STEEL-BLADED FINISHING TROWELS. STEEL TROWELING SHALL COMMENCE ONLY AFTER THE SURFACES TO BE FINISHED HAVE BEEN BROUGHT TO CORRECT ELEVATION AND ALL SURFACE IMPERFECTIONS CORRECTED AND SHALL BE CONTINUED ONLY UNTIL THE SURFACE IS SMOOTH AND UNIFORM IN TEXTURE AND APPEARANCE. IF FREE WATER IS BROUGHT TO THE SURFACE DURING THE FINISHING OPERATIONS, IT SHALL BE REMOVED BY SPONGING. FINISHING SHALL BE TIMED AND PERFORMED SO THAT EXTRA WATER NEED NOT BE APPLIED TO THE SURFACE BEING TROWELED.

#### 3.05 PATCHING

THE CONTRACTOR SHALL NOTIFY THE ENGINEER IMMEDIATELY UPON REMOVAL OF THE FORMS TO OBSERVE CONCRETE SURFACE CONDITIONS. IMPERFECTIONS SHALL BE PATCHED ACCORDING TO THE ENGINEER'S DIRECTION.

#### 3.06 DEFECTIVE CONCRETE

THE CONTRACTOR SHALL NOTIFY OR REPLACE CONCRETE NOT CONFORMING TO REQUIRED LEVELS AND LINES, DETAILS, AND ELEVATIONS AS SPECIFIED IN ACI301.

#### 3.07 PROTECTION

- A. IMMEDIATELY AFTER PLACEMENT, THE CONTRACTOR SHALL PROTECT THE CONCRETE FROM PREMATURE DRYING, EXCESSIVELY HOT OR COLD TEMPERATURES, AND MECHANICAL INJURY. FINISH WORK SHALL BE PROTECTED.
- B. CONCRETE SHALL BE MAINTAINED WITH MINIMAL MOISTURE LOSS AT RELATIVELY CONSTANT TEMPERATURE FOR PERIOD NECESSARY FOR HYDRATION OF CEMENT AND HARDENING OF CONCRETE.
- C. ALL CONCRETE SHALL BE WATER CURED BY CONTINUOUS (NOT PERIODIC) FINE MIST SPRAYING OR SPRINKLING ALL EXPOSED SURFACES. WATER SHALL BE CLEAN AND FREE FROM ACID, ALKALI, SALTS, OIL, SEDIMENT, OR ORGANIC MATTER. SUCCESSFUL CURING SHALL BE ASSURED BY USE OF AN AMPLE WATER SUPPLY UNDER PRESSURE IN PIPES, WITH ALL NECESSARY APPLIANCES OF HOSE, SPRINKLERS AND SPRAYING DEVICES.

## METALS

### PART 1 - GENERAL

#### 1.01 WORK INCLUDED

- A. THE WORK CONSISTS OF THE FABRICATION AND INSTALLATION OF ALL MATERIALS TO BE FURNISHED, AND WITHOUT LIMITING THE GENERALITY THEREOF, INCLUDES ALL EQUIPMENT, LABOR AND SERVICES REQUIRED FOR ALL STRUCTURAL STEEL WORK INCLUDING ALL ITEMS INCIDENTAL THERETO AS SPECIFIED HEREIN AND AS SHOWN ON THE DRAWINGS, INCLUDING:
  - 1. STEEL FRAMING INCLUDING BEAMS ANGLES, CHANNELS AND PLATES.
  - 2. WELDING AND BOLTING OF ATTACHMENTS.

#### 1.02 REFERENCE STANDARDS

- A. THE WORK SHALL CONFORM TO THE CODES AND STANDARDS OF THE FOLLOWING AGENCIES AS FURTHER CITED HEREIN:
  - 1. ASTM: AMERICAN SOCIETY FOR TESTING AND MATERIALS, 196 RACE STREET, PHILADELPHIA, PA 19103, USA AS PUBLISHED IN "COMPILATION OF ASTM STANDARDS IN BUILDING CODES."
  - 2. AWS: AMERICAN WELDING SOCIETY INC., 2501 NW 7TH STREET, MIAMI, FL 33125 USA AS PUBLISHED IN "CODE FOR STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES." "SPECIFICATIONS FOR THE DESIGN, FABRICATION AND ERECTION OF STRUCTURAL STEEL FOR BUILDINGS."

### PART 2 - PRODUCTS

#### 2.01 MATERIALS

- A. STRUCTURAL STEELS SHALL COMPLY WITH THE REQUIREMENTS OF ASTM A36 AND A50 FOR STRUCTURAL STEEL.

#### 2.02 WELDING

- A. ALL WELDING SHALL BE DONE BY CERTIFIED WELDERS. CERTIFICATION DOCUMENTS SHALL BE MADE AVAILABLE FOR ENGINEER'S AND/OR OWNER'S REVIEW IF REQUESTED.
- B. WELDING ELECTRODES FOR MANUAL SHIELDED METAL ARC WELDING SHALL CONFORM TO ASTM 1-233, E70 SERIES. BARE ELECTRODES AND GRANULAR FLUX USED IN THE SUBMERGED ARC PROCESS SHALL CONFORM TO AISC SPECIFICATIONS.
- C. FIELD WELDING SHALL BE DONE AS PER AWS D 1.1 REQUIREMENTS. VISUAL INSPECTION IS ACCEPTABLE.
- D. STUD WELDING SHALL BE ACCOMPLISHED BY CAPACITOR DISCHARGE (CD) WELDING TECHNIQUE USING MIDWEST FASTENERS, INC. CD100 CAPACITOR DISCHARGE STUD WELDER OR APPROVED EQUAL.
- E. PROVIDE STUD FASTENERS OF MATERIALS AND SIZES SHOWN ON DRAWINGS OR AS RECOMMENDED BY THE MANUFACTURER FOR STRUCTURAL LOADINGS REQUIRED.
- F. FOLLOW MANUFACTURER'S SPECIFICATIONS AND INSTRUCTIONS TO PROPERLY SELECT AND INSTALL STUD WELDS.

#### 2.03 BOLTING

- A. BOLTS SHALL BE 3/4" (MINIMUM) CONFORMING TO ASTM A325 HOT DIP GALVANIZED OR ASTM A153. NUTS SHALL BE HEAVY HEX TYPE.
- B. ALL BOLTS SHALL BE INSTALLED IN SLIP CRITICAL CONNECTIONS CONFORMING TO AISC METHOD, CONFORMING TO THE 1/4 TURN METHOD.

#### 2.04 FABRICATION

- A. FABRICATION OF STEEL SHALL CONFORM TO THE AISC AND AWS STANDARDS AND CODES.

#### 2.05 FINISH

- A. STRUCTURAL STEEL EXPOSED TO WEATHER SHALL BE HOT DIP GALVANIZED AFTER FABRICATION IN ACCORDANCE WITH ASTM A123.

#### 2.06 PROTECTION

- A. UPON COMPLETION OF ERECTION INSPECT ALL GALVANIZED STEEL AND PAINT ANY FIELD CUTS, WELDS, OR GALVANIZED BREAKS WITH ZINC BASED PAINT. COLOR TO MATCH THE GALVANIZING PROCESS.



CN35318

**EUDORA SOUTH**

ADDRESS  
EUDORA, KS 66025  
PROPOSED SELF-SUPPORT TOWER

PROJECT NO: 112623.001  
CHECKED BY: SLM

#### ISSUED FOR:

| REV | DATE    | DRWN | DESCRIPTION        |
|-----|---------|------|--------------------|
| A   | 3/28/17 | RPS  | PRELIMINARY REVIEW |
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B&T ENGINEERING, INC.

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OF A LICENSED PROFESSIONAL ENGINEER,  
TO ALTER THIS DOCUMENT.

SHEET NUMBER: **GN-2** REVISION: **A**

## ELECTRICAL SPECIFICATIONS

### GENERAL PROPERTIES

- A. REQUIREMENTS: FURNISH ALL LABOR, MATERIALS, SERVICE, EQUIPMENT AND APPLIANCES REQUIRED TO COMPLETE THE INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM IN ACCORDANCE WITH THE SPECIFICATIONS AND CONTRACT DRAWINGS.
- B. REQUIREMENTS OF REGULATORY AGENCIES AND STANDARDS: INSTALLATION, MATERIAL, EQUIPMENT AND WORKMANSHIP SHALL CONFORM TO THE APPLICABLE PROVISIONS OF THE NATIONAL ELECTRIC CODE (NEC) - APPLICABLE STATE ELECTRIC CODES, THE NATIONAL ELECTRICAL SAFETY CODE (NESC), AND THE TERMS AND THE CONDITIONS OF THE AUTHORITIES HAVING LAWFUL JURISDICTION PERTAINING TO THE WORK REQUIRED. ALL MODIFICATIONS REQUIRED BY THESE CODES, RULES, REGULATIONS AND AUTHORITIES SHALL BE MADE BY THE CONTRACTOR WITHOUT ADDITIONAL CHARGE TO THE UNDERWRITER'S LABORATORIES (UL); ALL MATERIALS, APPLIANCES OR DEVICES SHALL CONFORM TO THE APPLICABLE STANDARDS OF UNDERWRITER'S LABORATORIES, INCLUDING THE LABEL OF OR LISTING BY: UL IS REQUIRED.
- C. MATERIALS: ALL SIMILAR MATERIALS AND EQUIPMENT SHALL BE THE PRODUCT OF THE SAME MANUFACTURER WHERE NO SPECIFIC MATERIAL APPARATUS OR APPLIANCE IS MENTIONED. MANUFACTURER MAY BE USED PROVIDING IT CONFORMS TO THE CONTRACT REQUIREMENTS AND MEETS THE APPROVAL OF THE OWNER. MATERIAL AND EQUIPMENT SHALL BE THE STANDARD PRODUCTS OF MANUFACTURER'S REGULARLY ENGAGED IN THE PRODUCTIONS OF SUCH MATERIAL AND SHALL BE THE MANUFACTURER'S CURRENT IN STANDARD AND DESIGN.
- D. EXECUTION: FABRICATION, ERECTION AND INSTALLATION OF THE COMPLETE ELECTRICAL SYSTEM SHALL BE DONE IN A FIRST CLASS WORKMANLIKE MANNER BY QUALIFIED PERSONNEL EXPERIENCED IN SUCH WORK AND SHALL PROCEED IN AN ORDERLY MANNER SO AS NOT TO HOLD UP PROGRESS OF THE PROJECT.
- E. PERFORMANCE TESTS: THOROUGHLY TEST FEEDERS, EQUIPMENT AND ALL CIRCUITS FOR PROPER OPERATING CONDITION AND FREEDOM FROM GROUNDS AND SHORT CIRCUITS BEFORE ACCEPTANCE IS REQUESTED. ALL EQUIPMENT, APPLIANCES AND DEVICES SHALL BE OPERATED UNDER LOAD CONDITIONS.
- F. AS-BUILT DRAWINGS: DURING PROCESS OF THE WORK, MAINTAIN AN ACCURATE RECORD OF THE INSTALLATION OF THE DATA. UPON COMPLETION OF THE INSTALLATION, TRANSFER ALL RECORDED DATA TO BLUE PRINTS OF THE ORIGINAL DRAWINGS.

### RACEWAYS AND FITTINGS

- A. CONDUITS: ELECTRICAL METALLIC TUBING (EMT): MILD STEEL, ZINC COATED ON THE OUTSIDE AND EITHER ZINC COATED OR COATED WITH AN APPROVED CORROSION RESISTANT COATING ON THE INSIDE. MAXIMUM, SIZE 2 ELECTRICAL TRADE SIZE, UNLESS NOTED ON THE DRAWINGS OF SPECIFICALLY APPROVED FOR EQUIPMENT CONNECTIONS. SIZES NOT NOTED ON DRAWINGS SHALL BE AS REQUIRED BY NEC.
- B. CONDUIT FITTINGS: CONNECTORS AND COUPLINGS: EMT COUPLINGS AND CONNECTORS EITHER STEEL OR MALLEABLE IRON ONLY. CONCRETE TIGHT OR RAIN TIGHT AND EITHER THE GLAND AND RING COMPRESSION TYPE OR THE STAINLESS STEEL MULTIPLE LOCKING TYPE CONNECTORS TO HAVE INSULATED THROATS, EMT FITTINGS USING SET SCREWS OR INDENTATIONS AS A MEANS OF ATTACHMENT ARE NOT TO BE PERMITTED. BUSHINGS: INSULATED TYPE DESIGNED TO PREVENT ABRASION OF WIRES WITHOUT IMPAIRING THE CONTINUITY OF THE CONDUIT, IMC AND RIGID ALUMINUM CONDUIT.
- C. CONDUIT INSTALLATIONS: CONDUITS SYSTEMS, EMT OR RIGID NONMETALLIC CONDUIT UNLESS NOTED, CONDUIT INSTALLATION: INSTALL CONCEALED CONDUIT AND EMT IN AS DIRECT LINES AS POSSIBLE. INSTALL EXPOSED CONDUITS AND EMT PARALLEL TO OR AT RIGHT ANGLES TO THE LINES OF THE BUILDING. RIGHT ANGLE BENDS IN EXPOSED CONDUIT AND EMT RUNS SHALL BE MADE WITH STANDARD ELBOWS, SCREW JOINTED CONDUIT FITTINGS OR CONDUIT BENT TO RADIUS NO LESS THAN THOSE OF STANDARD ELBOWS.
- D. CONDUIT SUPPORTS: PROVIDE SUPPORTS FOR HORIZONTAL CONDUITS AND EMT NOT MORE THAN 8 FEET APART WITH NOT LESS THAN TWO ELBOW OR BEND INCLUDING RUNS ABOVE SUSPENDED CEILINGS AND WITHIN 3 FEET OF ALL JUNCTION BOXES, SWITCHES, FITTINGS, ETC. INSTALL HOLE PIPE STRAPS ON CONDUITS 1 INCH OR SMALLER. INSTALL INDIVIDUAL PIPE HANGERS FOR CONDUITS LARGER THAN 1 INCH. SPRING STEEL FASTENERS WITH HANGER RODS MAY BE USED IN DRY LOCATIONS IN LIEU OF PIPE STRAPS.

### CONDUCTORS

- A. WIRES AND CABLES (600 VOLTS): CONFORM TO THE APPLICABLE UL AND IPCEA STANDARDS FOR THE USE INTENDED. COPPER CONDUCTORS WITH 600 VOLTS INSULATION UNLESS OTHERWISE SPECIFIED OR NOTED ON THE DRAWINGS. STRANDED CONDUCTORS FOR NO. 8 OR LARGER WHERE ELSEWHERE SPECIFIED OR NOTED ON THE DRAWINGS. USE OF ALUMINUM CONDUCTORS WILL NOT BE PERMITTED. INSULATION SHALL BE TYPE THHN/THWN INSULATION 75° C FOR ALL CONDUCTORS, OTHERWISE SPECIFIED CONDUCTORS COLOR-CODED IN ACCORDANCE WITH NEC. CONNECT ALL CONDUCTORS OF THE SAME PHASE CONDUCTOR, COLOR CODING SHALL BE A-BLACK, B-RED, N-WHITE, WITH GREEN FOR ALL GROUND CONDUCTORS.

- B. CONNECTORS AND LUGS: FOR COPPER CONDUCTORS NO. 6 AND SMALLER: 3M SCOTCH-LOK OR THOMAS & BETTS STA-KON COMPRESSION OR INDENT TYPE CONNECTORS WITH INTEGRAL OR SEPARATE INSULATING CAPS. FOR COPPER CONDUCTORS LARGER THAN NO. 6 SOLDERLESS INDENT HEX SCREW OR BOLT TYPE PRESSURE CONDUCTORS, PROPERLY TAPED OR INSULATED.

- C. SPLICES: (480 VOLTS AND UNDER): CONDUCTOR LENGTHS SHALL BE CONTINUOUS FROM TERMINATION TO TERMINATION WITHOUT SPLICES UNLESS APPROVED BY THE BUILDING INSPECTOR.

### CIRCUIT BREAKERS

- A. PROVIDE MOLDED CASE, BOLT-ON, THERMAL MAGNETIC TRIP, SINGLE, TWO OR THREE POLE BRANCH CIRCUIT BREAKERS AS SHOWN ON DRAWINGS. MULTIPLE POLE BREAKERS SHALL BE SINGLE HANDLE, COMMON TRIP, A/C RATING TO MATCH EXISTING OR AS REQUIRED FOR AVAILABLE FAULT CURRENTS.

### GROUNDING

1. ALL ELECTRICAL AND GROUNDING AT THE CELL SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER.
2. IF THE AC PANEL IN THE POWER CABINET IS WIRED AS SERVICE ENTRANCE, THE AC SERVICE GROUND CONDUCTOR SHALL BE CONNECTED TO GROUND ELECTRODE SYSTEM. WHEN THE AC PANEL IN THE POWER CABINET IS CONSIDERED A SUB-PANEL, THE GROUND WIRE SHALL BE INSTALLED IN THE AC POWER CONDUIT, THE INSTALLATION SHALL BE PER LOCAL AND NATIONAL ELECTRIC CODE (NFPA-70).
3. EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL. OTHERWISE, THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE-2 HOLE LONG BARREL LUGS OR DOUBLE CRIMP CLAMP "C" CLAMP. THE COPPER CABLES SHALL BE COATED WITH ANTI-OXIDANT (COPPER SHIELD) BEFORE MAKING THE CRIMP CONNECTIONS. THE MANUFACTURER'S TORQUING RECOMMENDATIONS ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS ARE TO BE FOLLOWED.
4. THE ANTENNA CABLES SHALL BE GROUNDING AT THE TOP AND BOTTOM OF THE VERTICAL RUN FOR LIGHTING PROTECTION. THE ANTENNA CABLE SHIELD SHALL BE BONDED TO A COPPER GROUND BUS AT THE LOWER MOST POINT OF A VERTICAL RUN JUST BEFORE IT BEGINS TO BEND TOWARD THE HORIZONTAL PLANE. WIRE RUNS TO GROUND SHALL BE KEPT AS STRAIGHT AND SHORT AS POSSIBLE. ANTENNA CABLE SHIELD SHALL BE GROUNDING JUST BEFORE ENTERING THE CELL CABINET. ANY ANTENNA CABLES OVER 200 FEET IN LENGTH SHALL ALSO BE EQUIPPED WITH ADDITIONAL GROUNDING AT MID-POINT.
5. ALL GROUNDING CONDUCTORS INSIDE THE BUILDING SHALL BE RUN IN CONDUIT RACEWAY SYSTEM, AND SHALL BE INSTALLED AS STRAIGHT AS PRACTICAL WITH MINOR BENDS TO AVOID OBSTRUCTIONS. THE BENDING RADIUS OF ANY #2 GROUNDING CONDUCTOR IS 8". PVC RACEWAY MAY BE FLEXIBLE OR RIGID PER THE FIELD CONDITIONS. GROUNDING CONDUCTORS SHALL NOT MAKE CONTACT WITH ANY METALLIC CONDUITS, SURFACES OR EQUIPMENT.
6. PROVIDE PVC SLEEVES WHERE GROUNDING CONDUCTORS PASS THROUGH THE BUILDING WALLS AND /OR CEILING.
7. INSTALL GROUND BUSHINGS ON ALL METALLIC CONDUITS AND BOND TO THE EQUIPMENT GROUND BUS IN THE PANEL BOARD.
8. GROUND ANTENNA BASES, FRAMES, CABLE RACKS AND OTHER METALLIC COMPONENTS WITH #2 GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
9. GROUND COAXIAL SHIELD AT BOTH ENDS USING MANUFACTURER'S GUIDELINES.

### GROUND FIELD TEST PROCEDURE:

- A. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A "FALL OF POTENTIAL" TEST ON THE NEW SUPPLEMENTAL GROUND FIELD PRIOR TO FINAL CONNECTION OF THE GROUNDING SYSTEM TO EQUIPMENT. THE TEST SHALL BE PERFORMED BY A QUALIFIED AND CERTIFIED TESTING AGENT. PROVIDE INDEPENDENT TEST RESULTS TO THE PROJECT MANAGER FOR REVIEW. THE GROUND SYSTEM RESISTANCE TO EARTH GROUND SHALL NOT EXCEED FIVE (5) OHMS. IF THE GROUND TEST EXCEEDS THE MAXIMUM OF 5 OHMS THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL GROUND CONNECTIONS AS REQUIRED TO MEET THE 5 OHMS MAXIMUM.

### ENCLOSURES:

- A. ANY ENCLOSURES PURCHASED BY THE CONTRACTOR SHALL BE STAINLESS STEEL NEMA 4X (WEATHERPROOF) CONSTRUCTION. HOFFMAN ENCLOSURES OR APPROVED EQUAL.

## GENERAL NOTES

1. CONTRACTOR SHALL INSPECT THE EXISTING CONDITIONS PRIOR TO SUBMITTING BID. ANY QUESTIONS ARISING DURING THE BID PERIOD IN REGARDS TO THE CONTRACTOR'S FUNCTIONS, THE SCOPE OF WORK, OR ANY OTHER ISSUE RELATED TO THIS PROJECT SHALL BE BROUGHT UP DURING THE BID PERIOD WITH THE PROJECT MANAGER FOR CLARIFICATION, NOT AFTER THE CONTRACT HAS BEEN AWARDED.
2. LOCATION OF EQUIPMENT, CONDUIT AND DEVICES SHOWN ON THE DRAWINGS ARE APPROXIMATE AND SHALL BE COORDINATED WITH FIELD CONDITIONS PRIOR TO ROUGH-IN.
3. THE CONDUIT RUNS AS SHOWN ON THE PLANS ARE APPROXIMATE. EXACT LOCATION AND ROUTING SHALL BE PER EXISTING FIELD CONDITIONS.
4. PROVIDE PULL BOXES AND JUNCTION BOXES WHERE SHOWN OR REQUIRED BY NEC.
5. ALL CONDUITS SHALL BE MET WITH BENDS MADE IN ACCORDANCE WITH NEC TABLE 346-10. NO RIGHT ANGLE DEVICE OTHER THAN STANDARD CONDUIT ELBOWS WITH 12" MINIMUM INSIDE SWEEPS FOR ALL CONDUITS 2" OR LARGER.
6. ALL CONDUIT TERMINATIONS SHALL BE PROVIDED WITH PLASTIC THROAT INSULATING GROUNDING BUSHINGS.
7. ALL WIRE SHALL BE TYPE THWN, SOLID, ANNEALED COPPER UP TO SIZE #10 AWG (#8 AND LARGER SHALL BE CONCENTRIC STRANDED) 75° C, (167° F), 98% CONDUCTIVITY, MINIMUM #12.
8. ALL WIRES SHALL BE TAGGED AT ALL PULL BOXES, J-BOXES, EQUIPMENT BOXES AND CABINETS WITH APPROVED PLASTIC TAGS, ACTION CRAFT, BRADY OR APPROVED EQUAL.
9. CONDUIT ROUGH-IN SHALL BE COORDINATED WITH THE MECHANICAL EQUIPMENT TO AVOID LOCATION TO CONFLICTS. VERIFY WITH MECHANICAL CONTRACTOR AND COMPLY AS REQUIRED.
10. ALL PANEL DIRECTORIES SHALL BE TYPE WRITTEN NOT HAND WRITTEN.
11. INSTALL AN EQUIPMENT GROUNDING CONDUCTOR IN ALL CONDUITS PER THE SPECIFICATIONS AND NEC. THE EQUIPMENT GROUNDING CONDUCTORS SHALL BE BONDED AT ALL JUNCTION BOXES, PULLBOXES AND ALL DISCONNECT SWITCHES, STARTERS AND EQUIPMENT CABINETS.
12. THE CONTRACTOR SHALL PREPARE AS-BUILT DRAWINGS, DOCUMENT ANY AND ALL WIRING AND EQUIPMENT CONDITIONS AND CHANGES WHILE COMPLETING THIS CONTRACT. SUBMIT AT SUBSTANTIAL COMPLETION.
13. ALL DISCONNECT SWITCHES AND OTHER CONTROLLING DEVICES SHALL BE PROVIDED WITH ENGRAVED, LAMICOID NAMEPLATES INDICATING EQUIPMENT CONTROLLED, BRANCH CIRCUITS INSTALLED ON AND PANEL FIELD LOCATIONS FED FROM (NO EXCEPTIONS).
14. ALL ELECTRICAL DEVICES AND INSTALLATIONS OF THE DEVICES SHALL COMPLY WITH (ADA) AMERICANS WITH DISABILITIES ACT AS ADOPTED BY THE APPLICABLE STATE.
15. PROVIDE CORE DRILLING AS NECESSARY FOR PENETRATIONS OR RISERS THROUGH BUILDING. DO NOT PENETRATE STRUCTURAL MEMBERS WITHOUT CONSTRUCTION MANAGERS APPROVAL. SLEEVES AND/OR PENETRATIONS IN FIRE RATED CONSTRUCTION SHALL BE PACKED WITH FIRE RATED MATERIAL WHICH SHALL MAINTAIN THE FIRE RATING OF THE WALL OR STRUCTURE. FILL FOR FLOOR PENETRATIONS SHALL PREVENT PASSAGE OF WATER, SMOKE, FIRE AND FUMES. ALL MATERIAL SHALL BE UL APPROVED FOR THIS PURPOSE.
16. ELECTRICAL CHARACTERISTICS OF ALL EQUIPMENT (NEW AND EXISTING) SHALL BE FIELD VERIFIED WITH THE OWNER'S REPRESENTATIVE AND EQUIPMENT SUPPLIER PRIOR TO ROUGH-IN OF CONDUIT AND WIRE. ALL EQUIPMENT SHALL BE PROPERLY CONNECTED ACCORDING TO THE NAMEPLATE DATA FURNISHED ON THE EQUIPMENT (THE DESIGN OF THESE PLANS ARE BASED UPON BEST AVAILABLE INFORMATION AT THE TIME OF DESIGN AND SOME EQUIPMENT CHARACTERISTICS MAY VARY FROM DESIGN AS SHOWN ON THESE DRAWINGS). LOCATION OF ALL OUTLET, BOXES, ETC. AND THE TYPE OF CONNECTION (PLUG OR DIRECT) SHALL BE CONFIRMED WITH THE OWNER'S REPRESENTATIVE PRIOR TO ROUGH-IN.



CN35318

EUDORA SOUTH

ADDRESS  
EUDORA, KS 66025

PROPOSED SELF-SUPPORT TOWER

PROJECT NO: 112623.001  
CHECKED BY: SLM

### ISSUED FOR:

| REV | DATE    | DRWN | DESCRIPTION        |
|-----|---------|------|--------------------|
| A   | 3/28/17 | RPS  | PRELIMINARY REVIEW |
|     |         |      |                    |
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SHEET NUMBER: GN-3 REVISION: A

# CN35318 PART OF THE SW 1/4, SECTION 19, T13S, R21E, IN DOUGLAS COUNTY, KANSAS

## PROPERTY DESCRIPTION: Parent Parcel as Provided

The East 100 acres of the Southwest Quarter of Section 29, Township 13 South, Range 21 East of the 6th P.M., in Douglas County, Kansas.

## LESS AND EXCEPT:

Beginning at the Southwest corner of the East 100 acres of the Southwest Quarter of Section 29, Township 13 South, Range 21 East of the 6th P.M.; thence North 487 feet; thence East 487 feet; thence South 487 feet; thence West to the point of beginning, Douglas County, Kansas. Subject to easements, reservations, and restrictions, if any of record.

NOTE: The parent parcel graphically shown hereon, in full or in part, is the same as that described above.

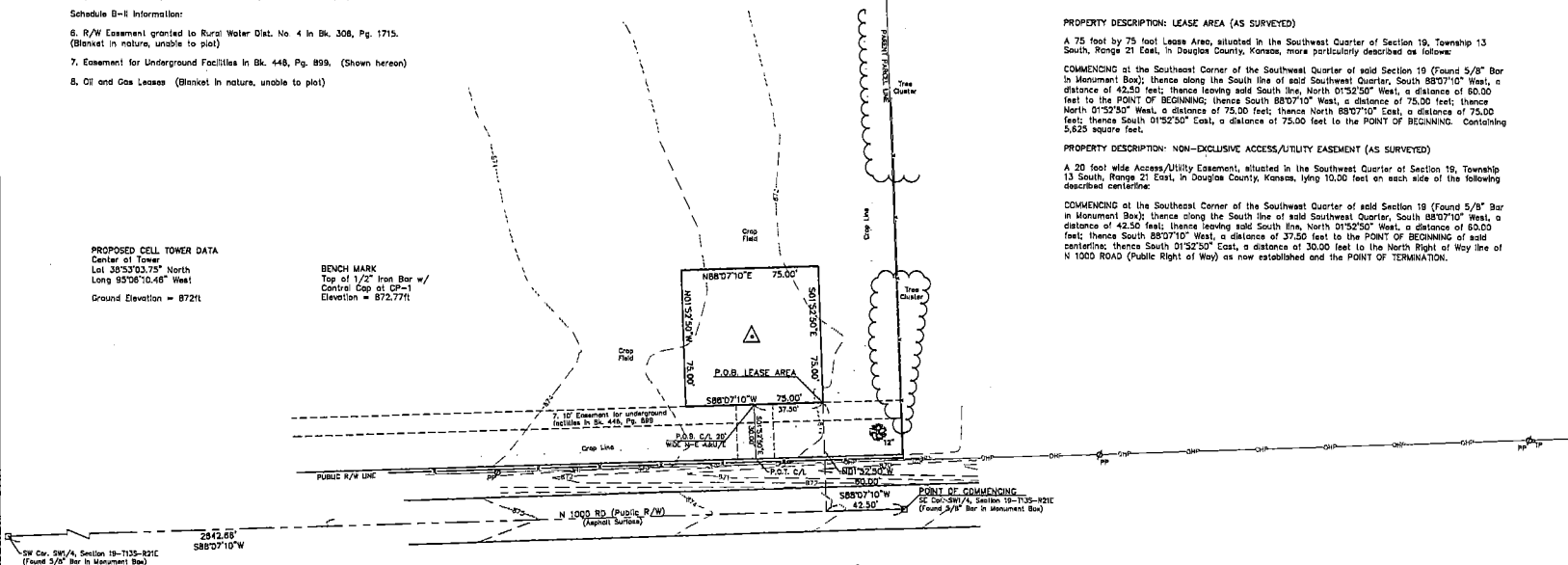
Property Information shown hereon was provided by Premier Title of Kansas, Inc., Case No. 35318, effective November 8, 2010 at 8:00 a.m.

## Schedule B-II Information:

6. R/W Easement granted to Rural Water Dist. No. 4 in Bk. 308, Pg. 1715. (Blanket in nature, unable to plot)
7. Easement for Underground Facilities in Bk. 448, Pg. 899. (Shown hereon)
8. Oil and Gas Leases (Blanket in nature, unable to plot)

PROPOSED CELL TOWER DATA  
Center of Tower  
Lat. 38°53'03.73" North  
Long 95°08'10.46" West  
Ground Elevation = 872ft

BENCHMARK  
Top of 1/2" Iron Bar w/  
Control Cap at CP-1  
Elevation = 872.77ft



## Notes:

Bearings shown hereon are referenced to Grid North of the Kansas State Plane Coordinate System of 1983 (NAD 83), (2011 ADJ.), North Zone. Calculated by static GPS observations and RINEX file submissions for NGS Opus solutions.

Vertical Datum = NAVD88 using GEOID12B

The purpose of this survey is to establish and describe a Lease Area and associated Easements. This is not a boundary survey of the Parent Parcel.

The utilities as shown on this drawing were developed from the information available (existing utility maps, aboveground observations and/or surface markings placed on the ground by the utility company or a representative thereof). This company has made no attempt to excavate or go below surface to locate utilities and does not extend or imply a warranty or warranty as to the exact location of or complete inventory of utilities in this area. It shall be the contractors responsibility to verify the location and depth of all utilities (whether shown or not) prior to excavation or construction and to protect said utilities from damage.

## PROPERTY LEGEND

|                         |        |
|-------------------------|--------|
| SECTION CORNER          | □      |
| RIGHT OF WAY            | R/W    |
| CENTERLINE              | C/L    |
| POINT OF BEGINNING      | P.O.B. |
| POINT OF TERMINATION    | P.O.T. |
| ACCESS/UTILITY EASEMENT | AMU/E  |
| NON-EXCLUSIVE           | N-E    |
| BROKEN SCALE            | —      |

## LEGEND

|                     |      |
|---------------------|------|
| POWER POLE          | ⊕ PP |
| TELEPHONE PESTAL    | ⊕ TP |
| PROPOSED TOWER      | ⊕    |
| TRCE (DA)           | —    |
| TRCE LINE           | —    |
| FENCE               | —    |
| OVERHEAD POWER LINE | —    |
| BENCHMARK           | ⊕    |
| CONTROL POINT       | ⊕    |

## PROPERTY DESCRIPTION: LEASE AREA (AS SURVEYED)

A 75 foot by 75 foot Lease Area, situated in the Southwest Quarter of Section 19, Township 13 South, Range 21 East, in Douglas County, Kansas, more particularly described as follows:

COMMENCING at the Southeast Corner of the Southwest Quarter of said Section 19 (Found 5/8" Bar in Monument Box); thence along the South line of said Southwest Quarter, South 88°07'10" West, a distance of 42.50 feet; thence leaving said South line, North 01°32'50" West, a distance of 80.00 feet to the POINT OF BEGINNING; thence South 88°07'10" West, a distance of 75.00 feet; thence North 01°32'50" West, a distance of 75.00 feet; thence North 88°07'10" East, a distance of 75.00 feet; thence South 01°32'50" East, a distance of 75.00 feet to the POINT OF BEGINNING. Containing 5,625 square feet.

## PROPERTY DESCRIPTION: NON-EXCLUSIVE ACCESS/UTILITY EASEMENT (AS SURVEYED)

A 20 foot wide Access/Utility Easement, situated in the Southwest Quarter of Section 19, Township 13 South, Range 21 East, in Douglas County, Kansas, lying 10.00 feet on each side of the following described centerline:

COMMENCING at the Southeast Corner of the Southwest Quarter of said Section 19 (Found 5/8" Bar in Monument Box); thence along the South line of said Southwest Quarter, South 88°07'10" West, a distance of 42.50 feet; thence leaving said South line, North 01°32'50" West, a distance of 80.00 feet; thence South 88°07'10" West, a distance of 37.50 feet to the POINT OF BEGINNING of said centerline; thence South 01°32'50" East, a distance of 30.00 feet to the North Right of Way line of N 1000 ROAD (Public Right of Way) as now established and the POINT OF TERMINATION.

**LOVELACE & ASSOCIATES**  
Lead Surveying - Lead Planning  
Telecommunication Survey  
838 West Street, Suite 100, Kansas City, MO 64105  
Phone: (816) 347-9997 Fax: (816) 347-9979

## SURVEY COORDINATED BY:

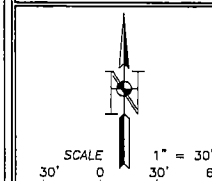
LOVELACE AND ASSOCIATES, LLC  
P.O. BOX 88  
LEE'S SUMMIT, MO 64083  
TELEPHONE: 816-347-9997  
FAX: 816-347-9979

## SURVEY PROVIDED BY:

LOVELACE AND ASSOCIATES, LLC  
P.O. BOX 88  
LEE'S SUMMIT, MO 64083  
TELEPHONE: 816-347-9997  
FAX: 816-347-9979

## SURVEY PROVIDED FOR:

MW TOWERS, LLC  
3884 WEST 75TH ST.  
PRAIRIE VILLAGE, KS 66208  
TELEPHONE: 913-445-4774



## FLOOD NOTE:

According to my interpretation of Community Panel No. 20045002150 of the Flood Insurance Rate Map for Douglas County, Kansas, dated 08-05-2010, the subject property is in Flood Zone "X", i.e. "area determined to be Outside the 0.2% annual chance floodplain".



## SITE I.D. NO.

3884 WEST 75TH ST.

CITY OF EUDORA,

DOUGLAS COUNTY, KS

LA PROJECT NO.: 17023

DRAWN BY: A.C.T.

CHECKED BY: J.B.L.

DATE: 02-07-17

FIELDWORK DATE: 02-01-17

SHEET NUMBER  
1 OF 1

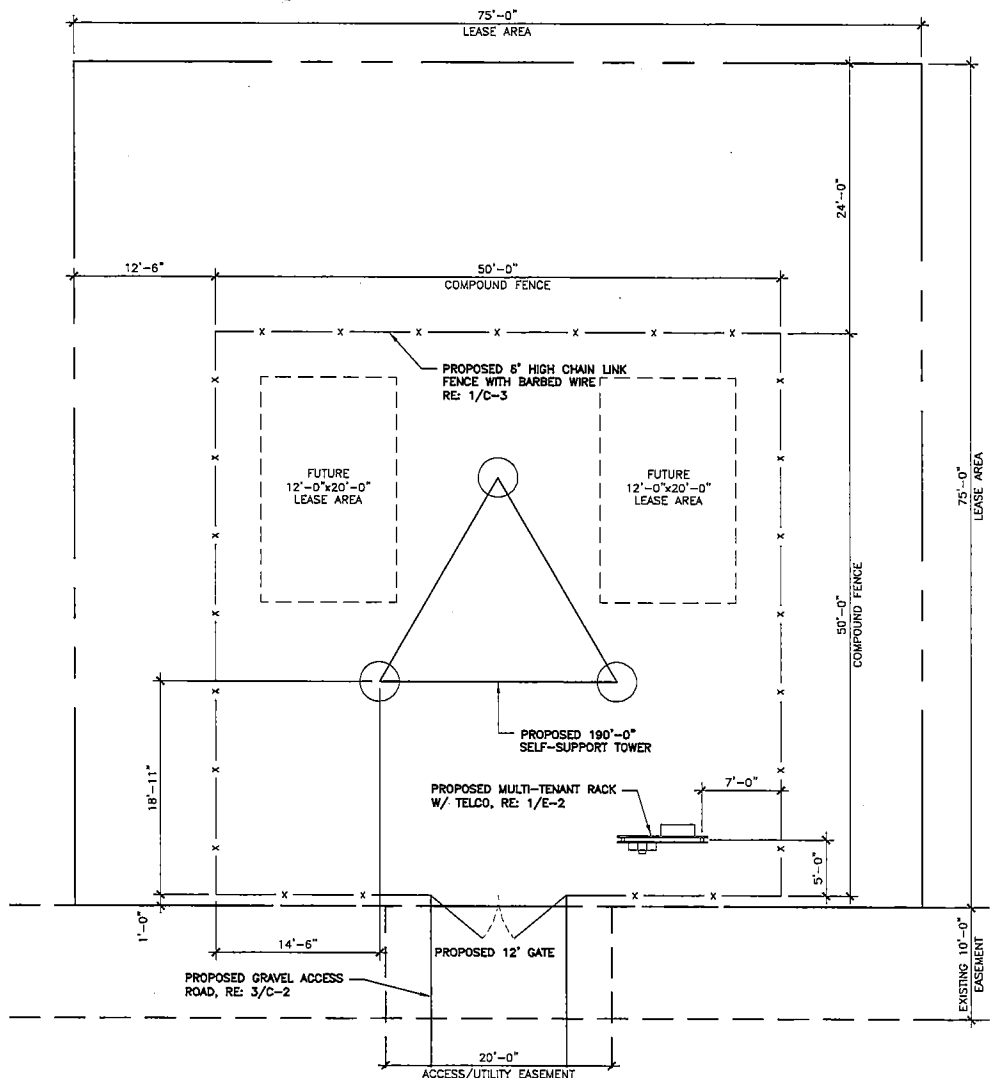
## CERTIFICATION:

I HEREBY CERTIFY THAT A SURVEY WAS MADE BY ME, OR UNDER MY DIRECT SUPERVISION, ON THE GROUND OF THE LEASE AREA, AND ASSOCIATED EASEMENT PREMISES HEREON DESCRIBED, AND THE RESULTS OF SAID SURVEY ARE REPRESENTED HEREON TO THE BEST OF MY PROFESSIONAL KNOWLEDGE AND BELIEF.

JEFFREY B. LOVELACE KS-LS1328

DATE:

03-09-17: ADDED A/E

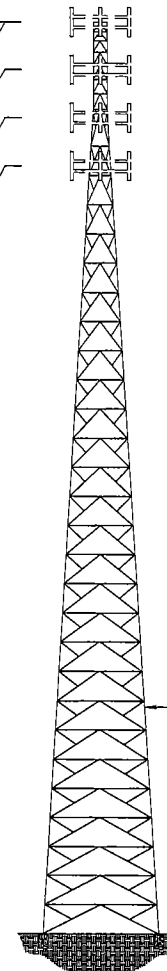


1 OVERALL SITE PLAN  
SCALE: 1" = 4'



STRUCTURAL ANALYSIS NOTE:  
REFER TO STRUCTURAL ANALYSIS OR  
STRUCTURAL LETTER FOR APPROVAL OF  
ADDITIONAL NEW APPURTENANCES.

- TOP OF TOWER  
ELEV. = 190'-0"
- FUTURE ANTENNAS  
ELEV. = 190'-0"
- FUTURE ANTENNAS  
ELEV. = 180'-0"
- FUTURE ANTENNAS  
ELEV. = 170'-0"
- FUTURE ANTENNAS  
ELEV. = 160'-0"



PROPOSED 190'-0"  
SELF-SUPPORT TOWER

2 TOWER ELEVATION  
SCALE: N.T.S.



CN35318

**EUDORA SOUTH**

ADDRESS  
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PROPOSED SELF-SUPPORT TOWER

PROJECT NO: 112623.001  
CHECKED BY: SLM

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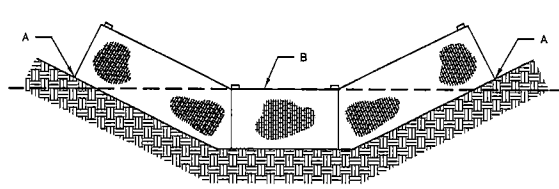
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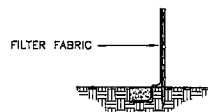
SHEET NUMBER: C-1.1  
REVISION: A

112623 EUDORA SOUTH\_LGR.dwg - Sheet C-2 - User: emmanuel - Mar 30, 2017 - 5:05pm

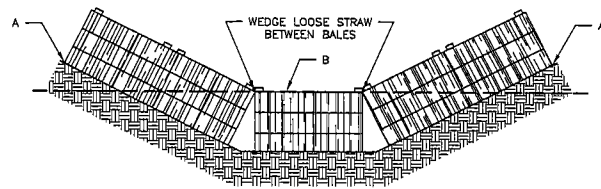


POINTS A SHOULD BE HIGHER THAN POINT B

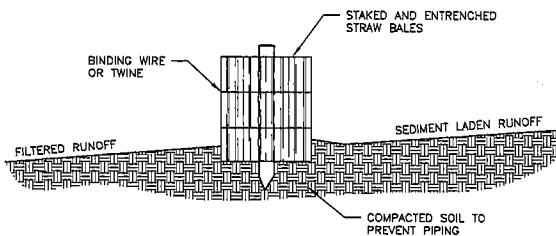
EXTENSION OF FABRIC  
INTO THE TRENCH



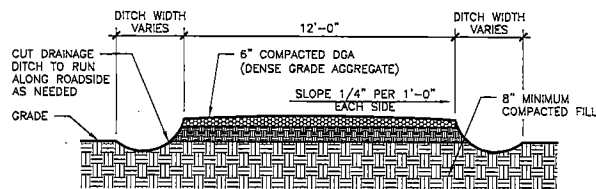
1 SILT FENCE DETAIL  
SCALE: N.T.S.



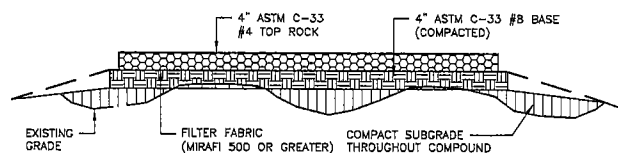
POINTS A SHOULD BE HIGHER THAN POINT B



2 STRAW BALE BARRIER  
SCALE: N.T.S.



3 ACCESS ROAD DETAIL  
SCALE: N.T.S.



4 COMPOUND DETAIL  
SCALE: N.T.S.



CN35318

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C-2

A

# CHAIN LINK FENCE

## PART 1 - GENERAL

### 4.01 SEQUENCING

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

### 4.02 APPLICABLE STANDARDS

- ASTM-A120 SPEC. FOR PIPE, STEEL BLACK AND HOT-DIPPED ZINC COATED (GALVANIZED) WELDED AND SEAMLESS FOR ORDINARY USES.
- ASTM-A123 ZINC (HOT-DIP GALVANIZED) COATING ON IRON AND STEEL PRODUCTS.
- ASTM-A525 STANDARD SPECIFICATION FOR STEEL SHEET ZINC COATED (GALVANIZED) BY THE HOT-DIPPED PROCESS. FEDERAL SPECIFICATION RR-F-191-FENCING, WIRE AND POST METAL (AND FATES, CHAIN LINK FENCE FABRIC AND ACCESSORIES).

## PART 2 - PRODUCTS

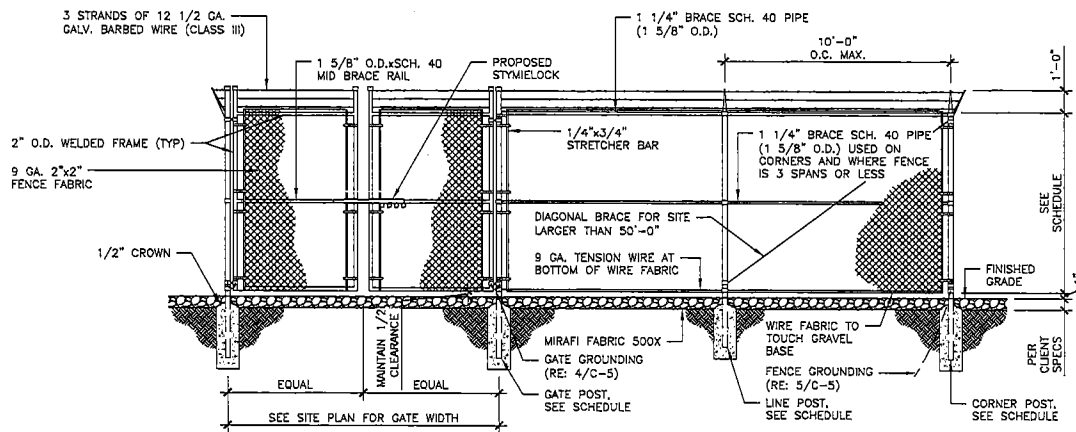
### 4.03 FENCE MATERIALS

- A. ALL FABRIC WIRE, RAILS, POLES, HARDWARE AND OTHER MATERIALS SHALL BE HOT-DIPPED GALVANIZED.
- B. FABRIC SHALL BE 2" CHAIN LINK MESH OF NO. 9 GAUGE (0.148) WIRE. THE FABRIC SHALL HAVE A TWISTED AND BARBED FINISH FOR THE TOP EDGES AND A KNUCKLED FINISH FOR THE BOTTOM EDGES, FABRIC SHALL CONFORM TO THE SPECIFICATIONS OF ASTM A-392 CLASS 1.
- C. BARBED WIRE SHALL BE DOUBLE-STRAND, 12 GAUGE TWISTED WIRE, WITH 14 GAUGE 4 POINT ROUND BARBS SPACED AT 5" O.C.
- D. ALL POSTS SHALL BE SCHEDULE 20-GALVANIZED PIPE AND SHALL BE TYPE 1 ASTM A-123 AND OF THE FOLLOWING DIAMETER (OD PER FENCE INDUSTRY STANDARDS).  
LINE 2 3/8"  
CORNER 3"  
GATE 3"
- E. EXTEND GATE AND CORNER POSTS 12", INCLUDING DOME CAP, TO PROVIDE FOR ATTACHMENT OF BARBED WIRE.

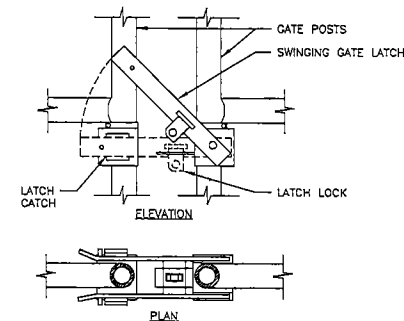
- F. ALL TOP AND BRACED RAIL SHALL BE 1 5/8" DIAMETER SCHEDULE - 20 MECHANICAL - SERVICE PIPE. FRAMES SHALL HAVE WELDED CORNERS.
- G. GATE FRAMES SHALL HAVE A FULL-HEIGHT VERTICAL BRACE AND A FULL-WIDTH HORIZONTAL BRACE, SECURED IN PLACE BY USE OF GATE BRACE CLAMPS.
- H. GATE HINGES SHALL BE MERCHANTS METAL MODEL 64388 HINGE ADAPTER WITH MODEL 5439, 188 DEGREE ATTACHMENT, OR APPROVED EQUAL.
- I. THE GUIDE (LATCH ASSEMBLY) SHALL BE TAMPER PROOF.
- J. LATCHES, STOPS AND KEEPERS SHALL BE PROVIDED FOR ALL GATES.
- K. ALL STOPS SHALL HAVE A FULL-HEIGHT PLUNGER BAR WITH DOME CAP.
- L. DOUBLE GATES SHALL HAVE A FULL-HEIGHT PLUNGER BAR WITH DOME CAP.
- M. A NO. 7 GAUGE, ZINC COATED, TENSION WIRE SHALL BE USED AT THE BOTTOM OF THE FABRIC, TERMINATED WITH BAND CLIPS AT CORNER AND GATE POSTS.
- N. A 5"x1/2" EYE-BOLT TO HOLD TENSION WIRE WILL BE PLACED AT LINE POSTS.
- O. STRETCHER BARS SHALL BE 3/16" X 3/4" OR HAVE EQUIVALENT CROSS SECTIONAL AREA.
- P. ALL CORNER, GATE AND END PANELS SHALL HAVE A 3/8" TRUSS ROD WITH TURNBUCKLES AND BE BRACED WITH ONE 1-5/8" HORIZONTAL COMPRESSION MEMBER, SECURELY ATTACHED WITH IRON FITTINGS.
- Q. PROVIDE OTHER HARDWARE INCLUDING BUT NOT LIMITED TO TIE CLIPS, BAND CLIPS AND TENSION BAND CLIPS.
- R. BARBED WIRE GATE GUARDS SHALL BE FITTED WITH DOME CAPS.
- S. BARBED WIRE SUPPORT ARMS SHALL BE CAST IRON WITH SET BOLT AND LOCK WIRE IN THE ARM.
- T. ALL CAPS SHALL BE CAST STEEL.

## PART 3 - EXECUTION

- 4.04 EQUIPMENT: EXCAVATE POST HOLES WITH MECHANICAL AUGER EQUIPMENT.
- 4.05 INSPECTION: EXCAVATE POST HOLES PER CONSTRUCTION DOCUMENTS. CONFIRM PROPER DEPTH AND DIAMETER OF POST HOLE EXCAVATIONS.
- 4.06 INSTALLATION
  - A. POST FOUNDATIONS SHALL HAVE A MINIMUM 6" CONCRETE COVER UNDER POST.
  - B. ALL FENCE POSTS SHALL BE VERTICALLY PLUMB WITHIN 1/4" IN 8'-0".
  - C. AT CORNER POSTS, GATE POST AND SIDES OF GATE FRAME, FABRIC SHALL BE ATTACHED WITH STRETCHER AND TENSION BAND-CLIP AT 1'-3" INTERVALS.
  - D. AT LINE POSTS, FABRIC SHALL BE ATTACHED WITH BAND CLIPS AT 1'-3" INTERVALS.
  - E. ATTACH FABRIC TO BRACE RAILS, TENSION WIRE AND TRUSS RODS WITH TIE CLIPS AT 2'-0" INTERVALS.
  - F. A MAXIMUM GAP OF 1" WILL BE PERMITTED BETWEEN THE CHAIN LINK FABRIC AND THE FINAL GATE.
  - G. GATES SHALL BE INSTALLED SO LOCKS ARE ACCESSIBLE FROM BOTH SIDES.
  - H. GATE HINGE BOLTS SHALL HAVE THEIR THREADS PEENED OR WELDED TO PREVENT UNAUTHORIZED REMOVAL.
- 4.07 PROTECTION: UPON COMPLETION OF ERECTION, INSPECT FENCE MATERIAL AND PAINT FIELD CUTS OR GALVANIZING BREAKS WITH ZINC-BASED PAINT COLOR TO MATCH THE GALVANIZING PROCESS.



| TYPICAL FENCING SIZES |      |               |
|-----------------------|------|---------------|
| 5' HIGH FENCE         | SIZE | POST FOOTING  |
| LINE POST             | 2"   | 9" x 27" DP.  |
| CORNER POST           | 3"   | 12" x 36" DP. |
| GATE POST             | 4"   | 12" x 36" DP. |



1 COMPOUND FENCE ELEVATION  
SCALE: N.T.S.

2 GATE LATCH DETAIL  
SCALE: N.T.S.



EUDORA SOUTH

CN35318

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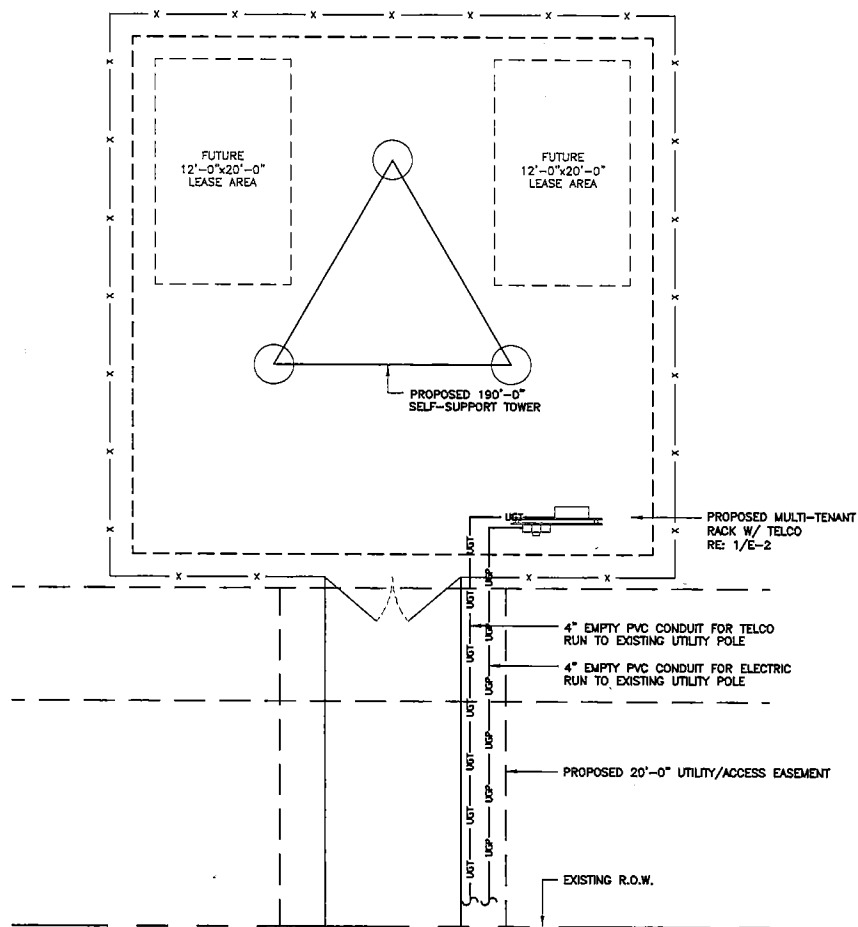
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REVISION: A



# 1 UTILITY ROUTING PLAN

SCALE: 0' 4' 8' 16' 32'

## GENERAL ELECTRICAL NOTES

1. REFER TO SPECIFICATIONS DRAWINGS IN THIS SET FOR ELECTRICAL SPECIFICATIONS.
2. REFER TO ELECTRICAL DETAILS WHICH ARE APPLICABLE FOR THE TYPE OF ELECTRICAL AND TELEPHONE SERVICES REQUIRED FOR THIS SHELTER. VERIFY REQUIREMENTS FOR ELECTRICAL AND TELEPHONE SERVICES WITH LOCAL UTILITIES BEFORE BIDDING AND INCLUDE IN SCOPE OF WORK.
3. ELECTRICAL CONTRACTOR SHALL PROVIDE AND INSTALL A NEW 200A/2P/250A FUSED MAIN DISCONNECT SWITCH WITH SERVICE ENTRANCE LABEL IN WEATHERPROOF NEMA 3R ENCLOSURE (WHEN REQUIRED BY LOCAL JURISDICTION). MOUNT ADJACENT TO METER BASE ON OUTSIDE WALL OF THIS DISCONNECT SWITCH AND THRU WALL TO SHELTER DISCONNECT SWITCH. VERIFY WITH LOCAL BUILDING INSPECTOR BEFORE BID AND INCLUDE IN SCOPE OF WORK IF REQUIRED.

## POWER & TELEPHONE GENERAL NOTES

1. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK/MATERIALS REQUIREMENTS AND CONSTRUCT TO UTILITY COMPANY ENGINEERING PLANS AND SPECIFICATIONS ONLY.
2. CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, PULL WIRES, CABLE PULLBOXES, CONCRETE ENCASUREMENT OF CONDUIT (IF REQUIRED), TRANSFORMER PAD, BARRIERS, POLE RISERS, TRENCHING, BACKFILL AND INCLUDE ANY UTILITY COMPANY REQUIREMENTS IN SCOPE OF WORK.
3. UTILITY CONTACTS, SEE SHEET T-1

## ELECTRICAL EQUIPMENT LOAD

1. ELECTRICAL SERVICE CHARACTERISTICS:  
120/240 VOLT, SINGLE PHASE, THREE WIRE -200 AMP SERVICE
2. CONNECTED BUILDING LOADS:

|                                           |      |              |
|-------------------------------------------|------|--------------|
| A. LIGHTING                               | 120V | 640 WATTS    |
| B. RADIO EQUIPMENT (RECTIFIERS)           | 240V | 19,200 WATTS |
| C. RADIO EQUIPMENT (FUTURE)               | 240V | 5,680 WATTS  |
| D. MISCELLANEOUS POWER (DEHYDRATOR, ETC.) | 120V | 1,800 WATTS  |
| E. (2) 4 TON A/C UNITS                    | 240V | 13,800 WATTS |
| F. (2) 8KW ELECTRIC HEATERS WITH A/C UNIT | 240V | 16,000 WATTS |

CONNECTED LOAD WITH FUTURE RECTIFIERS AND UTILIZING HEATING AS LARGEST A/C UNIT LOAD.

3. DEMAND BUILDING LOAD BASED ON HIGHEST DEMAND LOAD REPORTED FROM LOCAL POWER COMPANY ON SIMILAR BUILDING.
4. FULL CONNECTED LOAD COULD POSSIBLY BE ACHIEVED AFTER A POWER OUTAGE HAS BEEN RESTORED. ALL RECTIFIERS WILL DRAW MAXIMUM POWER FOR RECHARGE OF BATTERIES. BOTH A/C UNITS WILL RUN TO SATISFY THERMOSTAT DEMAND.



CN35318

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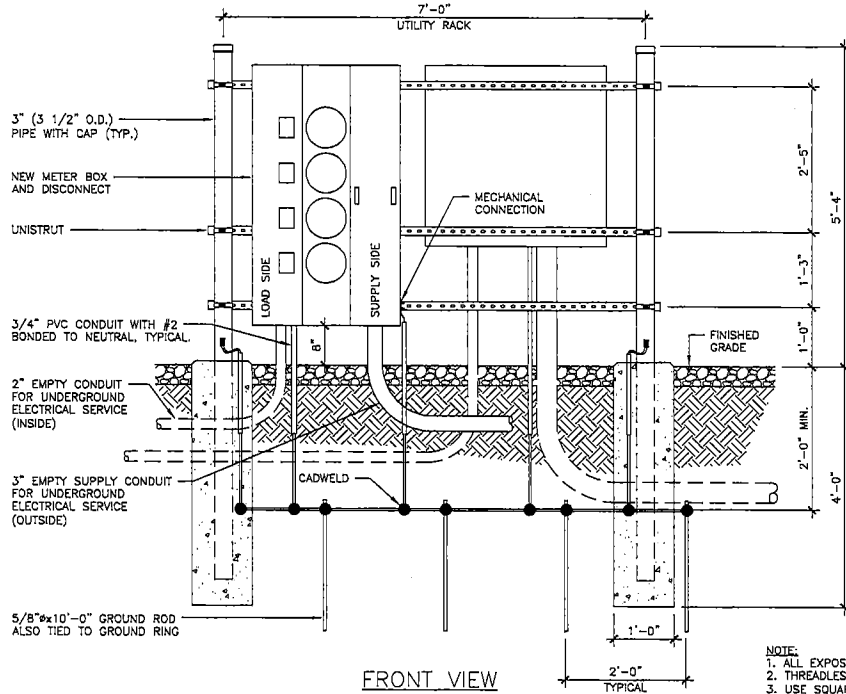
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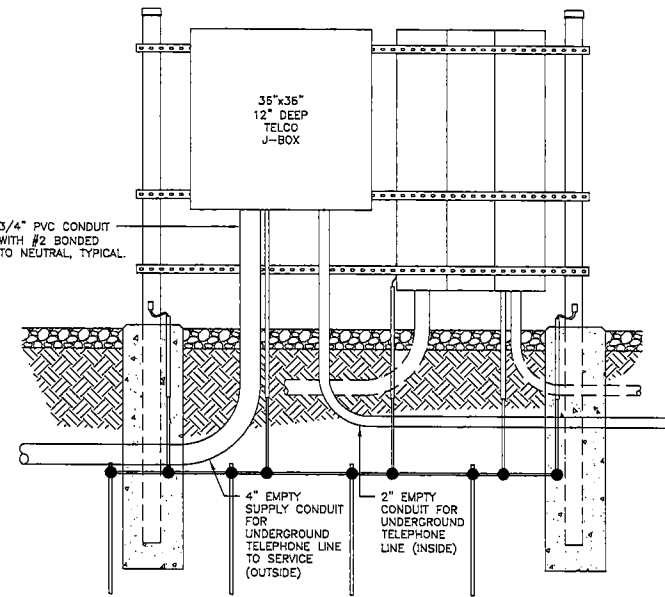
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**E-1 A**



FRONT VIEW

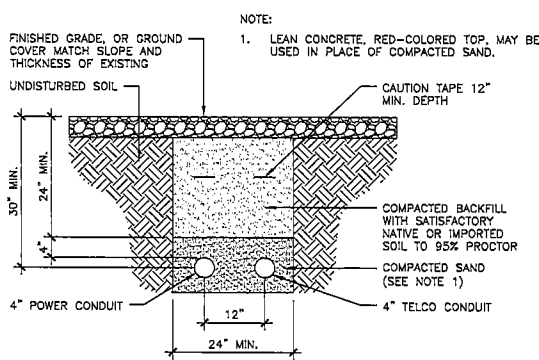


REAR VIEW

- NOTE:
1. ALL EXPOSED ELECTRICAL CONDUIT MUST BE RIGID.
  2. THREADLESS CONNECTORS ARE NOT ALLOWED.
  3. USE SQUARE "D" 200A FUSIBLE DISCONNECT
  4. EMT CONDUIT CAN ONLY BE USED INSIDE
  5. USE ONLY COMPRESSION TYPE FITTINGS ON EMT CONDUIT
  6. USE ONLY STRANDED CONDUCTORS FOR ALL ELECTRICAL WIRING, (EXCEPT TELCO AND THERMOSTAT)
  7. USE SCHEDULE 80 CONDUIT UNDER DRIVEWAYS AND/OR ANY VEHICLE CROSSING AREA.

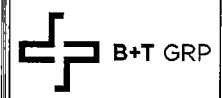
1 UTILITY RACK ELEVATIONS

SCALE: N.T.S.



2 TRENCH DETAIL

SCALE: N.T.S.



CN35318

**EUDORA SOUTH**

ADDRESS  
EUDORA, KS 66025

PROPOSED SELF-SUPPORT TOWER

PROJECT NO: 112623.001

CHECKED BY: SLM

| ISSUED FOR: |         |      |                    |
|-------------|---------|------|--------------------|
| REV         | DATE    | DRWN | DESCRIPTION        |
| A           | 3/28/17 | RPS  | PRELIMINARY REVIEW |
|             |         |      |                    |
|             |         |      |                    |

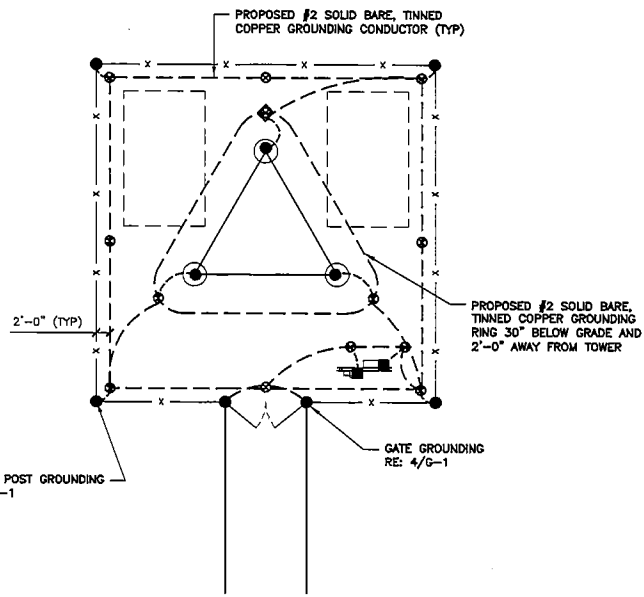
B&T ENGINEERING, INC.

**THIS DOCUMENT IS  
PRELIMINARY IN  
NATURE AND IS NOT  
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DOCUMENT**

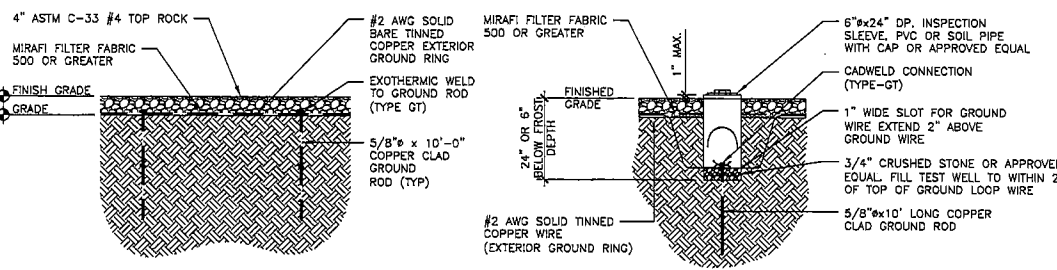
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SHEET NUMBER: E-2

REVISION: A



1 GROUNDING PLAN  
SCALE: N.T.S.



2 GROUND RING DETAIL  
SCALE: N.T.S.

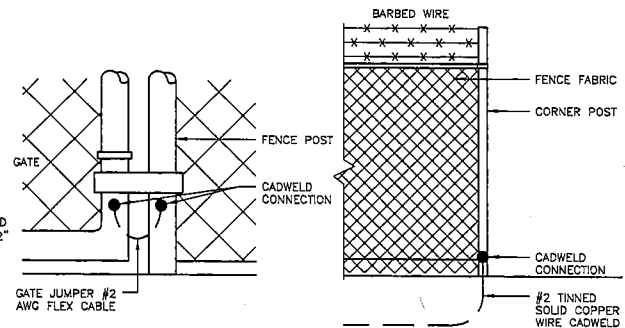
3 GROUND TEST WELL  
SCALE: N.T.S.

**GROUNDING LEGEND**

- ◆ -5/8"x10'-0" COPPER CLAD GROUND ROD WITH INSPECTION WELL (FIELD VERIFY LOCATION WITH MANAGER)
- ⊗ -5/8"x10'-0" COPPER CLAD GROUND ROD AT 15'-0" MAX. CENTERS
- -MECHANICAL CONNECTION
- -EXOTHERMIC WELD (CAD WELD)
- #2 SOLID COPPER TINNED WIRE UNLESS NOTED OTHERWISE

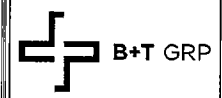
- GROUNDING NOTES:**
- ALL ELECTRICAL AND GROUNDING AT THE CELL SITE SHALL COMPLY WITH THE NATIONAL ELECTRICAL CODE (NEC), NATIONAL FIRE PROTECTION ASSOCIATION (NFPA) 780 (LATEST EDITION), AND MANUFACTURER.
  - IF THE AC PANEL IN THE POWER CABINET IS WIRED AS SERVICE ENTRANCE, THE AC SERVICE GROUND CONDUCTOR SHALL BE CONNECTED TO GROUND ELECTRODE SYSTEM. WHEN THE AC PANEL IN THE POWER CABINET IS CONSIDERED A SUB-PANEL, THE GROUND WIRE SHALL BE INSTALLED IN THE AC POWER CONDUIT. THE INSTALLATION SHALL BE PER LOCAL AND NATIONAL ELECTRIC CODE (NFPA-70).
  - EXOTHERMIC WELDING IS RECOMMENDED FOR GROUNDING CONNECTION WHERE PRACTICAL. OTHERWISE, THE CONNECTION SHALL BE MADE USING COMPRESSION TYPE-2 HOLES, LONG BARREL LUGS OR DOUBLE CRIMP CLAMP "O" CLAMP. THE COPPER CABLES SHALL BE COATED WITH ANTIOXIDANT (COPPER SHIELD) BEFORE MAKING THE CONNECTIONS. THE MANUFACTURER'S TORQUING RECOMMENDATIONS ON THE BOLT ASSEMBLY TO SECURE CONNECTIONS ARE TO BE FOLLOWED.
  - PROVIDE PVC SLEEVES WHERE GROUNDING CONDUCTORS PASS THROUGH THE BUILDING WALLS AND /OR CEILINGS.
  - INSTALL GROUND BUSHINGS ON ALL METALLIC CONDUITS AND BOND TO THE EQUIPMENT GROUND BUS IN THE PANEL BOARD.
  - GROUND ANTENNA BASES, FRAMES, CABLE RACKS AND OTHER METALLIC COMPONENTS WITH #2 GROUNDING CONDUCTORS AND CONNECT TO INSULATED SURFACE MOUNTED GROUND BARS. CONNECTION DETAILS SHALL FOLLOW MANUFACTURER'S SPECIFICATIONS FOR GROUNDING.
  - GROUND FIELD TEST PROCEDURE: - THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE A "FALL OF POTENTIAL" TEST ON THE NEW SUPPLEMENTAL GROUND FIELD PRIOR TO FINAL CONNECTION OF THE GROUNDING SYSTEM TO EQUIPMENT. THE TEST SHALL BE PERFORMED BY A QUALIFIED AND CERTIFIED TESTING AGENT. PROVIDE INDEPENDENT TEST RESULTS TO THE PROJECT MANAGER FOR REVIEW. THE GROUND SYSTEM RESISTANCE TO EARTH GROUND SHALL NOT EXCEED FIVE (5) OHMS. IF THE GROUND TEST EXCEEDS THE MAXIMUM OF 5 OHMS THE CONTRACTOR SHALL BE RESPONSIBLE TO PROVIDE ADDITIONAL GROUND CONNECTIONS AS REQUIRED TO MEET THE 5 OHMS MAXIMUM.

**TYPICAL CADWELD CONNECTIONS**



4 GATE GROUNDING  
SCALE: N.T.S.

5 FENCE GROUNDING  
SCALE: N.T.S.



CN35318

**EUDORA SOUTH**

ADDRESS  
EUDORA, KS 66025

PROPOSED SELF-SUPPORT TOWER

|             |         |            |                    |
|-------------|---------|------------|--------------------|
| PROJECT NO: |         | 112623.001 |                    |
| CHECKED BY: |         | SLM        |                    |
| ISSUED FOR: |         |            |                    |
| REV         | DATE    | DRWN       | DESCRIPTION        |
| A           | 3/28/17 | RPS        | PRELIMINARY REVIEW |
|             |         |            |                    |
|             |         |            |                    |
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|             |         |            |                    |

B&T ENGINEERING, INC.

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SHEET NUMBER: **G-1** REVISION: **A**

# Memorandum

## City of Lawrence

### Planning & Development Services

**TO:** Lawrence Douglas County Metropolitan Planning Commission

**FROM:** Sandy Day, Planning Staff

**CC:** CUP-17-0021; communication tower located at 2138 N 1000 Road

**Date:** June 8, 2017

**RE:** City of Eudora Planning Commission review of project.

The proposed development application is located within three miles of the incorporated limits of the City of Eudora. The project was forwarded to the City of Eudora for review. This project has been advertised as a joint Planning Commission/Eudora meeting.

The City of Eudora met separately on June 7, 2017. At their meeting, the Eudora Commission ruled unanimously to forward a recommendation to the Lawrence Douglas County Metropolitan Planning Commission for approval for the Conditional Use Permit, CUP-17-000215 with the following stipulation:

*Move the tower 190 ft. from public right of way and adjacent property, or have the applicant submit a registered engineer's certification regarding the fall zone.*

This information was provided to staff by Curtis Baumann, Codes Administrator, City of Eudora.

May 22, 2017

Mr. Paul Wrablica III  
Telecom Realty Consultants, LLC  
3864 West 75<sup>th</sup> Street  
Prairie Village, KS 66208

RE: Proposed 190' Sabre Self-Supporting Tower for Eudora South, KS

Dear Mr. Wrablica,

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

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

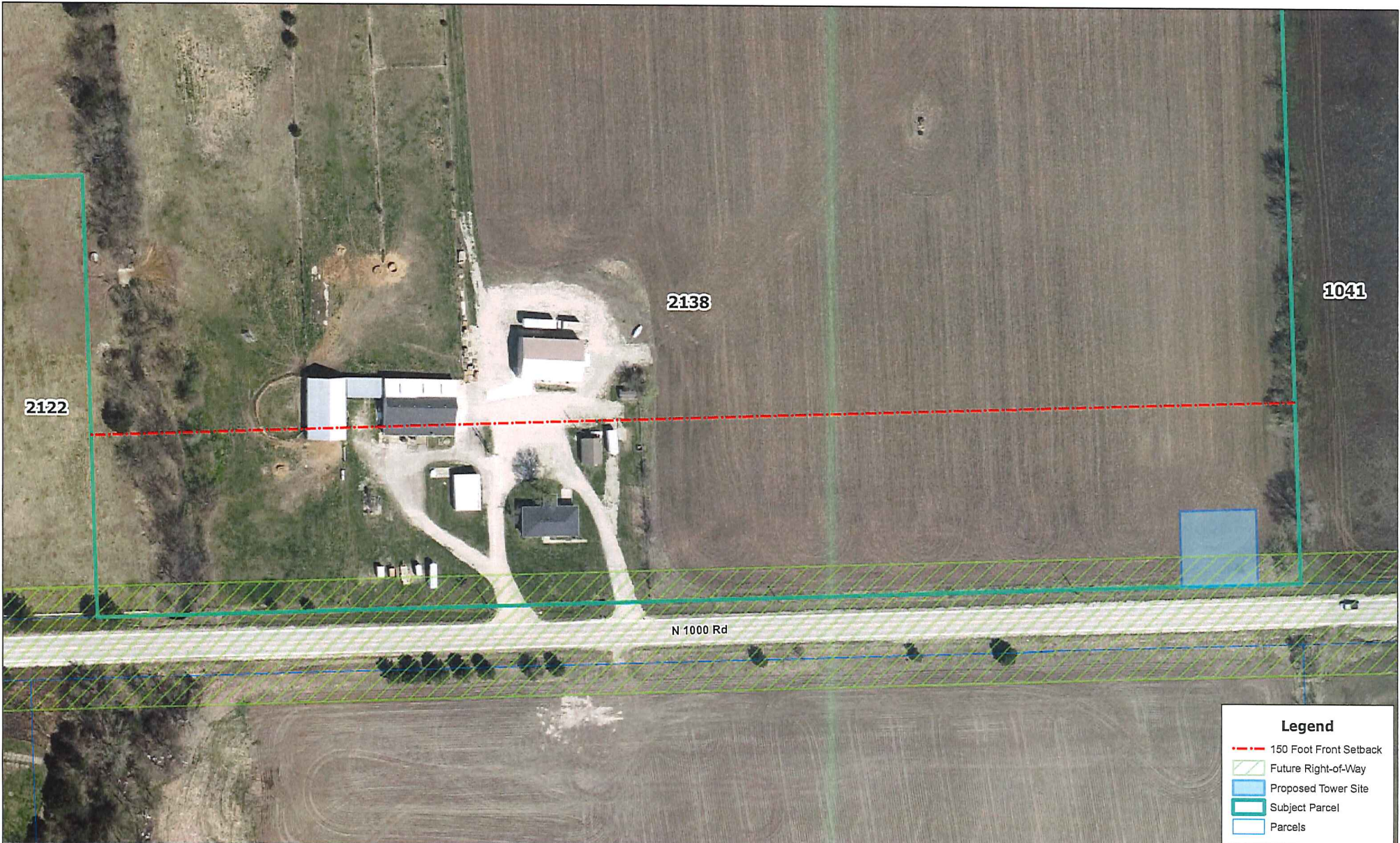
Should the wind speed increase beyond the capacity of the built-in safety factors, to the point of failure of one or more structural elements, the most likely location of the failure would be within one or more of the tower members in the upper portion. This would result in a buckling failure mode, where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

Therefore, it is likely that the overall effect of such an extreme wind event would be localized buckling of a tower section. Assuming that the wind pressure profile is similar to that used to design the tower, the tower is most likely to buckle at the location of the highest combined stress ratio in the upper portion of the tower. This would result in the portion of the tower above the failure location "folding over" onto the portion of the tower below the failure location. ***Please note that this letter only applies to the above referenced tower designed and manufactured by Sabre Towers & Poles.*** In the unlikely event of total separation, this, in turn, would result in collapse within a radius equal to 67.5 feet.

Sincerely,

Robert E. Beacom, P.E., S.E.  
Senior Design Engineer





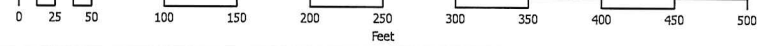
**Legend**

- 150 Foot Front Setback
- Future Right-of-Way
- Proposed Tower Site
- Subject Parcel
- Parcels

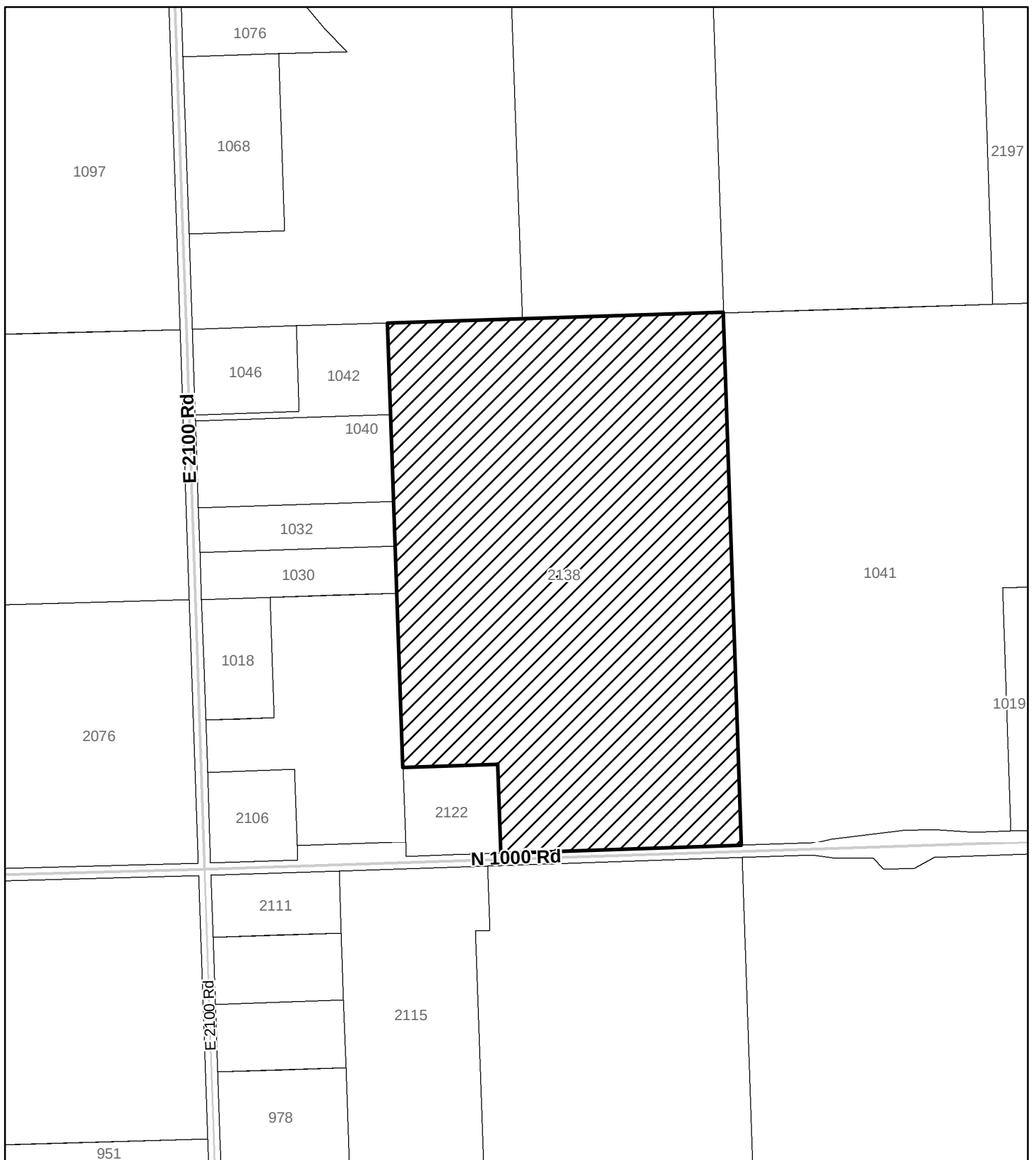


**CUP-17-00215: Proposed Tower**  
2138 N. 1000 Road

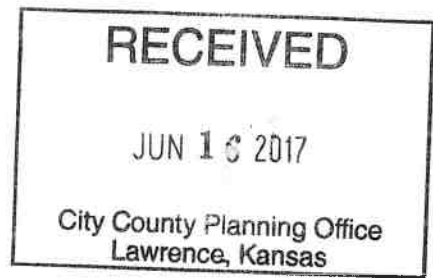
June 20 2017  
Prepared by: J.Crick



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CUP-17-00215: Conditional Use Permit for a new 190 ft. self-supporting wireless telecommunications facility (tower), located at 2138 N 1000 Rd



City of Lawrence

Douglas County

Planning & Development Services

Dear Sandra,

We are a property owners living near the 2138 N 1000 Road, Eudora, KS 66025. We received the letter regarding having a self-supporting wireless telecommunication tower located at 2138 N 1000 Rd. We are strongly against to have this tower in this location. Our area did not have any cable internets (that is already very weird), all surrounding area neighbors rely only on wireless internets either through satellite wireless internet or wireless internets provided by cellular phone companies. All the wireless internet signals will interfere each other, our area is the far away (5 miles away) from the Towers of Verizon and Sprint wireless, those wireless signals are not very strong. We are fear that we will have even worse signal if the other wireless Tower is set up. So we are not agreeing to build another wireless tower near us.

Thank you for considering our concerns.

Sincerely,

Two handwritten signatures in black ink. The first signature is "Huiqun Ma" and the second is "Zongwu Cai".

Huiqun Ma and Zongwu Cai

2115 N 1000 Road

Eudora, KS 66025

pg 1 of 3

**FAX COVER SHEET**

TO: Lawrence-Douglas County Planning Commission

fax 785-832-3160 ✓  
Three PAGES TOTAL

From Barbara J. Braa & Michael G. Braa  
Phone 785-542-3829

RE CUP -17=00215 Conditional Use Permit == Hearing 6/28

The following two pages contain written comments regarding the hearing referenced above

**\*\* Please confirm receipt of this FAX by leaving a message at the phone number above.**

Thank you!

**Michael & Barbara Braa  
1032 E 2100 Road  
Eudora, KS 66025**

June 24, 2017

To - Lawrence— Douglas County Planning Commission

RE CUP-17-00215 – Conditional Use Permit for a new 190-foot telecommunications facility (tower) at 2138 N 1000 Road (aka Douglas County Road 458)

We received notice regarding a proposed communications facility/tower conditional use permit request for 2138 N 1000 Road, also known as Douglas County Road 458. This property is near our rural Eudora home of 17 years. Below are some of our questions /concerns:

- 1) Is this facility/tower, which would be as tall as a nineteen story building, appropriate in our rural residential area? The affected residences total 10-12, if you count recent and pending construction in the immediately area.
- 2) Will this require another driveway cut onto this property which already has two cuts? Does Douglas County Road 458 allow that much access to a single property?
- 3) Is the facility/tower to be positioned exactly in the SE corner of the property or is that an estimated location?
- 4) Will this 190 foot tower require lighting? If so, what type - strobing or steady? It is just under the 200' height to require lighting. Can lighting be added later due to safety concerns without notification to the surrounding homeowners?
- 5) The property also has a grass airstrip upon which ultra-light aircraft lands frequently. Will this use be rescinded or continue as well on this land?
- 6) The current schematic shows the tower, the surrounding compound fence and two "future lease areas." What will be on those separate future lease areas? More towers?
- 7) Is anyone concerned about the loss of agricultural land?
- 8) Towers such as this often make the surrounding land less aesthetically appealing. Home owners purchased and or built in the area for the aesthetics and this is likely to mar the view and limit future use of the surrounding areas.
- 9) If property value falls due to the detrimental effects on surrounding homes, the tax base and resulting tax revenue to the county will fall too. Is this considered in your decision?

- 10) Will you consider the potential erosion of land values of the surrounding properties? No one wants to have their hard-earned appreciation to vanish.
- 11) How long is the lease? Permanent? Who is responsible for the upkeep around the tower & for any safety concerns? Who is responsible to remove the tower and compound if it falls into disuse or becomes obsolete?
- 12) Is any plant screening required to mask the unattractive fenced compound?
- 13) Does the leasehold stay with the owner of the land or does it stay with the current owner even if the current owner sells the land?
- *I know of a property where the lease went with the seller and not with the land. The use of the land is now seriously affected and 9+ acres are sitting unused due to the tower right in the middle of otherwise usable land.*
- 14) Is there a historical marker for the Santa Fe Trail on property that is due east? Any restrictions due to historical nature of that marking?

We hope you will seek answers to our questions and concerns prior to your decision regarding approval of this conditional use request.

To us, it seems that an area which will affect fewer residential properties would be more appropriate. We hope the Planning Committee members, and ultimately the County Commissioners will consider all of the above concerns when considering approval or denial of this request for a conditional use permit.

Please contact either of us if you have questions or feedback prior to the meeting on 6/28. Barbara can be reached at w. 785-465-1065 or c. 785-760-7525. Michael can be reached at 785-542-3829.

Thank you for considering our questions and input before making your decision.

Sincerely,



Barbara J. Braa



Michael G. Braa

cc: Douglas County Commissioners

**From:** Kelly, Pat [<mailto:PAKelly@StateStreet.com>]  
**Sent:** Monday, June 26, 2017 10:05 AM  
**To:** Sandra Day <[sday@lawrenceks.org](mailto:sday@lawrenceks.org)>  
**Cc:** [pkelly3855@aol.com](mailto:pkelly3855@aol.com)  
**Subject:** Protest against CUP-17-00215

**Hi Sandy**

**I am against the approval of CUP-17-00215 for the following reasons which I speak to in more detail at the hearing on Wednesday, June 28, 2017.**

- **Decrease in property values**
- **Aesthetics**
- **Historical**
- **Safety/Hazard issues**
- **Environmental**

**Regards,  
Pat Kelly**

**PATRICK & AMY JANKOWSKI**  
**2111 N. 1000<sup>TH</sup> RD**  
**EUDORA, KS 66025**  
**(785) 542-2070**

21 June 2017

To: Lawrence-Douglas County Metropolitan Planning Commission / Eudora Planning Commission

RE: CUP-17-00215, Telecommunications tower located at 2138 N. 1000<sup>th</sup> Rd. Eudora, KS 66025

Dear Commission members,

First, as a prior member of the Eudora Planning Commission I would like to thank you for your service and for allowing me to voice my concerns.

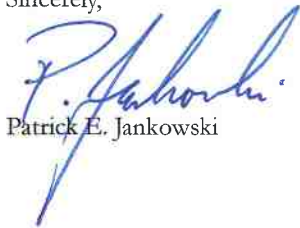
I'm sure that you are all well aware that telecommunication (cell) towers have many things in common with wind turbines in western Kansas, most notably "visual" pollution. I have enclosed a copy of an article from the Notre Dame Journal of Law, Ethics & Public Policy which reviews cell tower visual pollution. Although the article neither condemns or condones erection of new cell towers it does offer a solution to lessen the effects of the visual pollution by disguising the cell tower as a tree (photo on the last page). Perhaps some of you have noticed some of the same cell tower camouflage along K-10 near Desoto, KS? As a neighbor who chose to move outside the city to enjoy country scenery I feel that new cell towers should be required to use some type of disguise when placed in rural residential areas, thus limiting the amount of visual pollution.

Another type of pollution cell towers have in common with wind turbines is light pollution. My family and I, as well as many of our neighbors enjoy spending time outdoors, especially in the evening hours after sunset. I would assume that a tower of 190 ft. would require safety lighting, especially with its proximity to the Vinland airport. I think I can speak for most of us in the area when I say that our evening outdoor activities would certainly be less enjoyable in the presence of constantly blinking lights. There have also been several studies done to document the adverse effects of light pollution on humans, animals and especially migratory birds.

I find myself questioning the geographic placement of this tower. The property is significantly lower than the properties to both the east, west and south. Anyone who drives Douglas County 458 highway west from Eudora knows there is a significant drop in elevation east of the property in question at Captain's creek, followed by a rise in elevation west of county road 2100, placing the tower in what common sense would tell me is close to the lowest geographical area in the vicinity. Not to mention that there is a significantly taller tower at a higher elevation approximately 3 miles to the west of the proposed location which would seem to serve as a better alternative to the proposed tower.

Finally, there have also been several studies done by the real estate profession which show that the closer a property is to a cell tower, the less desirable and less valuable it becomes, mostly due to my first two objections stated above. I fully understand and agree that a property owner should have the right to develop a property as they see fit, with the understanding that such development should not impede upon his neighbors and their property. With these concerns in mind I must object to the Conditional Use Permit# CUP-17-00215.

Sincerely,



Patrick E. Jankowski



Amy M. Jankowski



City of Lawrence  
Douglas County  
PLANNING & DEVELOPMENT SERVICES

6 East 6<sup>th</sup> St.  
P.O. Box 708  
Lawrence, KS 66044

[www.lawrenceks.org/pds/](http://www.lawrenceks.org/pds/)

Phone 785-832-3150  
Tdd 785-832-3205  
Fax 785-832-3160

June 5, 2017

Dear Property Owner:

The Lawrence-Douglas County Metropolitan Planning Commission will hold its regular meeting on **Wednesday, June 28, 2017, beginning at 6:30 p.m., in the Commission Meeting Room on the first floor of City Hall, 6 E. 6<sup>th</sup> Street, Lawrence.** The following item may be of interest to you:

**CUP-17-00215:** Consider a Conditional Use Permit for a new 190 ft self-supporting wireless telecommunications facility (tower), located at 2138 N 1000 Rd. Submitted by MW Towers LLC for F. Dwane Richardson & Valerie Richardson, property owners of record. *Joint meeting with Eudora Planning Commission.*

Conditional Use Permit requests are considered public hearing items and the public will be given the opportunity to make oral comments on such requests at the meeting. Written comments are welcomed and encouraged. The Commission has established a **deadline for receipt of all written communications of no later than 10:00 a.m. on Monday, June 26, 2017.** This deadline allows time for the Commission to receive and review comments prior to the meeting.

A complete legal description for this property is available at the Planning Office, 6 E. 6th Street, Monday - Friday from 8:00 a.m. until 5:00 p.m. If you have questions relating to this matter, please contact me at 832-3161.

**PLEASE NOTE:** If you have recently transferred ownership of your property in the area of this request, or if such property is under a contract purchase agreement, we ask you to please forward this letter to the new owner or the contract purchaser.

Sincerely,

*Sandra Day*  
Sandra Day, AICP  
Planner II

1<sup>st</sup> Concern is Property Value Due to

Pollution:

- (A) Visual Pollution
- (B) Light Pollution - Humans & Animals - cattle

2<sup>nd</sup> Concern: Why Place a tower in this valley when there is a taller tower directly visible to the west.





1-1-2012

## Cell Phone Towers as Visual Pollution

John Copeland Nagle

Follow this and additional works at: <http://scholarship.law.nd.edu/ndjlepp>

### Recommended Citation

John C. Nagle, *Cell Phone Towers as Visual Pollution*, 23 NOTRE DAME J.L. ETHICS & PUB. POL'Y 537 (2009).

Available at: <http://scholarship.law.nd.edu/ndjlepp/vol23/iss2/7>

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## CELL PHONE TOWERS AS VISUAL POLLUTION

JOHN COPELAND NAGLE\*

Granger, Indiana is a collection of residential subdivisions filled with nearly 800 cul-de-sacs. Besides those subdivisions, Granger's most prominent features are its proximity to South Bend and to the Michigan state line, its lack of any real downtown, and the precarious status of an unincorporated community of 30,000 residents who rely upon individual water wells and septic tanks.<sup>1</sup> Granger was also known for spotty wireless coverage when cell phones first became popular. My cell phone did not receive a signal in my Granger home, nor did most of my visitors whose phones were serviced by other providers. So I was pleased to learn that a new cell phone tower was planned for a vacant field about one mile from my home. Then I checked my mailbox one day and found a bright pink flyer that objected to the proposed tower as "visual pollution." Most of my neighbors felt the same way, as demonstrated by the 1,135 residents who signed a petition against the tower. Another resident reported that she had abandoned plans to build a deck on the back of her house because she did not want to look at a tower. "View is everything," said one neighbor, "and a tower kills the view." Heeding these complaints, the county council repeatedly voted to deny the necessary permits.<sup>2</sup>

These stories can be multiplied across the country. Indeed, they have been, as local newspaper accounts and the reports of litigated disputes attest. There are now about 200,000 cell sites (including both tow-

---

\* John N. Matthews Professor of Law, Notre Dame Law School; nagle.8@nd.edu. Alejandro Camacho offered helpful comments on an earlier draft of this paper. Research librarians Chris O'Byrne and Patti Ogden provided invaluable assistance, and I am grateful for the research assistance of Kacy Romig and Rachel Williams.

1. The origin of Granger's name is contested, with one view citing the name of the grange farm movement of the late nineteenth century (when Granger was founded) and the alternative view crediting Father Alexis Granger, the priest who operated a farm in the area beginning in 1867. See Carol Draeger, *Where (and What) is Granger?; Not a City or Village, ZIP Code 46530 is Michiana's Own "Beverly Hills 90210"—A State of Being. So to Speak*, SOUTH BEND TRIB., July 22, 2001, at A1.

2. See Carol Elliott, *Can You Hear Them Now? Poses of Wireless Technicians Patrol the Roads to Improve Cell Phone Reception*, SOUTH BEND TRIB., Nov. 28, 2004, at B1; Don Porter, *Communications Towers Sprouting Up All Over: "Visual Pollution" Could Be Result in Residential Areas*, SOUTH BEND TRIB., June 30, 1997, at B1; Don Porter, *Will Granger Accept Another Tower?*, SOUTH BEND TRIB., June 11, 2003, at A1; James Wensits, *County Council Denies Cell Phone Tower Plea; Granger Foes Mount Strong Opposition*, SOUTH BEND TRIB., Feb. 11, 2004, at A1; James Wensits, *New Location But Same Question: Cell Tower Site Still Sought to Serve Granger Area*, SOUTH BEND TRIB., Jan. 30, 2004, at A1; James Wensits, *Tower Plan Wilts Under Pressure; Council Rejects Site Near Knollwood*, SOUTH BEND TRIB., June 11, 2003, at A1.

ers and antennas attached to existing structures) to accommodate the exponential increase in the use of wireless communication devices. Yet residents repeatedly object to the environmental, health, safety, and especially aesthetic harms of cell phone towers, which in turn lead to claims of reduced property values. As National Public Radio's Noah Adams reported in November 2004, "Americans everywhere from Manhattan to Hollywood take their cell phones for granted, but in many parts of the country where scenery is cherished, cell phone towers have been called visual pollution."<sup>3</sup>

Cell phone towers are just the most recent target of visual pollution complaints. The term visual pollution has been used by courts, academics, and environmental groups to explain their distaste for ugly buildings, telephone towers, billboards, flags and signs, and numerous other images that have been derided as polluting the visual landscape.<sup>4</sup> As Chief Jus-

3. *Day to Day: Squaring off Over "Frankenpines" in the Adirondacks* (NPR radio broadcast Nov. 22, 2004), available at <http://www.npr.org/templates/story/story.php?storyId=4182101>. For additional descriptions of cell phone towers as visual pollution, see *AT&T Wireless PCS, Inc. v. City Council of Va. Beach*, 155 F.3d 423, 427 (4th Cir. 1998); *Avoid Cell Tower Pollution*, CHATTANOOGA TIMES FREE PRESS, May 30, 2007, at B7; Eric Peterson, *Silo to Hide Cellular Tower, Schaumburg OK's Church's Request*, DAILY HERALD, Aug. 11, 2004, at 1; Richard Quinn, *New Cell Towers, Public Protests Rising Together*, VIRGINIAN-PILOT [NORFOLK, VA.], Oct. 7, 2007, at B1; *Visual Pollution*, BURLINGTON FREE PRESS [VT.], Feb. 23, 2003, at 10A; *The Early Show: Cell Phone Towers in Disguise* (CBS television broadcast Nov. 29, 2006), available at [http://www.cbsnews.com/video/watch/?id=2214391n963f&source=search\\_video](http://www.cbsnews.com/video/watch/?id=2214391n963f&source=search_video); ScenicNevada.org, *Taming Wireless Telecommunications Towers*, <http://www.scenicnevada.org/main/towers.html>.

4. For judicial references to visual pollution, see, e.g., *Ballen v. City of Redmond*, 466 F.3d 736, 744 (9th Cir. 2006) (billboards); *Shivwits Band of Paiute Indians v. Utah*, 428 F.3d 966, 983 (10th Cir. 2005) (billboards); *Cleveland Area Bd. of Realtors v. City of Euclid*, 88 F.3d 382, 384 (6th Cir. 1996) (residential signs); *Kramer v. Gov't of V.I.*, 479 F.2d 350, 352 (3d Cir. 1973) (drive-in theater); *Lamar Adver. Co. v. Twp. of Elmira*, 328 F. Supp. 2d 725, 729 (E.D. Mich. 2004) (billboards); *People v. Amerada Hess Corp.*, 765 N.Y.S.2d 202, 205 (N.Y. Dist. Ct. 2003) (gas stations); *Blue Legs v. EPA*, 732 F. Supp. 81, 83 (D.S.D. 1990) (waste dumps); *State v. Watson*, 6 P.3d 752, 758 (Ariz. Ct. App. 2000) (trash); *Stearn v. County of San Bernardino*, 170 Cal. App. 4th 434 (Cal. Ct. App. 2009) (billboards); *Am. Nat'l Bank & Trust Co. v. City of Chi.*, 568 N.E.2d 25, 35-36 (Ill. App. Ct. 1990) (building that blocked view); *Mayor & City Council of Balt. v. Mano Swartz, Inc.*, 299 A.2d 828, 833 (Md. 1973) (billboards); *John Donnelly & Sons, Inc. v. Outdoor Adver. Bd.*, 339 N.E.2d 709, 718 (Mass. 1975) (billboards); *Mtn. Cmty. for Responsible Energy v. Pub. Serv. Comm.*, 665 S.E.2d 315, 329 (W. Va. 2008) (affirming an administrative decision allowing the construction of 124 wind turbines because "[s]ome people consider them eyesores they do not want in their backyards. Others consider them elegant or beautiful.").

For some of the other references to visual pollution, see Final National Pollutant Discharge Elimination System (NPDES) General Permits for the Eastern Portion of Outer Continental Shelf (OCS) of the Gulf of Mexico (GMG280000) and Record of Decision, 63 Fed. Reg. 55,718, 55,722 (Oct. 16, 1998) (noting that an Alabama coastal city had complained that offshore drilling structures constituted visual pollution); Sunrise Powerlink Project: Final EIR/EIS 3-1663 (Oct. 2008) (comment from the Sierra Club

tice Burger once wrote, "[E]very large billboard adversely affects the environment, for each destroys a unique perspective on the landscape and adds to the visual pollution of the city. Pollution is not limited to the air we breathe and the water we drink; it can equally offend the eye and the ear."<sup>5</sup>

Visual pollution is a fascinating example of pollution. Ordinarily, we associate pollution with air pollution, water pollution, and hazardous wastes. But we also worry about hostile work environments "polluted" by discrimination, claims of cultural pollution leveled against violent entertainment and internet pornography, and political processes polluted by excessive campaign spending. As I have argued elsewhere, a wide range of pollution claims have long appeared in the law and literature, with the idea of moral pollution preceding the contemporary understanding of pollution as a uniquely environmental phenomenon.<sup>6</sup> Some of these other pollution claims persist, as evidenced by the kinds of pollution discussed in legal and political debates and by the continuing role that pollution plays in academic writing about anthropology.<sup>7</sup>

Offensive sights fit within this broader understanding of pollution. These offensive sights are polluting agents because their appearance is found objectionable. A polluting agent is placed into the environment by a sign, a tower, a building, or a disorganized pile of materials. The affected environment is the heretofore uncluttered outdoor landscape. The most common harm associated with visual pollution is the annoyance resulting from the perception of something that is judged unsightly. That is not the only harm, though. Signs, communications towers, and discarded cars have all been blamed for reducing property values and inhibiting the enjoyment of neighboring property. Aesthetic concerns have also been linked to human health and blamed for depriving landowners of the cultural identity of their neighborhood. Billboards have been accused of distracting drivers, degrading public taste, encouraging

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Visual Pollution Task Force objecting to "visual pollution and visual impacts of the 150 miles of 160 foot-tall and 65 foot-wide transmission towers covering some of San Diego's formerly most scenic parks and neighbourhoods"); Harvey K. Flad, *Country Clutter: Visual Pollution and the Rural Landscape*, 553 ANNALS AM. ACAD. POL. & SOC. SCI. 117 (1997); Lesley K. McAllister, *Revisiting a "Promising Institution": Public Law Litigation in the Civil Law World*, 24 GA. ST. U. L. REV. 693, 730 (2008) (noting that Brazilian prosecutors regarded the reduction of visual pollution as one of their six priority areas); Peter J. Howe, *Storefront Tobacco Ads Said to Target Students*, BOSTON GLOBE, Sept. 11, 1998, at B2 (cigarette advertisements).

5. *Metromedia, Inc. v. City of San Diego*, 453 U.S. 490, 560-61 (1980) (Burger, C.J., dissenting).

6. See John Copeland Nagle, *The Idea of Pollution*, 43 U.C. DAVIS L. REV. \_\_\_\_ (forthcoming 2009).

7. See *id.* The classic work on pollution as an anthropological concept is MARY DOUGLAS, *PURITY AND DANGER: AN ANALYSIS OF CONCEPTS OF POLLUTION AND TABOO* (1966).

needless consumption, and desecrating the landscape. Billboards also illustrate the cumulative nature of visual pollution, for the sight of a solitary billboard proves much less objectionable than a highway that is filled with them. Visual pollution rarely results from a purposeful effort to offend the aesthetic sensibilities of others, though the person or organization that introduces the sight to the landscape may expect that the sensibilities of many viewers will be offended.

Visual pollution also illustrates the three ways of responding to pollution. Toleration is the initial response. Toleration is championed by First Amendment scholars as the appropriate response to claims of cultural pollution resulting from violent entertainment and internet pornography (though not the appropriate response for hostile work environments). The idea of tolerating pollution may seem foreign to environmental law, but in fact many environmental laws prescribe the tolerable amount of air or water pollution, or they establish the permissible tolerances for pesticides. Prevention is the second response to pollution. Here the goal is to altogether eliminate pollution by preventing it from occurring. The Pollution Prevention Act states the national policy of the United States that pollution should be prevented or reduced at the source whenever feasible.<sup>8</sup> The act establishes a program for achieving that goal, but it is generally understood that zero pollution is a goal our society has so far been unwilling to pay to achieve. So the most common response to pollution is avoidance. The law variously encourages dilution, filtering, separating pollution and its victims, and the treatment and removal of pollution as methods to reduce the harms resulting from exposure to pollution.<sup>9</sup>

This Essay seeks to analyze the idea of visual pollution in the context of cell phone towers. Part I provides a general description of the nature of, and responses to, visual pollution. Part II examines the debate concerning the aesthetics of cell phone towers, which pits affected residents against cellular providers, with local governments exercising their traditional powers of land use regulation while being constrained by a federal law designed to promote wireless services. Part III reflects on the lessons that the idea of pollution offers for controversies regarding cell

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8. 42 U.S.C. § 13101(b) (2000). Pollution prevention also appears in other federal statutes. A primary goal of the Clean Air Act (CAA) is to encourage or otherwise promote reasonable actions for pollution prevention. 42 U.S.C. § 7401(c) (2000). The Clean Water Act (CWA) supports activities and programs for the prevention, reduction, and elimination of pollution. 33 U.S.C. §§ 1253(a), 1254(a) (2000). The Resource Conservation and Recovery Act declares that wherever feasible, the generation of hazardous wastes is to be reduced or eliminated as expeditiously as possible. 42 U.S.C. § 6902(b) (2000).

9. See generally John Copeland Nagle, *The Three Responses to Pollution* (Mar. 2009) (unpublished manuscript, on file with author).

phone towers, and the lessons that the cell phone tower controversies offer for understanding pollution in other contexts.

### I. VISUAL POLLUTION

The first reported case to acknowledge "visual pollution" rejected a challenge to a gas station to be located in the downtown shopping area of a Detroit suburb.<sup>10</sup> Two years later, the same court upheld another Detroit suburb's rejection of a proposed high-rise sign to advertise another gas station located along Interstate 75. The court enthusiastically embraced municipal aesthetic regulation:

The modern trend is to recognize that a community's aesthetic well-being can contribute to urban man's psychological and emotional stability. It is true that the question of what is beautiful and pleasing is for each individual to decide. We should begin to realize, however, that a visually satisfying city can stimulate an identity and pride which is the foundation for social responsibility and citizenship. These are proper concerns of the general welfare. Yellin, *Visual Pollution and Aesthetic Regulation*, 12 *The Municipal Attorney* 186 (1971). Madison Heights has determined that its citizens' well-being will be served best by preventing the visual pollution which occurs when high-rise signs dot major thoroughfares. It has sought to do this by limiting the height of free-standing signs within its boundaries.

The use of such signs for advertising purposes is often done with little regard for their natural or man-made environment. Their garishness often intrudes on a citizen's visual senses. Property owners do have the right to put their property to profitable use. But, we do not think that the right to advertise a business is such that a businessman may appropriate common airspace and destroy common vistas. Nor do we believe that the right to advertise a business means the right to interfere with the landscape and the views along public thoroughfares.<sup>11</sup>

The concurring judge warned, however, that "[w]e will all live to rue the day that public officials are permitted to meddle in private affairs on aesthetic considerations since . . . each person has his own yardstick for the evaluation of matters aesthetic."<sup>12</sup>

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10. *Pure Oil Div. of Union Oil Co. of Cal. v. City of Northville*, 183 N.W.2d 303, 304 (Mich. Ct. App. 1970). The suburb's website now boasts of the "charming and relaxed setting of downtown Northville." Northville Downtown!, <http://downtownnorthville.org/>.

11. *Sun Oil Co. v. City of Madison Heights*, 199 N.W.2d 525, 529 (Mich. Ct. App. 1972).

12. *Id.* at 530 (Targonski, J., concurring in the result).

Of course, the law struggled with aesthetic concerns long before the term visual pollution was coined. Traditionally, aesthetic complaints were insufficient to establish a nuisance. As Horace Wood's treatise explained over a century ago, "[T]he law will not declare a thing a nuisance because it is unpleasant to the eye."<sup>13</sup> The courts repeatedly rejected assertions that aesthetic objections to junk yards, fences, and other things as unsightly rendered those objects a nuisance.<sup>14</sup> The basis for those decisions was the reluctance of courts to find that offenses to one's sense of aesthetics constituted an injury that could be remedied by the courts.<sup>15</sup>

"The cases rejecting aesthetic nuisances are now in tension with other areas of the law. Aesthetic concerns were once held insufficient to support zoning laws, but the modern trend is to uphold zoning conducted for aesthetic purposes."<sup>16</sup> Other areas of the law now accept aesthetic concerns as a valid purpose, too.<sup>17</sup> Moreover, several academic commentators have favored the acceptance of aesthetic nuisance cases. Raymond Coletta has argued that "it seems somewhat incongruous to allow individuals redress for offenses to their senses of hearing and smell, but at the same time to deny them a remedy for offenses to their sense of sight."<sup>18</sup>

13. HORACE G. WOOD, A PRACTICAL TREATISE ON THE LAW OF NUISANCES IN THEIR VARIOUS FORMS; INCLUDING REMEDIES THEREFOR AT LAW AND IN EQUITY 24 (3d ed. 1893); see also DAN B. DOBBS, THE LAW OF TORTS 1331 (2000) ("[B]ecause tastes differ and criteria for aesthetic judgment are deemed unreliable, courts have been reluctant to say that an inappropriate and ugly sight can be a nuisance."); W. PAGE KEETON ET AL., PROSSER & KEETON ON THE LAW OF TORTS 626 & n.3 (5th ed. 1984) (indicating that "mere unsightliness" does not constitute a nuisance, but that "aesthetic considerations . . . play an important part in determining reasonable use"); John Copeland Nagle, *Moral Nuisances*, 50 EMORY L.J. 265 (2001) (discussing the application of nuisance law to aesthetic harms).

14. See, e.g., *Bixby v. Cravens*, 156 P. 1184, 1187 (Okla. 1917) (holding that an unsightly fence did not constitute a nuisance because landowners are "not compelled to consult the 'aesthetic taste' of their neighbors" when building a fence); *Mathewson v. Primeau*, 395 P.2d 183, 189 (Wash. 1964) (holding that the unsightliness of a pig farm did not create a nuisance); *State Rd. Comm'n of W. Va. v. Oakes*, 149 S.E.2d 293, 300 (W. Va. 1966) (rejecting a nuisance claim against the storage of rubbish near a road).

15. See generally Raymond Robert Coletta, *The Case of Aesthetic Nuisance: Rethinking Traditional Judicial Attitudes*, 48 OHIO ST. L.J. 141, 145-48 (1987) (explaining that courts refused to find a nuisance based on mere unsightliness because of the belief that aesthetic harms are subjective and de minimis).

16. Nagle, *supra* note 13, at 286.

17. See, e.g., *Berman v. Parker*, 348 U.S. 26, 36 (1954) (holding that aesthetic concerns can justify a use of the government's eminent domain power). See generally Coletta, *supra* note 15, at 159 & n.111 (citing cases illustrating that "many federal and state courts have upheld a wide variety of aesthetically oriented regulations" since *Berman*).

18. Coletta, *supra* note 15, at 165-66. Coletta adds that "there is no physiological reason for treating visual perceptions any differently from noise or smell." *Id.* at 166.

These arguments have resulted in increasing judicial acceptance of aesthetic nuisance claims. The cases also contain novel assertions of the harm caused by unsightly activities on a neighbor's property. One landowner, for example, asserted that the view of wrecked cars on a neighbor's lot made him self-conscious and unwilling to invite friends over for cookouts.<sup>19</sup> Yet the reluctance to rely upon unsightliness as an injury giving rise to a nuisance still endures in some courts.<sup>20</sup> Today most courts agree that a nuisance claim can rest on either aesthetic concerns themselves, or the decreased property value associated with unpleasant aesthetics. But aesthetic nuisance claims remain rare compared to the ubiquity of zoning provisions governing appearances.

Zoning law now provides the primary means for regulating visual pollution. Local ordinances prescribe the acceptable colors, architectural styles, sizes, location, and variety of buildings and other structures constructed within communities throughout the United States. The other source of legal regulation of visual pollution is contained in statutes specifically designed to preserve the aesthetic appeal of certain places. For example, federal and state law designate particular rivers, highways, and communities as "scenic" and thus entitled to protection against any structures or other sights that would impair the visual quality of that environment.

Many laws, and many claims of visual pollution, target billboards. "Billboards erode the quality of life," claimed one scenic advocacy organization. "They pollute our landscape, destroy our historic, cultural, and natural diversity, and undermine America's heritage and sense of place."<sup>21</sup> It took a while for that view to take hold, and even longer for the law to accept it. Consider the concerns articulated by a Maryland court in 1973:

The effort to eliminate what was referred to in argument before us as "visual pollution" by controlling signs and billboards through the exercise of the zoning power has been slowly developing. The

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19. *Foley v. Harris*, 286 S.E.2d 186, 188 (Va. 1982).

20. See, e.g., *Oklejas v. Williams*, 302 S.E.2d 110, 111 (Ga. Ct. App. 1983) (rejecting the claim that the unsightliness of a wall constituted a nuisance); *Carroll v. Hurst*, 431 N.E.2d 1344, 1349 (Ill. App. Ct. 1982) (rejecting the claim that a junkyard and salvage operation constituted a nuisance because "[n]o testimony was given that defendant's use of his land created an unsightly view; indeed, under Illinois law, a landowner does not have a right to a pleasing view of his neighbor's land"); *Ness v. Albert*, 665 S.W.2d 1, 2 (Mo. Ct. App. 1983) (holding that the presence of several dilapidated appliances and other refuse was not a nuisance because of the subjective nature of aesthetic considerations).

21. 132 CONG. REC. S13509 (daily ed. Sept. 24, 1986) (remarks of Sen. Stafford) (introducing materials from the Coalition on Scenic Beauty). Bill Bryson had a different impression during his travels throughout the United States. See BILL BRYSON, *THE LOST CONTINENT: TRAVELS IN SMALL-TOWN AMERICA* 49 (1990) ("[I]n the lonesome heartlands billboards were practically a public service.").

principal difficulty is that other forms of pollution, stench and noise and the like, can be measured by more nearly objective standards. If beauty, however, lies in the eyes of the beholder, so does the tawdry, the gaudy and the vulgar—and courts have traditionally taken a gingerly approach to legislation which circumscribes property rights by applying what amount to subjective standards, which may well be those of an idiosyncratic group.<sup>22</sup>

Gradually, legislatures and courts became more accepting of billboard regulations. The federal Highway Beautification Act restricts the placement of billboards and other signs near interstate highways.<sup>23</sup> That 1965 law resulted from a campaign led by Lady Bird Johnson, and upon signing the statute, her husband Lyndon proclaimed that “[b]eauty belongs to all the people. And as long as I am President, what has been divinely given to nature will not be taken recklessly away by man.”<sup>24</sup> The Visual Pollution Control Act of 1990 would have further regulated billboards, though Congress declined to enact that law.<sup>25</sup> The regulation of billboards raises First Amendment issues because billboards contain speech, and much of the recent litigation has considered whether local regulations of billboards comply with the First Amendment’s standards.<sup>26</sup>

This approach is seen in earlier efforts to address the aesthetic concerns of towers. “It is always interesting to observe the manner in which the courts deal with new inventions and apply old principles of law to new conditions.” That statement could summarize the reaction to the law governing cell phone towers, but it actually appeared in Edward Quinton Keasbey’s 1900 treatise entitled *The Law of Electric Wires in Streets and Highways*.<sup>27</sup> Telephone poles and wires, electric poles and wires, and trolley wires were all the subject of complaints—and litigation—concerning their aesthetic impacts. Or, as Keasbey put it, “a line of posts and wires often spoils the appearance of a pretty place.”<sup>28</sup>

22. *Mayor & City Council of Balt. v. Mano Swartz, Inc.*, 299 A.2d 828, 833 (Md. 1973).

23. 23 U.S.C. § 131 (2000).

24. Lyndon B. Johnson, Remarks at the Signing of the Highway Beautification Act of 1965 (October 22, 1965), in *AMERICAN EARTH: ENVIRONMENTAL WRITING SINCE THOREAU* 398 (Bill McKibben ed., 2008); see also Flad, *supra* note 4, at 125 (referring to “the Highway Beautification Act, which was specifically enacted to curtail visual pollution along roadways”).

25. Visual Pollution Control Act of 1990, S. 2500, 101st Cong. (1990).

26. See, e.g., *Outdoor Media Group, Inc. v. City of Beaumont*, 506 F.3d 895 (9th Cir. 2007) (describing the First Amendment standards applicable to billboard ordinances).

27. EDWARD QUINTON KEASBEY, *THE LAW OF ELECTRIC WIRES IN STREETS AND HIGHWAYS* vii (1900).

28. *Id.* at 108. Keasbey also noted that “there are few, if any, decisions” involving telegraph lines before 1883 even though that technology had been employed since the 1840s. *Id.* at 97.

Telephone and electric systems were installed by public utilities that possessed the power of eminent domain. That allowed the utilities to decide where to locate their poles and wires. Some landowners tried to block the installation of unsightly poles and wires on their property, but the courts usually found that the placement was incident to the existing street or utility easements or otherwise authorized.<sup>29</sup> More litigation concerned the proper measure of compensation owed to those whose property was taken for the new systems. Specifically, numerous courts considered whether the aesthetic harm of the pole and wires was a compensable harm. The courts reached differing results.<sup>30</sup> Some courts held that the reduction in property value attributable to the unsightliness of the poles and wires was compensable.<sup>31</sup> Other courts held the oppo-

29. See, e.g., *Palmer v. Larchmont Elec. Co.*, 52 N.E. 1092, 1095 (N.Y. 1899) (noting that "[i]t may be that some prejudice exists against wires strung on unsightly poles," but holding that the town was authorized to build them pursuant to the earlier construction of a highway); *Dayton v. City Ry. Co.*, 12 Ohio Dec. 258, 285 (Ohio Ct. Com. Pl. 1902) ("With rare unanimity the courts have concurred in holding that an electric street railway . . . is not an additional servitude upon the fee within the streets, but a legitimate use of the streets within the original general purpose of their dedication."); *Pelton v. E. Cleveland R.R. Co.*, 10 Dec. Reprint 545, 1889 WL 352, at \*7 (Ohio Ct. Com. Pl. 1889) (admitting that electric trolley wires and poles "add nothing to the beauty of the street," but adding that "[o]ne of these poles is no more of an obstruction than a lamp post or an electric light post"). But see *Donovan v. Allert*, 91 N.W. 441 (N.D. 1902) (holding that a telephone company had not acquired the right to erect unsightly telephone poles on the plaintiff's property); *Krueger v. Wis. Tel. Co.*, 81 N.W. 1041 (Wis. 1900) (holding that the placement of a telephone pole is a new servitude). See generally KEASBEY, *supra* note 27, at 110-11 (summarizing the arguments on both sides).

30. *Kamo Elec. Coop. v. Cushard*, 416 S.W.2d 646, 651-55 (Mo. Ct. App. 1967) (discussing many of the cases on both sides and concluding that "the trend of authority is presently inclined to the view that the disfigurement of farms by unsightly power lines is a compensable element of damage").

31. See *Bd. of Trade Tel. Co. v. Darst*, 61 N.E. 398, 399 (Ill. 1901) (holding that the damage suffered by the property owner due to the unsightliness of the telegraph poles or structure was a proper element of his damages for loss of value to his property); *Cushard*, 416 S.W.2d at 648-50 (upholding a \$5,000 compensation award where about half of the damages were attributed to the aesthetic loss); *Union Elec. Co. v. Simpson*, 371 S.W.2d 673, 681 (Mo. Ct. App. 1963) (holding that jury allowed to consider any effect that the power lines would have had on value of owner's land, and thus allowed to consider that line would be unsightly); *Wadsworth Land Co. v. Charlotte Elec. Co.*, 88 S.E. 439, 440-41 (N.C. 1915) (holding that unsightliness of trolley wires and poles was a consideration in the depreciation in value of property); *Ohio Pub. Serv. Co. v. Dehring*, 172 N.E. 448, 449 (Ohio Ct. App. 1929) (holding that the unsightliness of towers and transmission lines may be considered in determining damages); *Anderson v. Phila. Elec. Co.*, 2 Pa. D. & C.2d 709, 713 (Pa. Ct. Com. Pl. 1953) (allowing compensation for the presence of the poles, though not merely their unsightliness); *Sw. Tel. & Tel. Co. v. Smithdeal*, 136 S.W. 1049 (Tex. 1911) (owner allowed to recover for loss of value to property for unsightly wires and poles); *Tex. Power & Light Co. v. Jones*, 293 S.W. 885, 886-87 (Tex. Civ. App. 1927) (owner could recover for damages caused to property because power lines are unsightly).

site.<sup>32</sup> The Mississippi Supreme Court, for example, refused to compensate the residents of Bay St. Louis who complained that electric poles and wires interfered with their view of the Gulf of Mexico:

It is said the poles and wires of appellant are unsightly, and are a disfigurement to the property, and an especial injury in that it obstructs the open view of the sea. Similar erections in all cities and towns present, though perhaps in a less degree, like inconveniences to the owners of palatial residences, but disfigurements of this kind to property are not the subjects of compensation, or, if so, they are conclusively presumed to have been paid for upon the opening of the street and its dedication to public use.<sup>33</sup>

Another court even contended that "[s]ince the advent of rural electrification, many farms have transmission lines traversing them and instead of being unsightly, many prospective buyers of farms regard them as evidence that an abundance of electric power is manifest."<sup>34</sup>

Several property owners claimed that the aesthetic harms produced by telephone or electric systems constituted a nuisance. In 1881, the New York Attorney General filed a nuisance suit against "huge telegraph poles, of a size and clumsiness such as has been rarely seen outside of the Maine woods in which they got their growth."<sup>35</sup> One Louisiana court ordered the removal of ten-foot posts that were "unsightly, interfere with and are a menace to the full and free use of the sidewalk and prevent the planting of trees and grass" by the sidewalk.<sup>36</sup> But most courts refused to hold that the unsightliness of the poles or wires resulted in a nuisance.<sup>37</sup>

Detroit residents took a different approach. When the city authorized a new electric street railway system, the neighbors "cut[ ] down the poles, and threatened to continue to do so."<sup>38</sup> The railway then sought an injunction against the actions of the neighbors. The Michigan

32. See *Ill. Power & Light Corp. v. Barnett*, 170 N.E. 717, 719 (Ill. 1930) (holding that unsightliness of towers is not a proper element of damage to land); *Ill. Power Co. v. Wieland*, 155 N.E. 272, 274 (Ill. 1927) (holding unsightliness of poles for electric wires is not a proper element of damage); *Kamo Elec. Coop. v. Brooks*, 337 S.W.2d 444, 451 (Mo. Ct. App. 1960) (denying compensation for aesthetic harms but suggesting that it might be forthcoming if the property hosted "an amusement park, cemetery, campus, institutional grounds, club grounds, school or hospital lawns, garden or a beautified estate, or the like"); *Shinzel v. Bell Tel. Co. of Phila.*, 31 Pa. Super. 221, 226 (Pa. Super. Ct. 1906) (unsightliness of poles do not constitute a special injury for which damages can be recovered).

33. *Gulf Coast Ice Mfg. Co. v. Bowers*, 32 So. 113, 114 (Miss. 1902).

34. *Salt River Rural Elec. Coop. v. Thurman*, 275 S.W.2d 780, 782 (Ky. 1955).

35. *The Unsightly Telegraph Poles. Suit by the Attorney-General to Remove the Pine-Street Obstructions*, N.Y. TIMES, Mar. 1, 1881, at 3 (referring to the telegraph poles as "these huge, ugly excrescences").

36. *Viering v. N.K. Fairbanks Co.*, 14 Teiss. 130, 1916 WL 1706, at \*2 (La. Ct. App. 1917).

37. See *City of Passaic v. Pub. Serv. Corp. of N.J.*, 73 A. 122 (N.J. Ch. 1909).

38. *Detroit City Ry. v. Mills*, 48 N.W. 1007, 1008 (Mich. 1891).

Supreme Court approved the requested remedy, albeit by a 3-2 vote. The majority was dismissive of the neighbors' aesthetic complaints about the poles: "If it be said they are unsightly, and therefore offend his taste, it can well be replied that they are no more so than the lamp-post or the electric tower."<sup>39</sup> One dissenter responded that "poles may be so thickly planted along our sidewalks as even to exclude light and air from our dwellings, and yet we shall have no remedy."<sup>40</sup>

Over time, municipalities began to object to the aesthetics of telephone and electric poles and wires. They enacted prohibitions against such poles and wires or required them to be located in less intrusive places.<sup>41</sup> The utilities objected to those laws, and more litigation resulted.<sup>42</sup> Sometimes the courts forced the use of underground wires themselves. In 1894, for example, a local court held that "[t]he city of Cleveland should maintain its wires in conduits underground" because the "large and unsightly poles erected . . . in front of the residences of the plaintiffs, thus marring and in a measure destroying the beauty of a beautiful avenue," was not a reasonable exercise of the city's authority.<sup>43</sup> Eventually, technological developments helped the aesthetic cause. Once underground wires became available, cities and courts required them instead of the objectionable above-ground systems.<sup>44</sup>

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39. *Id.* at 1012.

40. *Id.* at 1018 (Morse, J., dissenting).

41. See generally KEASBEY, *supra* note 27, at 57-58 (summarizing the municipal power to regulate poles and wires).

42. See *Vill. of Jonesville v. S. Mich. Tele. Co.*, 118 N.W. 736 (Mich. 1908); *City of Plattsmouth v. Neb. Tel. Co.*, 114 N.W. 588, 591 (Neb. 1908) (holding that a city ordinance requiring underground wires exceeded the government's police power); *Castle v. Bell Tel. Co. of Buffalo*, 61 N.Y.S. 743, 745-46 (N.Y. Sup. Ct. 1899) (concluding that "public and private interests would be greatly promoted by" requiring underground wires instead of "unsightly telephone and telegraph poles"); *Am. Rapid Tel. Co. v. Hess*, 12 N.Y.S. 536 (N.Y. Gen. Term 1890) (upholding a New York City ordinance requiring the removal of unsightly telegraph poles and wires and their replacement underground); *Duq. Light Co. v. City of Pitt.*, 97 A. 85, 89 (Pa. 1916) (sustaining a Pittsburgh ordinance requiring underground wires to avoid "the unsightly disfigurement of the streets"); *Appeal of Bell Tel. Co.*, 10 A.2d 817, 820 (Pa. Super. Ct. 1940) (noting that "[t]he esthetic features are not to be entirely ignored" in upholding a borough ordinance requiring underground wires); see also *Mut. Union Tel. Co. v. City of Chi.*, 16 F. 309, 315 (C.C. N.D. Ill. 1883) (opining "[t]here must be a power, I think, somewhere" for city authorities to remove and "put an end to such unsightly obstructions as these [telegraph] poles and wires [that] are now in our streets"); *Greenville Gas, Elec. Light, Power & Fuel Co. v. City of Greenville*, 130 N.W. 333, 334 (Mich. 1911) (describing a city ordinance prohibiting overhead electric wires and poles because they were unsightly).

43. *Prentiss v. Cleveland Tel. Co.*, 1 Ohio Dec. 79, 1894 WL 1374, at \*2-\*3 (Ohio Ct. Com. Pl. 1894).

44. See *City of Monroe v. Postal Tel. Co.*, 162 N.W. 76 (Mich. 1917) (upholding a city ordinance requiring telegraph wires to be removed from poles and placed underground).

## II. CELL PHONE TOWERS

Motorola's Martin Cooper is credited with inventing the first portable telephone in 1973.<sup>45</sup> A trial of the first cellular system linked 2,000 customers in Chicago in 1978.<sup>46</sup> Since then, the number of cell phones has increased dramatically to 34 million in 1995, 159 million in 2004, and now 270 million.<sup>47</sup>

Cell phones and other personal wireless services depend on the transmission of radio signals. The easiest—and cheapest—way to transmit those signals is from antennas that are placed on towers. The antennas must be placed on high towers because wireless technology is relatively low-powered and requires a line-of-sight to the next tower. Coverage within an area is maintained by arranging antennas in a honeycomb-shaped grid, from which the term “cell” originates. A phone call is transferred from one tower's coverage area to another as a phone user travels. Providers want to increase the number of cells and decrease the geographic coverage of each cell in order to increase the quality of service and therefore attract subscribers. The coverage area of each cell determines the most desirable tower locations. Antennas may be located on existing towers, light poles, or roof tops in urban areas, but new towers must be built outside of cities in order to achieve continuous wireless service. Additionally, towers are expensive, so providers have an incentive to build as few as possible.<sup>48</sup>

Several harms are attributed to cell phone towers, including health impacts from electromagnetic fields, safety, harm to wildlife, and loss of property value. The most common complaint is aesthetic. As one court observed, “Few people would argue that telecommunications towers are aesthetically pleasing.”<sup>49</sup> Many people object to the sight of a tower or to

45. See Mary Bellis, *Selling the Cell Phone: Part 1: History of Cellular Phones*, <http://inventors.about.com/library/weekly/aa070899.htm>.

46. See *id.*; Thomas A. Wikle, *Cellular Tower Proliferation in the United States*, 92 GEOGRAPHICAL REV. 45, 49 (2002).

47. See U.S. CENSUS BUREAU, THE 2009 STATISTICAL ABSTRACT: THE NATIONAL BOOK tbl.1112 (2008), <http://www.census.gov/compendia/statab/tables/09s1112.pdf>; Wikle, *supra* note 46, at 47; Associated Press, *Group: Ban All Cell-Phone Use by Drivers*, CHI. TRIB., Jan. 12, 2009, at A3 (reporting that there are 270 million cell phone users in the United States).

48. For the basics of cell phone technology, see, e.g., Wikle, *supra* note 46, at 54; see also *Voice Stream PCS I, LLC v. City of Hillsboro*, 301 F. Supp. 2d 1251 (D. Or. 2004); David W. Hughes, *When NIMBY's Attack: The Heights to Which Communities Will Climb to Prevent the Siting of Wireless Towers*, 23 J. CORP. L. 469, 478–86 (1998).

49. *Sw. Bell Mobile Sys. v. Todd*, 244 F.3d 51, 61 (1st Cir. 2001); see also *Am. Bird Conservancy v. Fed. Comm'n's Comm'n*, 545 F.3d 1190, 1195 (9th Cir. 2008) (dismissing a lawsuit alleging that cell phone towers were killing endangered Hawaiian petrel and Newall's shearwaters); *PrimeCo Pers. Comm'n's, Ltd. P'ship v. City of Mequon*, 352 F.3d 1147, 1149 (7th Cir. 2003) (“The unsightliness of the antenna and the adverse effect on property values that is caused by its unsightliness are the most common concerns,” while environmental and safety effects are sometimes cited as well.).

a tower's interference with their preexisting view. But it is hard to be too precise about the nature of the aesthetic harm. The most common complaint is that cell phone towers are so different—and taller—than other features of the landscape. The emphasis upon the contrast between a tower and the existing landscape makes the harm depend upon where a tower is located. Commercial districts and areas with tall buildings or other structures are generally regarded as places where the aesthetic impact of a cell phone tower is least, while the harm is greatest in residential communities, historic sites, parks, forests, hillsides, or wilderness areas. Some observers have also cited the metallic character of most towers as producing an industrial or even "intergalactic" appearance.<sup>50</sup>

Cellular providers do not enjoy the power of eminent domain, unlike the utilities that built telephone and electric systems a century ago. Instead, cell phone providers must persuade—and pay—private or public landowners to allow a tower on their property. That makes the paid property owner happy, but it leaves the neighboring individuals and businesses to suffer the externality—the pollution—of the aesthetic harms. Those neighbors often turn to their local governments, who have become adept at employing zoning law and other regulations to achieve aesthetic ends. The efforts to combat the aesthetic harms mirror the efforts to combat other types of pollution, though with some unique twists.

#### A. *Responding to the Visual Pollution of Cell Phone Towers*

Recall the three responses to pollution claims: tolerance, prevention, and avoidance.<sup>51</sup> Tolerance is an obvious response to the presence of cell phone towers. Aesthetic harms are real, but they are perhaps the least serious and most subjective of all of the harms associated with pollution claims. An ugly cell phone tower does not expose people or wildlife nearby to any toxic chemicals, nor does it interfere with most uses of one's property or other activities, nor has anyone lodged any moral objections to cell phone towers. Aesthetic harms are especially subjective, though distaste with the sight of cell phone towers is widespread. And when people object to the sight of cultural pollution in the form of pornographic movies displayed at drive-in theaters, the typical response has been to encourage those who are offended to avert their eyes or to simply be more tolerant.

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50. See Robert Long, Note, *Allocating the Aesthetic Costs of Cellular Tower Expansion: A Workable Regulatory Regime*, 19 STAN. ENVTL. L.J. 373, 390 (2000) (describing cell phone towers as "industrial-looking, metallic structures"); see also Hughes, *supra* note 48, at 497 (noting that "[t]he metallic composition of these towers further compounds the visual contrast"); B. Blake Levitt, *Cell-Phone Towers and Communities: The Struggle for Local Control*, ORION AFIELD, Autumn 1998, at 32, 33 (referring to the "intergalactic look" of cell phone towers).

51. See *supra* text accompanying notes 8–9.

Toleration is an especially appropriate response to claims of visual pollution because the harm is generally less than other kinds of pollution and the harm is more subjective. Virginia Postrel sees the battle against the visual pollution of cell phone towers as the latest confirmation of Ronald Coase's insight "that pollution is not a simple matter of physical invasion or evil-doing. It is a byproduct of valuable actions."<sup>52</sup> Postrel explicitly calls for "tolerance" of cell phone towers and other forms of visual pollution because "[e]nforcing taste means blocking experimentation," and because we can simply avert our eyes from the offending structure (just like drive-in movies).<sup>53</sup> Postrel also contends that "since we tend to become used to our surroundings over time, it becomes easier and easier to ignore visual offenses. Sometimes we even come to enjoy sights we once found annoying."<sup>54</sup> There is ample precedent to support this call for toleration of cell phone towers. One geographer insists that "[t]he majority of Americans who use and value cell phones seem willing to overlook the visual impacts of towers," just as they have done with barbed wire, electric wires, and telephone poles.<sup>55</sup> The experience with these other structures suggests that it is likely that people will grow accustomed to the sight of cell phone towers if they persist in coming decades; the intolerance for cell phone towers could be a temporary phenomenon.

Pollution prevention may be another viable response to the visual pollution of cell phone towers. In this context, prevention means retaining the benefit of cell phone coverage without experiencing the externality of aesthetic harms. So far, the prevention of those harms has been difficult because we want cell phones to work as we move from one area to another. Cell phone providers satisfy these popular desires by designing a honeycomb of cells, each containing a tower that transmits the radio signals necessary for communication via cell phone. Each provider, moreover, needs its own antenna to transmit its customers' signals, and usually that means that each provider needs its own tower. Multiple towers for each provider can be avoided by "co-location"—the placement of multiple antennas on a single tower—and the resulting elimination of the need to build a new tower eliminates the additional visual pollution that a new tower would cause. Co-location is not always possible,

52. Virginia Postrel, *Economic Scene: When it Comes to Enforcing Taste, It's Best to Tread Lightly—If at All*, N.Y. TIMES, July 13, 2000, at C2.

53. *Id.*

54. *Id.*

55. Wikle, *supra* note 46, at 56. Wikle cites Pierce F. Lewis, *Aesthetic Pollution: When Cleanliness Is Not Enough*, 52 PUB. MGMT. 8 (1970), for the proposition that "the frontier philosophy of Americans has led to acceptance of landscape elements viewed as functional, such as barbed wire." Cellular providers have made the same argument. See *Sprint Spectrum Ltd. P'ship v. Parish of Plaquemines*, No. Civ.A. 01-0520, 2003 WL 193456, at \*17 (E.D. La. Jan. 28, 2003) (reporting the testimony of a Sprint official who "observed that in his experience the towers tend to lose their identity and blend into the landscape over time").

though, because of leasing disputes between providers and because of the electrical interference that can occur from placing antennas too close together.<sup>56</sup>

Prevention thus requires a technological development that provides phone coverage without towers that loom over the landscape. One township tried to justify a moratorium on new cell phone towers pending the necessary "rapidly advancing technologies in wireless telecommunications."<sup>57</sup> The court overturned the moratorium, though, because while satellite technology or other developments could make cell phone towers obsolete, "the use of communications towers and antennas is still the most prevalent and realistic technology in the industry at the present time."<sup>58</sup> Femtocells are the next, best hope for reducing the need for cell phone towers. A femtocell is the size of an ordinary home internet router and operates like a mini-cell phone tower that boosts the cellular provider's existing signal for better use inside a home. Sprint began offering nationwide femtocell service in August 2008. Cellular providers would benefit from femtocells "by being able to offload traffic from their main networks, saving the substantial cost of building more cell phone towers."<sup>59</sup> If that actually happens, then fewer cell phone towers are necessary and the visual pollution associated with cellular service may be prevented. The ability to prevent that pollution may also persuade courts to uphold laws requiring such prevention, just as the courts began to uphold laws restricting telephone and electric poles once underground wiring became feasible.<sup>60</sup>

While toleration and prevention each hold promise, avoidance remains the most frequently employed response to the aesthetic complaints about cell phone towers. This strategy accepts that cell phone towers will exist and that people will object to them, so it works to prevent the objecting parties from being harmed. One way of doing that is treatment. For environmental pollutants, treatment means altering the chemical composition of the pollutant so that it is no longer harmful, as is frequently done in municipal wastewater treatment plants. For visual pollution, treatment refers to efforts to diminish the aesthetic impact of a

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56. See Long, *supra* note 50, at 386-87 (describing co-location).

57. APT Minneapolis, Inc. v. Stillwater Twp., No. 00-2500 (JRT/FLN), 2001 WL 1640069, at \*11 (D. Minn. June 22, 2001).

58. *Id.*

59. Ed Sutherland, *Femtocell FAQ: Is It Time for Your Own "Personal Cell-Phone Tower"? Cell-Service Miracle or Mirage? We Answer 18 Burning Questions About Femtocell Technology*, COMPUTERWORLD MOBILE & WIRELESS, Nov. 19, 2008, <http://www.computerworld.com/action/article.do?command=viewArticleBasic&articleId=9118798>; see also Roger O. Crockett, *A Cell Phone Tower in Your Living Room? Wireless Operators Want to Sell You a Toaster-Size Box That Will Improve Service—And Cut Their Costs*, BUS. WK., Nov. 10, 2008, at 56.

60. See *supra* in text at notes 55-57 above.

cell phone tower. For example, Gwinnett County in suburban Atlanta prescribes that towers

- shall either maintain a galvanized steel or concrete finish . . . or be painted a neutral color so as to reduce visual intrusiveness
- use materials, colors, textures, screening, and landscaping that will blend the tower facilities to the natural setting and building environment
- shall not be artificially lighted unless otherwise required (say by the Federal Aviation Administration), or
- include any commercial signage.<sup>61</sup>

These provisions are intended to accomplish the goals of the county's Telecommunications Tower and Antenna Ordinance, including "the design and construction of towers and antennas to minimize adverse visual impacts."<sup>62</sup>

Camouflage represents a more aggressive approach to treating the visual pollution of cell phone towers. Cellular providers have disguised towers as flag poles, church steeples, light poles, chimneys, trees, silos, lighthouses, cacti, and bird nests. Towers have also been attached to existing structures, such as church steeples, buildings, chimneys, gas station signs along interstates, electricity poles, and clock towers.<sup>63</sup> There is also one case involving "an 80-foot tower designed to look like a ship's mast or a flagpole in a boyard in Manchester harbor."<sup>64</sup> The goal of these disguises is to transform cell phone towers into sights that are aesthetically innocuous, or even pleasing. The polluting vision is thus rendered harmless in much the same way that various environmental pollutants are treated to eliminate their toxic effects. But such camouflaging techniques are not always successful. In the Manchester harbor case, the local planning board objected to the tower because, as one member put it, "the proposed tower looked like an 80-foot smoke-stack."<sup>65</sup> Cellular providers sometimes object to camouflaging, too,

61. GWINNETT COUNTY, GA., CODE OF ORDINANCES ch. 108, art. 3, div. 4, § 108-55 (Municode through Oct. 21, 2008 ordinance).

62. *Id.* div. 1, § 108-31.

63. See Vince Vittore, *Crouching Market, Hidden Towers*, WIRELESS REV., Nov. 1, 2002, at 20, available at [http://telephonyonline.com/wireless/towers/wireless\\_crouching\\_market\\_hidden/](http://telephonyonline.com/wireless/towers/wireless_crouching_market_hidden/) (describing the development of cell tower camouflaging); Hughes, *supra* note 48, at 498-99 (describing camouflage techniques); Larson Camouflage Division, <http://www.utilitycamo.com/sites.html> (providing photos of camouflaged towers). A formal definition of "[c]amouflage design or camouflage tower" is "the design of a tower or tower structure that blends into the surrounding environment and is visually unobtrusive." HOUSTON, TX., CODE OF ORDINANCES ch. 41, art. 3, § 41.50 (Municode through Jan. 7, 2009 ordinance).

64. *Nextel Commc'ns of the Mid-Atl., Inc. v. Manchester-by-the-Sea*, 115 F. Supp. 2d 65, 68 (D. Mass. 2000).

65. *Id.* at 71. Another member of the planning board agreed "that the tower would not look like a mast." *Id.* On the other hand, the state historical commission

because it is much more expensive than simply building a regular metallic tower.<sup>66</sup> All pollution control is expensive, though, so it would be surprising if controlling visual pollution was the exception.

### B. *Regulating the Location of Cell Phone Towers*

The most common way of avoiding the aesthetic harms of cell phone towers, and the most common response to those harms generally, is to place the towers where they are least objectionable. Initially, this separation strategy may be achieved by voluntary actions. Providers often seek to build towers away from any residential neighborhoods simply to avoid the controversy that is likely to ensue. For their part, residential neighborhoods can establish private covenants that forbid the location of cell phone towers on their property. Covenants forbidding a wide range of activities or structures have become a staple of new subdivisions, and they are easily employed to block the siting of a tower by current and future owners of the land. The first case to enforce a restrictive covenant to exclude a cell phone tower arose on land in Westchester County, New York, that was subject to a covenant prohibiting anything besides a single-family home. The New York Court of Appeals rejected the provider's claims that the enforcement of the covenant would violate the Federal Telecommunications Act (TCA) or generalized interests in public policy. The court reached that result even though the tower had already been built, and thus the court's decision ordered the removal of the tower within "a reasonable period of time."<sup>67</sup> In another case, a Florida state court ordered the demolition of a tower built on land that had been conveyed to the city "solely for passive park purposes."<sup>68</sup>

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concluded that "the stealth pole will be designed to blend in with the ships' masts in the marina," and therefore it would "have no adverse effect on the Manchester Village National Register Historic District and the Manchester Historic District." *Id.* at 69. You can decide for yourself who is right by looking at the photo at <http://www.necellularsites.net/Mass.htm>.

For similar competing views of cell phone towers that are disguised as flag poles, compare Edward C. Fennell, *POST & COURIER* [CHARLESTON, S.C.], Oct. 23, 2003, at 1C (describing the compliments for "a giant version of Old Glory visible for miles away from a 140-foot pole that almost nobody knows is also a cell-phone tower") with *Sprint Spectrum Ltd. P'ship v. Bd. of Zoning Appeals*, 244 F. Supp. 2d 108, 115 (E.D.N.Y. 2003) (opining that "it is reasonable for many residents to find camouflaging a monopole as a flagpole flying an American flag to be offensive").

66. See Hughes, *supra* note 48, at 499 (providing data on the cost of camouflaging cell phone towers circa 1998).

67. *Chambers v. Old Stone Hill Rd. Assocs.*, 806 N.E.2d 979, 984 (N.Y. Ct. App. 2004). I discuss the TCA *infra* Part II.C. See also *Burke v. Voicestream Wireless Corp.*, 87 P.3d 81 (Ariz. Ct. App. 2004) (enforcing a covenant that prohibited a cell phone tower built on a church).

68. *AT&T Wireless Servs. of Fla. v. WCI Cmty., Inc.*, 932 So.2d 251, 253 (Fla. Dist. Ct. App. 2005).

Nuisance law is the traditional means of separating conflicting use of the land, including pollution claims. The plaintiffs in one nuisance case blamed a cell phone tower for straining the marriage of one couple and forcing another family to move because the tower was "'offensive,' 'overbearing,' that it clearly did not fit in place with the surrounding flora, and that he 'felt [his] dream house was shattered by this monstrosity.'"<sup>69</sup> But the judge visited the site and concluded that the tower "simply cannot be found without the assistance of a guide," and "it would be difficult to imagine being able to see this pole even in the dead of winter."<sup>70</sup> The court thus dismissed the nuisance claim because "[n]o harm occurred here, nor could it be plausibly so alleged."<sup>71</sup> Most other nuisance cases involving the aesthetics of cell phone towers have failed as well.<sup>72</sup>

Separation is usually achieved by the existing tools of municipal zoning laws and land use regulations. The standard zoning law contains restrictions on the height of structures, requirements that structures be set back a certain distance from the property's boundary, and designations upon which uses are permissible in each area. Zoning law further authorizes conditional uses and special exceptions that operate to allow certain structures only upon a showing of need and the absence of harm. Each of these provisions has been applied to cell phone towers. The typical tower is over one hundred feet tall, and the ideal place for a tower that best serves its purpose might be close to the property line or in a residential area or an environmentally sensitive location, so providers often struggle to gain the permission of local zoning authorities to build a new cell phone tower.<sup>73</sup>

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69. *Littlefield v. Zoning Bd. of Appeals*, No. 03CV1816F, 2007 WL 3258779, at \*1 (Mass. Super. Ct. Sept. 25, 2007).

70. *Id.* at \*1 & n.1.

71. *Id.* at \*2.

72. See generally Gregory H. Birne, Annotation, *Tower or Antenna as Constituting Nuisance*, 88 A.L.R. 5th 641 (2004) (citing cases). Other nuisance cases target the noises emitted from cell phone towers. See *Cal. RSA No. 4 v. Madera County*, 2331 F. Supp. 2d 1291 (E.D. Cal. 2003) (holding that noise from a cell phone tower did not constitute a nuisance); *GTE Mobilnet of S. Tex. Ltd. P'ship v. Pascouet*, 61 S.W.3d 599 (Tex. Ct. App. 2001) (upholding a jury finding of nuisance based upon the noise and glaring lights from a 126-foot cell phone tower located on municipal land near a residential area).

73. Representative cases include *T-Mobile USA, Inc. v. County of Hawai'i Planning Comm'n*, 104 P.3d 930 (Haw. 2005) (holding that a special use permit was not needed to place an antenna in a fake chimney); *Sprint Spectrum, Ltd. P'ship v. Zoning Bd. of Adjustment*, 823 A.2d 87, 99 (N.J. Super. Ct. App. Div. 2003) (reversing the denial of a variance because, inter alia, the company had minimized the aesthetic impact of the antennas); *AT&T Wireless Servs. v. City of Streetsboro*, No. 97-P-0070, 1998 WL 813834, at \*7 (Ohio Ct. App. June 26, 1998) (reversing the denial of a conditional use permit that relied "solely [on] statements made by nearby landowners expressing general concerns about aesthetic deterioration in the area," lowered property values, and health risks); *In re Shaw*, 945 A.2d 919 (Vt. 2008) (upholding the issuance of a conditional use

A recent Kansas City case is illustrative. T-Mobile wanted to build a 120-foot cell phone tower in Kansas City, Kansas. To do so, it needed a special permit, which would be forthcoming only after considering, *inter alia*, the effect of the tower on "[t]he character of the neighborhood" and "visual quality."<sup>74</sup> The city code also expressed a preference for locating cell phone towers in commercial districts rather than residential districts. The local board denied the application in part because the tower would be located in a residential district and because it "would be 'the tallest structure in the area' and 'may be considered unsightly by many.'"<sup>75</sup>

Some municipalities have expanded upon their general zoning provisions by specifying which places are acceptable and which places are unacceptable for cell phone towers. For example, San Diego County's 2003 Wireless Telecommunications Facilities ordinance divides tower applications "into four tiers, depending primarily on the visibility and location of the proposed facility," and then it imposes more stringent aesthetic requirements upon proposals in residential areas than in industrial areas.<sup>76</sup> Towers located in residential areas must be camouflaged and they are subject to height and setback restrictions. The applicant for a permit to build a cell phone tower must prepare a "visual impact analysis," and the tower "must meet many design requirements, primarily related to aesthetics."<sup>77</sup>

### C. *The Federal Telecommunications Act of 1996*

The cumulative effect of such local ordinances has been extremely effective in restricting the location of cell phone towers. Zoning authorities often heed the objections that their constituents have voiced to the presence of a cell phone tower in their neighborhood, just as I experienced in my suburban community. One of my Notre Dame physics department colleagues was quoted in the local newspaper describing "[v]isual pollution of the scenery" as "a much bigger worry. I certainly wouldn't want one in my back yard."<sup>78</sup> One cannot imagine a clearer

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permit for a cell phone tower); *Cingular Wireless v. Thurston County*, 129 P.3d 300 (Wash. Ct. App. 2006) (affirming the denial of a special use permit).

74. *T-Mobile Central, LLC v. Unified Gov't of Wyandotte County*, 546 F.3d 1299, 1304 (10th Cir. 2008) (quoting WYANDOTTE COUNTY-KANSAS CITY, KAN., CODE OF ORDINANCES ch. 27, art. 4, § 27-214(l)(5), art. 8, div. 6, § 27-593(a)(30)).

75. *Id.* at 1305.

76. *Sprint Telephony PCS, Ltd. P'ship v. County of San Diego*, 543 F.3d 571, 574 (9th Cir. 2008) (en banc) (describing the ordinance and rejecting a TCA challenge to it).

77. *Id.*; see also *Celco P'ship v. Town of Grafton*, 335 F. Supp. 2d 71, 75-76 (D. Mass. 2004) (prescribing a descending order of preferences for cell phone towers built on existing structures, where screening already exists, in commercial districts, on government or educational structures, or finally in residential districts).

78. Porter, *Communications Towers*, *supra* note 2, at B1.

statement of the NIMBY—"not in my back yard"—response that characterizes many complaints about pollution. Zoning law empowers local authorities with broad discretion to regulate such visual pollution. So much discretion, in fact, that cellular providers worry that the industry will never achieve its potential "if NIMBYs and local governments are allowed to bottleneck growth."<sup>79</sup>

So Congress intervened to recalibrate the balance between the municipal zoning control of cell towers and the broader demand for cell phone coverage. The Telecommunications Act of 1996 (TCA) sought to provide "a pro-competitive, de-regulatory national policy framework designed to accelerate rapidly private sector deployment of advanced telecommunications and information technologies and services to all Americans by opening all telecommunications markets to competition."<sup>80</sup> Most of the law's provisions were designed to deregulate telephone service, though the law also regulated television station ownership and encouraged the installation of the V-chip technology that was seen as a solution to the claims of violent entertainment and pornography as cultural pollution. The TCA's treatment of cell phone towers is buried in § 332(c)(7). Entitled "Preservation of Local Zoning Authority," section 332(c)(7) is a compromise provision that acknowledged the concerns that local zoning decisions were creating a patchwork of requirements that impeded the development of wireless communications while recognizing legitimate local concerns about the siting of cell phone towers. The section strives to achieve the appropriate balance by imposing several substantive and procedural requirements for local zoning regulation of cell phone towers. For example, denial of permission to build a tower must be in writing, supported by "substantial evidence contained in a written record," and must neither "unreasonably discriminate" among providers nor effectively prohibit personal wireless services.<sup>81</sup> Moreover, cell phone towers cannot be prohibited based upon the alleged environmental

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79. Hughes, *supra* note 48, at 476; see also *id.* at 471 ("[Z]oning boards ignore their limited authority . . . to reject tower siting applications based on unsubstantiated myths that wireless towers and antennas are . . . eyesores."); Long, *supra* note 50, at 409 ("[A] coalition of localities bent on preventing cell towers could burden society with a negative externality by hoarding aesthetic resources at the expense of cellular customers."); Vittore, *supra* note 63, at 21 ("[T]here are about 37,000 different zoning authorities in the U.S. that have the ability to stall the construction of wireless towers.").

80. H.R. REP. NO. 104-458, at 1 (1996) (Conf. Rep.), *reprinted in* 1996 U.S.C.C.A.N. 10, 124.

81. See 47 U.S.C. § 332(c)(7)(B) (2000); *City of Rancho Palos Verdes v. Abrams*, 544 U.S. 113, 115-16 (2005) (summarizing the TCA's provisions governing municipal regulation of cell phone towers).

effects of their electronic emissions, "to the extent such facilities comply with the Commission's regulations concerning such emissions."<sup>82</sup>

These provisions have generated extensive litigation as providers have challenged the unfavorable decisions of local zoning authorities. Much of that litigation has focused upon the meaning of the "substantial evidence" requirement, especially as it applies to aesthetic concerns. While there has been some dispute about the meaning of "substantial evidence," most courts agree that the TCA adopts the traditional understanding of substantial evidence in other contexts. That means the standard is "less evidence than a preponderance, but more than a scintilla of evidence. 'It means such relevant evidence as a reasonable mind might accept as adequate to support a conclusion.'"<sup>83</sup>

The TCA thus requires substantial evidence to support a local government's refusal to permit the construction of a cell phone tower. But substantial evidence of *what*? How does a local government show—or a cellular provider contest—that there is substantial evidence that a proposed cell phone tower will result in an aesthetic harm? Cellular providers have occasionally suggested that aesthetic harm can never yield substantial evidence, which would disqualify local governments from relying upon aesthetics to reject a proposed cell phone tower.<sup>84</sup> That extreme argument has failed in court,<sup>85</sup> but it leaves the nature of the relevant aesthetic evidence unresolved. Several types of evidence have been proffered: photos of the site, reports on nearby building and structures, and especially the complaints of neighboring individuals. Again, though, the challenge is to transform that evidence into a conclusion

82. See 47 U.S.C. § 332(c)(7)(B)(iv); see also *Sprintcom, Inc. v. P.R. Regulations & Permits Admin.*, 553 F. Supp. 2d 87 (D.P.R. 2008) (overturning a permit denial based upon the effects of electronic emissions).

83. *MetroPCS, Inc. v. City & County of S.F.*, 400 F.3d 715, 725 (9th Cir. 2004) (quoting *Cellular Tel. Co. v. Town of Oyster Bay*, 166 F.3d 490, 494 (2d Cir. 1999)); see also Stephanie E. Niehaus, Note, *Bridging the (Significant) Gap: To What Extent Does the Telecommunications Act of 1996 Contemplate Seamless Service?*, 77 NOTRE DAME L. REV. 641 (2002) (discussing the debate over the TCA's substantial evidence standard).

84. See *Sprint Spectrum Ltd. P'ship v. Parish of Plaquemines*, No. Civ.A. 01-0520, 2003 WL 193456, at \*12 (E.D. La. Jan. 28, 2003) (describing Sprint's argument that allegations that a cell phone tower is unsightly are "information," not "evidence"); Timothy J. Tryniecki, *Cellular Tower Siting Jurisprudence Under the Telecommunications Act of 1996—The First Five Years*, 37 REAL PROP. PROB. & TR. J. 271, 282 (2002) ("Upon a first reading of the TCA, aesthetics now should be absolutely irrelevant, in that virtually no one would argue that even the best designed cellular tower is aesthetically positive.").

85. See, e.g., *Preferred Sites, LLC v. Troup County*, 296 F.3d 1210, 1219 (11th Cir. 2002) ("Aesthetic concerns may be a valid basis for denial of a permit if substantial evidence of the visual impact of the tower is before the board."); *Comm. for Reasonable Regulation of Lake Tahoe v. Tahoe Reg'l Planning Agency*, 311 F. Supp. 2d 972, 989–90 (D. Nev. 2004) ("Under the Telecommunications Act, substantial evidence may take the form of aesthetic information and judgment as long as it is apparent that aesthetic judgment is not a pretext for a particular decision.").

about aesthetics. The clearest photo, the most detailed report, and the most thoughtful comment must still rely upon some standard to judge what is aesthetically acceptable and what is not. The persuasive force of individual aesthetic objections has been particularly contested. In one case, seven residents complained that a proposed cell phone tower would (1) block the view of Mount Rainier, (2) "be an eyesore [and] cause our town to lose its reputation as a . . . beautiful community," (3) be a "hideous huge 100-foot piece of steel being placed in my space" where it would "substantially dominate and diminish the scenic beauty of my view of the forest . . . and my skyline view," (4) be a "monstrosit[y]" that "defaces the community," (5) be "an eyesore" that would turn off tourists, (6) be "the start of a huge monster" that would change the character of the community, and (7) defeat the community's efforts to remove power lines and telephone lines.<sup>86</sup> The town relied upon such claims to deny a permit for the tower. But the court dismissed the complaints of the residents as "no more than individualized aesthetic opinions, not based on any fixed standards adopted by the town."<sup>87</sup> The court added that "[a]s 'beauty is in the eye of the beholder,' 'adverse impacts' are also in the eye of the beholder," and the town failed to adopt any standards by which to judge those proposals that would infringe upon "the town's desire to maintain its scenic beauty and views."<sup>88</sup>

Cases like that show why the TCA has probably generated more land use litigation since 1996 than any other federal statute.<sup>89</sup> That litigation has produced a roughly even number of cases in which providers win or local officials win. Several patterns emerge from these cases, with courts emphasizing distinct features of a location depending upon whether they find that local governments have complied with the TCA or not.<sup>90</sup>

86. *W. PCS BTA Corp. v. Town of Steilacoom*, No. C98-5664RJB, 1999 U.S. Dist. LEXIS 9068, at \*14-\*17 (W.D. Wash. Apr. 20, 1999).

87. *Id.* at \*17.

88. *Id.* at \*12-\*13.

89. I say "probably" because my claim is based upon a casual review of reported cases for purposes of describing current developments in property law and environmental law. See J.B. RUEL ET AL., *THE PRACTICE AND POLICY OF ENVIRONMENTAL LAW* 1261-68 (2008) (discussing the TCA); JAMES CHARLES SMITH ET AL., *PROPERTY: CASES & MATERIALS* 737-40 (2d ed. 2008) (same). The only close competitors are the wetlands provisions of the Clean Water Act, 33 U.S.C. § 1344 (2000 & Supp. V 2006), and RLUIPA's restrictions on local government regulation of religious land uses, 42 U.S.C. § 2000cc(b)(1) (2000). It is also telling that the first TCA challenge to a municipal cell phone tower decision was filed five days after the law went into effect. See Susan Lorde Martin, Comment, *Communications Tower Sitings: The Telecommunications Act of 1996 and the Battle for Community Control*, 12 BERKELEY TECH. L.J. 483, 493 (1997) (citing *Sprint Spectrum Ltd. P'ship v. City of Medina*, 924 F. Supp. 1036 (W.D. Wash. 1996)).

90. These cases show three trends: compliance with a zoning ordinance favors providers, specific factual evidence of a tower's likely effects is especially valuable, and

The courts have relied on several propositions in overturning local zoning decisions denying permission for cell phone towers when those zoning decisions have been driven by aesthetic objections. First, it is well established that "generalized concerns about aesthetics are insufficient to constitute substantial evidence."<sup>91</sup> As Judge Posner explained, "If blanket opposition to poles could count as sufficient evidence for denying an application to build an antenna, the substantial-evidence provision of the Telecommunications Act would be set at naught."<sup>92</sup> Conclusory allegations about the appearance of a cell phone tower are not sufficient either.<sup>93</sup> Statements that rely upon a misunderstanding of a proposed tower do not count.<sup>94</sup> An inaccurate model of what a tower would look

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towers are more likely to be excluded from residentially zoned areas than other areas. Long, *supra* note 50, at 400.

91. Preferred Sites, LLC v. Troup County, 296 F.3d 1210, 1219 (11th Cir. 2002). For applications of that principle, see, e.g., New Par v. City of Saginaw, 301 F.3d 390, 398 (6th Cir. 2002) (finding that the mere mention and lack of discussion of aesthetic concerns did not constitute substantial evidence); T-Mobile S., LLC v. Coweta County, No. 1:08-CV-0449-JOF, 2009 U.S. Dist. LEXIS 17067, at \*26 (N.D. Ga. Mar. 5, 2009) (holding that a neighbor's "concerns about steel structures in a neighborhood setting are classic 'generalized concerns'"); Callahan Tower Joint Venture v. Benton County, No. 07-5214, 2008 U.S. Dist. LEXIS 56437, at \*16-\*17 (W.D. Ark. July 24, 2008) (no substantial evidence where the zoning board did not make any findings about aesthetics and the neighbors simply complained about the "eyesore"); Verizon Wireless LLC v. Douglas County, Kan. Bd. of Comm'rs, 544 F. Supp. 2d 1218, 1249 (D. Kan. 2008) (holding that the complaints of four neighbors about "an industrial looking site," the "unsightly" tower, an "eyesore," and not wanting to look at the tower did not constitute substantial evidence); Omnipoint Commc'ns, Inc. v. Vill. of Tarrytown Planning Bd., 302 F. Supp. 2d 205, 222 (S.D.N.Y. 2004) (holding that "unsubstantiated community objection to aesthetics is not sufficient evidence by itself to support" a permit denial); USOC of Greater Iowa, Inc. v. City of Bellevue, 279 F. Supp. 2d 1080, 1086 (D. Neb. 2003) ("[C]ounsel for the City acknowledged at trial that these 'NIMBY' concerns expressed by the eight residents did not constitute 'substantial evidence' for purposes of [the Telecommunications Act]."); SBA Commc'ns, Inc. v. Zoning Comm'n, 164 F. Supp. 2d 280, 291-92 (D. Conn. 2001) ("[T]hose citizens who expressed aesthetic concerns at the hearings did not articulate specifically how the proposed monopole would have an adverse aesthetic impact on the community.").

92. PrimeCo Pers. Commc'ns, Ltd. P'ship v. City of Mequon, 352 F.3d 1147, 1150 (7th Cir. 2003).

93. See Cellular Tel. Co. v. Bd. of Adjustment, 37 F. Supp. 2d 638, 650 (D.N.J. 1999) ("There was no evidence or testimony in support of the Board's conclusion that the negative aesthetic impact would be significant or that the facility would detract from the character or appearance of the area."); U.S. W. Commc'ns, Inc. v. City of Vadnais Heights, No. 97-2248, 1998 U.S. Dist. LEXIS 22962, at \*15 (D. Minn. May 15, 1998) (noting the lack of evidence supporting "the City's conclusory statement that freestanding towers are an aesthetic blight").

94. See Cellular Tel. Co. v. Town of Oyster Bay, 166 F.3d 490, 495 (2d Cir. 1999) (observing that "a few comments suggested that the residents who expressed aesthetic concerns did not understand what the proposed cell sites would actually look like," with the residents referring to "a mass of spaghetti of wires" and "a small birthday cake with candles").

like is not substantial evidence.<sup>95</sup> A municipal zoning plan that employs vague aesthetic standards does not support a decision to refuse a tower.<sup>96</sup> Perhaps most interestingly, there is no aesthetic harm when a tower would be located in an already ugly site.<sup>97</sup>

The decisions sustaining local government denials of cell phone towers because of aesthetics have adopted their own maxims. A cell phone tower may be rejected if it would be located in a prominent place,<sup>98</sup> in a historic area,<sup>99</sup> or in a scenic place.<sup>100</sup> A local government

95. See *SBA Towers II, LLC v. Town of Atkinson*, No. 07-CV-209-JM, 2008 U.S. Dist. LEXIS 72401, at \*41-\*42 (D.N.H. Sept. 19, 2008) (rejecting a simulation that was not to scale and did not contain all features of the tower).

96. See *W. PCS BTA Corp. v. Town of Steilacoom*, No. C98-5664RJB, 1999 U.S. Dist. LEXIS 9068, at \*12-\*13 (W.D. Wash. Apr. 20, 1999) (finding the municipal siting standards to be too vague to provide adequate guidance to cellular providers); cf. *Lucarelli v. City of S. Portland*, No. CV-96-1095, 1998 Me. Super. LEXIS 52, at \*12 (Me. Super. Ct. Mar. 5, 1998) (holding as a matter of state law that a zoning board could not rely upon aesthetics to deny a cell phone tower "without legislatively established criteria").

97. See *Nextel W. Corp. v. Town of Edgewood*, 479 F. Supp. 2d 1219, 1232 (D.N.M. 2006) ("[T]here is not substantial evidence in the record of any significant visual or aesthetic difference between Plaintiff's proposed antenna array and those of other, similarly situated providers already located on the [existing] tower."); *Cal. RSA No. 4 v. Madera County*, 332 F. Supp. 2d 1291, 1308-09 (E.D. Cal. 2003) ("[T]he overarching presence of [a] concededly ugly and massive water storage tank" near the proposed tower meant that "assertions regarding several small antennae are without a factual foundation and are tantamount to speculative and generalized concerns.").

98. See *Sw. Bell Mobile Sys. v. Todd*, 244 F.3d 51, 61-62 (1st Cir. 2001) (sustaining the rejection of a proposed cell phone tower "on the top of a fifty-foot hill in the middle of a cleared field"); *Red Sky Comm'n, LLC v. City of Lenexa*, No. 07-2069-DJW, 2008 U.S. Dist. LEXIS 15335, at \*53-\*54 (D. Kan. Feb. 28, 2008) (finding substantial evidence where "the Proposed Site is at a high point topographically in the surrounding area and the proposed tower is taller than the trees located on this elevated piece of property" as well as relying upon the city code's encouragement "to unobtrusively locate new towers").

99. See *ATC Realty, LLC v. Town of Kingston*, 303 F.3d 91, 97 (1st Cir. 2002) (noting that "the tower would be located on property that was once listed by the state as being historically significant"); *AT&T Wireless PCS, Inc. v. Winston-Salem Zoning Bd. of Adjustment*, 172 F.3d 307, 316 (4th Cir. 1999) (sustaining a tower denial based upon "the tower's negative impact on the historical value of" a 1932 house proposed for listing on the National Register of Historic Places); *Se. Towers, LLC v. Pickens County*, No. 2:06-CV-0172-RWS, 2008 U.S. Dist. LEXIS 38767, at \*25 (N.D. Ga. May 12, 2008) (considering tower near sites listed on the National Register of Historic Places); *Cellco P'ship v. Town of Grafton*, 336 F. Supp. 2d 71, 79-81 (D. Mass. 2004) (relying upon the negative visual impacts that a tower would have on the Grafton Historic District); *Sprint Spectrum Ltd. P'ship v. Bd. of Zoning Appeals*, 244 F. Supp. 2d 108, 114 (E.D.N.Y. 2003) (evaluating tower's proximity to the Old Setauket Historic District Transition Zone).

100. See *Voicestream Minneapolis, Inc. v. St. Croix County*, 342 F.3d 818, 831-32 (7th Cir. 2003) (rejecting a tower to be located near "the extraordinary scenery of the National Scenic Riverway and with the historic district in the City of Marine on St. Croix," and where "the National Park Service voiced strong opposition to the tower" based upon its visual impacts); *Sprint Spectrum, Ltd. P'ship v. Bd. of County Comm'rs*,

may also defend its rejection of a cell phone tower by showing that it would be out of character in the proposed location,<sup>101</sup> for instance by being taller than any nearby structures.<sup>102</sup> A local government may reject a cell phone tower that conflicts with its general zoning scheme.<sup>103</sup>

These general trends are contradicted by numerous decisions that rely upon conflicting principles. For example, the character of a community may be contested such that the mere assertion that a tower would be out-of-place will not always survive judicial scrutiny.<sup>104</sup> The trashy appearance of an area is no guarantee that a new cell phone tower will be

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59 F. Supp. 2d 1101, 1106, 1109 (D. Colo. 1999) (sustaining a tower denial because "[t]he unique and diverse landscapes of Jefferson County [at the foothills of the Rocky Mountains] are among its most valuable assets"); *Site Acquisitions, Inc. v. Town of New Scotland*, 770 N.Y.S.2d 157, 161 (N.Y. App. Div. 2003) (citing "proof of potential negative impact on views from widely used areas of natural beauty" as part of the substantial evidence supporting a permit denial).

101. See *Omnipoint Commc'ns, Inc. v. City of Nashua*, No. 07-CV-46-PB, 2008 U.S. Dist. LEXIS 8611, at \*16-\*17 (D.N.H. Feb. 6, 2008) (finding substantial evidence where "the proposed tower would be visually, aesthetically, and functionally out of character with the surrounding neighborhood" which was a residential neighborhood next to an undeveloped wooded area); *USOC of Greater Mo., LLC v. City of Ferguson*, No. 4:07-CV-1489 (JCH), 2007 U.S. Dist. LEXIS 87760, at \*5, \*22-\*23 (E.D. Mo. Nov. 29, 2007) (the tower "would not blend in with the one story buildings surrounding it"); *Sprint Spectrum Ltd. P'ship v. County of Platte*, No. 06-6049-CV-SJ-DW, 2007 U.S. Dist. LEXIS 75724, at \*12, \*14-\*15 (W.D. Mo. Oct. 11, 2007) (finding that the zoning commission's aesthetic concerns "were grounded in the specific characteristics of the proposed location, design and surrounding property," as evidenced by photos indicating "that the tower would not be obscured by trees or other structures and would dominate the visual landscape"); *R.H. Gump Revocable Trust v. City of Wichita*, 131 P.3d 1268, 1276 (Kan. Ct. App. 2006) (finding substantial evidence in the city's finding "that the proposed stealth flagpole was incompatible and inconsistent with the area" because "[t]here were no other flagpoles in the area, and extensive beautification efforts had been made in the area").

102. See *Todd*, 244 F.3d at 62 (observing that the proposed "tower would soar to almost four times the height of the water towers" located nearby); *T-Mobile S. LLC v. City of Jacksonville*, 564 F. Supp. 2d 1337, 1347 (M.D. Fla. 2008) ("The Planning Department also noted that the surrounding properties lacked either tall structures or trees and vegetation that would help reduce the impact of the proposed tower on adjacent landowners.").

103. See *Aegerter v. City of Delafield*, 174 F.3d 886, 890 (7th Cir. 1999) (upholding the rejection of a tower because "the proposed expansion of the commercial use in the area would be unsightly and inconsistent with its R-1 residential zoning").

104. See *AT&T Wireless Servs. of Cal. LLC v. City of Carlsbad*, 308 F. Supp. 2d 1148, 1162 (S.D. Cal. 2003) (rejecting the city's claim that a tower conflicted with the character of a neighborhood because "there simply is no evidence that the cell site would cause the area to look commercial since the site looks like a part of a large house in a neighborhood with very large houses"); *MIOP, Inc. v. City of Grand Rapids*, 175 F. Supp. 2d 952, 957-58 (W.D. Mich. 2001) (holding that the record lacked substantial evidence despite the value that the neighbors placed on their "rural setting, natural environment and peace and enjoyment").

approved,<sup>105</sup> nor does the presence of historic or scenic sites ensure that a new tower will be denied.<sup>106</sup> Such conflicts mimic the disputes about the appropriate location of other types of pollution. Part of the Clean Air Act discourages the location of new polluting facilities in areas that already experience clean air; environmental justice concerns counsel against locating such facilities in areas that already experience high levels of pollution.<sup>107</sup> Similarly, local governments vacillate between locating sources of cultural pollution such as adult theaters and bookstores all in one area or instead spreading them throughout the community.<sup>108</sup>

There is also a more fundamental disagreement among the courts about the nature of federal judicial review of TCA claims involving the aesthetics of cell phone towers. Generally, one view simply defers to local decisions, while the other view demands a reasoned explanation to support a local decision. The first view is represented in an early TCA case arising in Virginia Beach. Hundreds of residents objected to a proposed tower, the board rejected it without explanation, and the Fourth Circuit held that "the repeated and widespread opposition of a majority of the citizens of Virginia Beach who voiced their views—at the Planning Commission hearing, through petitions, through letters, and at the City Council meeting—amount[ed] to far more than a 'mere scintilla' of evidence to persuade a reasonable mind to oppose the application."<sup>109</sup> Judge Luttig offered a spirited defense of the ability of local residents to simply decide not to host a cell phone tower:

[W]e should wonder at a legislator who ignored such opposition. In all cases of this sort, those seeking to build will come armed with exhibits, experts, and evaluations. Appellees, by urging us to hold that such a predictable barrage mandates that local govern-

105. See *BellSouth Mobility, Inc. v. Miami-Dade County*, 153 F. Supp. 2d 1345, 1357–58 (S.D. Fla. 2001) (upholding a county decision to exclude a tower because it "was aesthetically incompatible with the surrounding area," which was "deteriorating" and where "numerous light and utility poles already occupy the landscape").

106. See *Omnipoint Commc'ns, Inc. v. Vill. of Tarrytown Planning Bd.*, 302 F. Supp. 2d 205, 222 (S.D.N.Y. 2004) (concluding that the evidence in the record of aesthetic impacts was outweighed by other evidence asserting that the proposed tower would not impact the nearby historic area); *Corcoran v. Conn. Siting Council*, 934 A.2d 870, 874 (Conn. Super. Ct. 2006) (approving a cell phone tower located in an area designated as "a 'scenic viewpoint' for a 'scenic vista'"), *aff'd*, 934 A.2d 825 (Conn. 2007).

107. See 42 U.S.C. § 7477 (2000) (the Clean Air Act's prevention of significant deterioration command); Shi-Ling Hsu, *Fairness Versus Efficiency in Environmental Law*, 31 *ECOLOGICAL L.Q.* 303, 390–92 (2004) (describing efforts to address "hot spots" of pollution in poor communities).

108. Compare *City of Renton v. Playtime Theatres, Inc.*, 475 U.S. 41 (1986) (upholding an ordinance prohibiting the location of an adult business near schools, residences, churches, and parks) with *Young v. Am. Mini Theatres, Inc.*, 427 U.S. 50 (1976) (upholding an ordinance prohibiting the concentration of adult businesses).

109. *AT&T Wireless PCS, Inc. v. City Council of Va. Beach*, 155 F.3d 423, 431 (4th Cir. 1998).

ments approve applications, effectively demand that we interpret the Act so as to always thwart average, non-expert citizens; that is, to thwart democracy. The district court dismissed citizen opposition as "generalized concerns." Congress, in refusing to abolish local authority over zoning of personal wireless services, categorically rejected this scornful approach.<sup>110</sup>

Judge Luttig's opinion has been widely cited as reflecting the deferential approach to TCA review.<sup>111</sup>

The alternative view is best expressed in a recent federal district court decision from Ocala, Florida. This time the court held that neighborhood opposition failed to satisfy the TCA's substantial evidence standard for cell phone tower denials:

It is predictable—and entirely understandable—in every case the Court has encountered under the Federal Telecommunications Act that there will be a group of property owners or nearby residents who oppose the erection of communications towers in their neighborhoods for purely subjective and mostly aesthetic reasons. It seems that such towers, like prisons, are just not welcome additions to the landscape, and those who hold those sincere opinions are entitled to some sympathy. This makes for hard cases when they are presented to local political bodies who might find it difficult to explain to their constituents, in an emotionally charged public hearing, the arcane difference between personal preference and substantial evidence. But the law requires the latter—substantial evidence—and while the substantial evidence standard is a lenient one (being something less than a preponderance of the evidence), when a tower erector meets all of the objective and reasonably relevant prerequisites established in advance by local authority for the placement of communications towers, the purely subjective preferences of the towers' putative neighbors, not augmented buy [sic] any technical or objective facts or evidence, simply do not constitute "substantial evidence" upon which local government can properly rely in denying an application. Unfortunately, this is such a case, and the Court is required to intervene to grant the Plaintiffs' requested remedy.<sup>112</sup>

That approach characterizes the majority view toward judicial review under the TCA.

110. *Id.*; see also Long, *supra* note 50, at 394 ("[H]omeowner groups are understandably frustrated by the TCA's robbery of their 'voice.'").

111. See, e.g., *Aegerter v. City of Delafield*, 174 F.3d 886, 890 (7th Cir. 1999) (citing the case but using it to distinguish between judicial review of the enactment of laws by municipal councils and judicial review of the administrative zoning decisions made by municipal councils, the latter of which are subject to review under the TCA).

112. *Vertex Dev., LLC v. Marion County*, No. 5:07-CV-380-Oc-10GRJ, 2008 U.S. Dist. LEXIS 59114, at \*2–\*3 (M.D. Fla. July 30, 2008).

But not everyone has been satisfied with this understanding of the TCA. The sparse legislative history of the section suggests that Congress may have expected local governments to retain more zoning authority than the courts have afforded them.<sup>113</sup> The prevailing view has been attacked as "the biggest land-grab in one industry's favor at the federal level since the buildout of the railroads at the turn of the last century"<sup>114</sup> and as an unconstitutional violation of states' rights under the Tenth Amendment.<sup>115</sup> U.S. Senator Patrick Leahy repeatedly introduced legislation designed to shift all of the zoning power back to local officials.<sup>116</sup> The premise of all of these efforts is that local governments will make the best decisions regarding the aesthetics of cell phone towers.

They are wrong. The TCA strikes the right balance between the visual pollution attributed to cell phone towers and the need for cell phone coverage. The combination of local authority constrained by federal law has encouraged municipal zoning officials to identify those places in their community where cell phone towers would produce the least aesthetic harms, rather than trying to ban such towers altogether. The abundant TCA litigation shows that local governments are capable of identifying the proper locations for cell phone towers, but they are equally capable of relying upon unsupported aesthetic complaints that fail to grapple with the hard questions of where to locate a new tower. The TCA forces local governments to think seriously about claims of visual pollution. The TCA also encourages cellular providers to research the propriety of possible sites for a new cell phone tower rather than simply choosing a site and then trying to force local officials to approve it—for a strategy that fails to seek to minimize aesthetic harms while evaluating the availability of sites that would satisfy coverage needs will cause a provider to lose a TCA claim. The delicate balance achieved by the TCA should be preserved, rather than shifting all of the power back

113. See H.R. REP. NO. 104-458, at 207-08 (1996), *reprinted in* 1996 U.S.C.C.A.N. 10, 222-23 (explaining that section 704 "preserves the authority of State and local governments over zoning and land use matters except in . . . limited circumstances," and stating that localities should have the flexibility to address aesthetic concerns); 142 CONG. REC. 2240 (statement of Rep. Sensenbrenner) (insisting that "[t]he authority of state and local governments over zoning and land use matters is absolutely essential and must be preserved"); 142 CONG. REC. 2230 (statement of Rep. Goodlatte) (praising the "agreement that protects the rights of local governments to see that their zoning regulations are carried forward in making sure that, when new cell towers are located, they have the ability to determine in each locality where they are placed while fairly making sure that these locations do not interfere with interstate commerce and with the opportunity to advance this new technology").

114. Levitt, *supra* note 50, at 33.

115. See *Petersburg Cellular P'ship v. Bd. of Supervisors*, 205 F.3d 688, 692 (4th Cir. 2000) ("[T]he federally imposed standard authorizing a state or local legislative body to deny a permit only on substantial evidence violates the Tenth Amendment.").

116. See, e.g., Local Control of Broadcast Towers Act, S. 3102, 107th Cong. (2002); 148 CONG. REC. S10361 (daily ed. Oct. 10, 2002) (statement of Sen. Leahy).

to local officials (as Senator Leahy's legislation would do) or to providers (as legislation to allow the Federal Communications Commission to preempt local zoning laws once contemplated).<sup>117</sup>

#### D. Cell Phone Towers in National Parks

One other location has generated a special amount of controversy regarding the placement of cell phone towers. National parks have experienced numerous disputes regarding the placement of cell phone towers. The TCA makes national parks and other federal lands available for cell phone towers,<sup>118</sup> but, as a Park Service official once testified, "[N]o one would want to see a cellular phone tower on the rim of the Grand Canyon or in sight of Old Faithful."<sup>119</sup> That is because, as the Park Service recently explained, "Scenery has always been an integral part of the fundamental resources and values of national parks. . . . Because the primary viewsheds are natural, built structures often stand out in stark contrast to the scenery and thereby degrade part of the fundamental resource."<sup>120</sup> Yet Old Faithful and the rest of Yellowstone National Park are in the midst of a debate about the appropriate location of cell phone towers. The first cell phone tower was built there in 2001. The park responded to complaints about that tower by ordering changes that make it less visible and by imposing a moratorium on additional cell phone towers in 2004. Then, in September 2008, the park released an environmental assessment that evaluated four alternative wireless communications services plans: retaining the current cell phone site "on a ridge above the Old Faithful development" and reviewing new proposals on a case-by-

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117. See Matthew N. McClure, Comment, *Working Through the Static: Is There Anything Left to Local Control in the Siting of Cellular and PCS Towers After the Telecommunications Act of 1996?*, 44 VILL. L. REV. 781, 786 n.40 (1999) (citing proposals to empower the FCC to preempt local zoning).

118. Telecommunications Act of 1996 § 704(c), 47 U.S.C. § 157 (2000 & Supp. V 2006).

119. *The Wireless Privacy Enhancement Act of 1999 and the Wireless Communications and Public Safety Enhancement Act of 1999: Hearing Before the Subcomm. on Telecommunications, Trade & Consumer Protection of the H. Comm. on Commerce*, 106th Cong. 23 (1999) (prepared statement of Maureen Finnerty, Assoc. Dir., Park Operations & Educ., Nat'l Park Serv.). See also *Wireless Enhanced 911 Services: Hearing Before the Subcomm. on Telecommunications, Trade & Consumer Protection of the House Commerce Comm.*, 105th Cong. 74 (1998) (testimony of Denis Galvin, Deputy Dir., Nat'l Park Serv.) ("We don't want a tower on top of Independence Hall, and we don't want a tower [on the] Lincoln Memorial."); H.R. REP. NO. 104-204, 62 (1995) ("[U]se of the Washington Monument, Yellowstone National Park or a pristine wildlife sanctuary, while perhaps prime sites for antenna and other facilities, are not appropriate and use of them would be contrary to environmental, conservation, and public safety laws.").

120. U.S. DEPT. OF THE INTERIOR, NAT'L PARK SERV., YELLOWSTONE NATIONAL PARK, WIRELESS COMMUNICATIONS SERVICES PLAN: ENVIRONMENTAL ASSESSMENT 68 (2008), [http://www.nps.gov/yell/parkmgmt/upload/WIRELESS%20EA%20September\\_9\\_08%20Final.pdf](http://www.nps.gov/yell/parkmgmt/upload/WIRELESS%20EA%20September_9_08%20Final.pdf).

case basis, reducing wireless services, allowing a limited increase in wireless services, or allowing a substantial increase.<sup>121</sup> The Park Service prefers the limited increase proposal, which would improve coverage in the two areas of the park while relocating the cell phone tower at Old Faithful "to the site near a water treatment plant to further reduce the impact on the viewshed."<sup>122</sup> By contrast, the substantial increase proposal would keep the tower at Old Faithful while camouflaging it "to reduce its impact on the Old Faithful Historic District when it becomes feasible to do so."<sup>123</sup> Regardless of the chosen alternative, the park listed both appropriate sites for future cell phone towers (such as existing structures and vacant or non-historic buildings) and inappropriate sites (such as near residential buildings, on top of ridges or near creeks, and "[s]ites within plain view of sensitive natural or cultural areas, visitor centers, campgrounds, residential areas, trails, or park viewsheds").<sup>124</sup> The Park Service's approach should adequately address the visual pollution concerns about cell phone towers in national parks. Whether cell phones should be permitted at all raises harder, but different, questions about the nature of the experience that national parks are intended to provide.

### III. CONCLUSION

The idea of pollution helps explain the controversy surrounding the aesthetics of cell phone towers. Claims of visual pollution assert a desire for a particular kind of environment—one free from the polluting effects of unwanted signs, towers, and other sights. Yet no environment is free from pollution, as demonstrated by the persistence of significant air pollution and water pollution nearly four decades after the enactment of the Clean Air Act and the Clean Water Act. The challenge is to decide how much pollution is acceptable. For federal environmental law, that is a question to be answered by the federal government. EPA identifies the National Ambient Air Quality Standards (NAAQS) that determine how much air pollution is acceptable. EPA also selects the technologies that each industry must employ to comply with the Clean Water Act. Yet there is no such standard for judging the visual pollution from cell phone

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121. *Id.* at 21.

122. *Id.* at ii.

123. *Id.* at 33.

124. *Id.* at 46–47. Yellowstone, of course, is not the only national park to struggle with the aesthetic impacts of cell phone towers. For another example, see U.S. DEP'T OF THE INTERIOR, NAT'L PARK SERV., THEODORE ROOSEVELT NATIONAL PARK, REPLACEMENT OF A COMMUNICATIONS TOWER IN THEODORE ROOSEVELT NATIONAL PARK AND U.S. FOREST SERVICE ACCESS ROAD IMPROVEMENT: ENVIRONMENTAL ASSESSMENT 9 (2005) (approving the replacement of a tower within the park because the alternative of "building a new tower on other public or privately owned land would generally have significant impacts on the scenery and viewsheds of the region, by increasing the number of towers in the region by one").

towers. Some local governments have tried to legislate the kinds of places where towers should or should not be located, but those efforts have met with mixed success and sporadic application. The TCA does not address the question of where cell phone towers should be located, insisting only that local governments be able to justify their decisions. As those local governments continue to be especially suspect to constituent complaints, the hope for deciding how to respond to visual pollution remains elusive.

The experience with locating cell phone towers offers lessons for thinking about other kinds of pollution, too. Avoidance has been the dominant response to the visual pollution of cell phone towers, as individual citizens, cellular providers, local governments, and federal judges have all struggled to decide how to keep towers from imposing unacceptable aesthetic harms. But avoidance is likely to be an unstable response to pollution. It is likely that people will gradually accept the presence of cell phone towers (thus adopting a toleration response to pollution) or that technological developments will render towers obsolete (thus implementing a prevention response to pollution). Avoidance will persist only so long as prevention is impossible or toleration is unacceptable. The history of visual pollution claims involving other kinds of towers suggests that either toleration or prevention will prevail. A similar dynamic may explain the social response to other kinds of pollution, too. And the next visual pollution claims are already on the horizon. Literally: wind farm proposals are now experiencing the same kind of battle over aesthetics that cell phone towers have endured for the past two decades.<sup>125</sup>

Meanwhile, Granger finally did build its cell phone tower. It is camouflaged to look like a really tall pine tree. The neighbors complained, and there are still signs saying "no cell tower" along the road.<sup>126</sup> My cell phone works fine . . . but my wife still cannot get a reliable signal on her I-Phone.

---

125. See *Residents Opposed to Kittitas Turbines v. State Energy Facility Site Evaluation Council*, 197 P.3d 1153 (Wash. 2008) (holding that the state governor could override a county's aesthetic concerns to allow the siting of a wind farm); Avi Brisman, *The Aesthetics of Wind Energy Systems*, 13 N.Y.U. ENVTL. L.J. 1, 74 (2005) (describing the "fear that wind farms will cause 'visual pollution' of the landscape").

126. See Nancy J. Sulok, *Commissioners OK Cell Phone Tower for Granger Area; Officials Respond to Need Despite Neighbors' Protests*, SOUTH BEND TRIB., Dec. 13, 2006, at B3 (reporting that one of the tower's opponents said "[t]hanks for killing us" as he left the meeting).



Like on K-10 in  
the DeSoto Area



**JAMIE SHEW**  
**DOUGLAS COUNTY CLERK**  
1100 Massachusetts  
Lawrence, KS 66044

**Marni Penrod**-Chief Deputy Clerk  
**Heather Dill**-Deputy Clerk Elections

July 10, 2017

ATTN: DOUGLAS COUNTY COMMISSIONERS

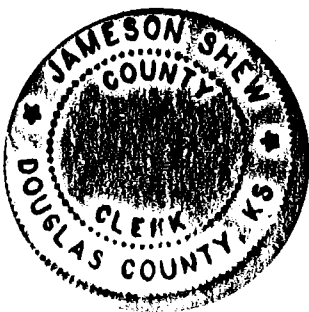
RE: Protest Petition against Conditional Use Permit 17-00215, MW Towers LLC for F. Dwane Richardson & Valerie Richardson, Trustees, owners of record.

CERTIFICATION

I, JAMIE SHEW, DOUGLAS COUNTY CLERK, DO HEREBY CERTIFY THAT THE ATTACHED PETITION, RECEIVED ON JULY 10, 2017 IS A VALID PETITION.

Jamie Shew  
Douglas County Clerk

JS/mtb



**REZONING (CONDITIONAL USE PERMIT) PROTEST PETITION**

DOUGLAS COUNTY CLERK

Protest Petition against CUP 17-00215

~~MW Towers LLC~~ <sup>PB</sup> ~~F.D. + V. Richardson~~

2017 JUL 10 PM 3 02

MW Towers LLC for F. Duane & Valerie Richardson, Trustees

We, the undersigned property owners, do hereby protest the granting by the Board of County Commissioners of Douglas County, Kansas of [proposed rezoning from \_\_\_\_\_

\_\_\_\_\_ (existing zoning) to \_\_\_\_\_ (proposed zoning)] or [a

CUP to permit 190' telecommunications tower on the following described

property: 2138 N 1000 Rd. Eudora, KS

[Attach or insert legal description or general description of the real estate proposed to be rezoned (or for the proposed CUP). A description of the real estate is available through the Lawrence-Douglas County Planning Office.] 2138 N 1000 Rd, Eudora

*(Plus see attached legal)*

We, the undersigned, are owners of real property located within the statutory area of notification related to the area for which the rezoning (or CUP) is sought. See K.S.A. 12-757(f).

**Note: Print name legible below or beside signature. All owners of the property must sign.**

PRINTED NAME AND  
SIGNATURE OF OWNER

DESCRIPTION OF PROPERTY  
WITHIN NOTIFICATION AREA

RESIDENCE ADDRESS  
(IF DIFFERENT)

DATE

- |   |                              |                  |                   |          |
|---|------------------------------|------------------|-------------------|----------|
| ① | { Barbara J. Braa            | 1032 E 2100 Rd   |                   | 7-9-2017 |
|   | { Barbara J. Braa            | Eudora, KS 66025 |                   |          |
| ② | { Michael G. Braa            | 1032 E 2100 Rd   |                   | 7-9-2017 |
|   | { <del>Michael G. Braa</del> | Eudora, KS 66025 |                   |          |
| 3 | { Gary L. Elston             | 2106 N 1000 Rd   | 2101 Learned      | 7-9-2017 |
|   | { <del>Gary L. Elston</del>  | Eudora, KS 66025 | Lawrence KS 66046 |          |
| ④ | { Linda R. Elston            | 2106 N 1000 Rd   | 2101 Learned      | 7-9-2017 |
|   | { <del>Linda R. Elston</del> | Eudora, KS 66025 | Lawrence          |          |
|   |                              |                  | KS 66046          |          |

PRINTED NAME AND  
SIGNATURE OF OWNER

DESCRIPTION OF PROPERTY  
WITHIN NOTIFICATION AREA

RESIDENCE ADDRESS  
(IF DIFFERENT)

DATE

- ⑤ { Kimberly K. Elston 2106 N 1000 Rd 2101 Leeward 7-9-2017  
X Kimberly K. Elston Eudora, KS 66025 Lawrence KS  
66046  
~~Mark Elston~~  
6 { X Patrick E. Jankowski 2111 N. 1000th Rd 09 July, 2017  
Patrick E. Jankowski Eudora, KS 66025  
7 { Amy M. Jankowski 2111 North 1000 Rd 7-9-2017  
Amy M Jankowski Eudora KS 66025  
8 { Dennis W. Buehler 978 E 2100 Rd  
X Dennis W. Buehler Eudora, KS 66025  
9 { Dawn L. Buehler 978 E 2100 Rd  
X DBuehler Eudora, KS 66025  
10 { Mark C Elston ~~2106~~ 2106 N 1000 Rd 1816 N 400 Rd 7/10/17  
X ~~Mark C Elston~~ Eudora, KS 66025 Baldwin City, KS 66006

STATE OF KANSAS )

COUNTY OF DOUGLAS )

SS:

I am the circulator of this Protest Petition and a resident of the state of Kansas and possess the qualifications of an elector of the State of Kansas. I have personally witnessed the signing of the Protest Petition by each person whose name appears thereon.

Barbara J Brac  
Circulator Signature

Barbara J Brac  
Printed Name

Circulator's Residence and Address 1032 E 2100 Rd  
Eudora, KS 66025 Date 7/10/2017

Signed and sworn to (or affirmed) before me on this 10<sup>th</sup> day of July,  
2017, by Barbara J. Brac, circulator of this Protest Petition.

Brent Weber  
Notary Public  
My appointment expires: 7/18/17



# DOUGLAS COUNTY

## KANSAS

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## Property Search Results: Real Property

**Please Note:** This information is assumed current as of: **7/6/2017**. For more current information, please call the Appraiser's Office: (785) 832-5133.

[New Search](#) | [Modify Search](#) | [Search Results](#) | [Print this Page](#)- Select Year - 

### Property Information

[Map this Property](#)**Year:** 2016**Pin Number:** 023-099-29-0-00-00-011.01-0**Plate/Record Id:** 200406A01**Owner 1:** RICHARDSON F DWANE TRUSTEE**Owner 2:** RICHARDSON VALERIE TRUSTEE**In-Care-Of:** (no record)**Property Address:** 2138 N 1000 RD, EUDORA, KANSAS**Mailing Address:** 2122 N 1000 RD EUDORA, KS, 66025-9193**Delinquent Tax:** No**Tax Unit:** 619**School:** USD 491**Sec-Twp-Rng:** (no record)**Book:** 1101**Page:** 5522

### Value Information

**Class****Appraised****Assessed**

|    | Land     | Improvements | Total*    | Land    | Improvements | Total    |
|----|----------|--------------|-----------|---------|--------------|----------|
| AR | \$19,440 | \$26,640     | \$46,080  | \$5,832 | \$6,660      | \$12,492 |
| CR | \$1,300  | \$8,480      | \$9,780   | \$325   | \$2,120      | \$2,445  |
| FR | \$9,750  | \$120,790    | \$130,540 | \$1,121 | \$13,891     | \$15,012 |

\*Market or Ag use

#### Tax Information

| Tax        | Special Tax | Total Tax  | Taxes Paid | Mill Levy |
|------------|-------------|------------|------------|-----------|
| \$4,134.84 | \$0.00      | \$4,134.84 | \$4,134.84 | 139.5990  |

#### Tax Payment Information

| Year | Payment Date | Payment Type | Payment Amount | Print Receipt                 |
|------|--------------|--------------|----------------|-------------------------------|
| 2016 | 03/06/2017   | PAYMENT      | \$2,067.42     | <a href="#">Print Receipt</a> |
| 2016 | 12/22/2016   | PAYMENT      | \$2,067.42     | <a href="#">Print Receipt</a> |

**Please Note:** The Accuracy of Payment Information is not Guaranteed. If you have questions regarding payment information, contact the Treasurer's office at (785) 832-5178.

#### Property Description

29-13-21 E 1650 OF SW/4 LESS W 467 OF S 467 & LESS R/W 100.1A(C)

#### Legal Description

94.99A 29-13-21 E 100A OF SW 1/4, LESS 5.01A D 452/2097 WW35(DIV 1991 200406)

Residents | Business | Courts and Law | Government | Employment | Health and Environment | Recreation

Departments | FAQ | Maps and Directions | Contact Us

**Courthouse:** 1100 Massachusetts Street, Lawrence, KS 66044

**Judicial and Law Enforcement Center:** 111 East 11th Street, Lawrence, KS 66044

**Phone:** 785-832-5100 | Contact the Webmaster

# REZONING (CONDITIONAL USE PERMIT) PROTEST PETITION

Protest Petition against CUP-17-00215

RECEIVED  
DOUGLAS COUNTY CLERK  
LAWRENCE, KANSAS

2017 JUL 10 PM 3 02

We, the undersigned property owners, do hereby protest the granting by the Board of County Commissioners of Douglas County, Kansas of [proposed rezoning from \_\_\_\_\_ (existing zoning) to \_\_\_\_\_ (proposed zoning)] or [a CUP to permit telecommunications tower] on the following described property: 2138 N 1000 Rd., Eudora, Kansas

[Attach or insert legal description or general description of the real estate proposed to be rezoned (or for the proposed CUP). A description of the real estate is available through the Lawrence-Douglas County Planning Office.] 2138 N 1000 Rd., Eudora, Kansas (please, see attached legal)

We, the undersigned, are owners of real property located within the statutory area of notification related to the area for which the rezoning (or CUP) is sought. See K.S.A. 12-757(f).

**Note: Print name legible below or beside signature. All owners of the property must sign.**

| PRINTED NAME AND<br>SIGNATURE OF OWNER    | DESCRIPTION OF PROPERTY<br>WITHIN NOTIFICATION AREA | RESIDENCE ADDRESS<br>(IF DIFFERENT) | DATE     |
|-------------------------------------------|-----------------------------------------------------|-------------------------------------|----------|
| Rosaline A. Kelly by Patrick A. Kelly POA | 1041 E 2200 Road                                    | 14600 Village Drive                 |          |
| Rosaline A. Kelly by Patrick A. Kelly POA | Eudora, Kansas                                      | Olathe, Kansas 66062                | 7-9-2017 |
| KELCO Patrick A. Kelly, Vice President    | PLATE # 200426                                      | 14600 Village Drive                 |          |
| KELCO Patrick A. Kelly, Vice President    | Eudora, Kansas                                      | Olathe, Kansas 66062                | 7-9-2017 |
| Patrick A. Kelly                          | 949 E 2100 Road                                     | 14600 Village Drive                 |          |
| Patrick A. Kelly                          | Eudora, Kansas                                      | Olathe, Kansas 66062                | 7-9-2017 |
| KELCO Patrick A. Kelly, Vice President    | 950 E 2100 Road                                     | 14600 Village Drive                 |          |
| KELCO Patrick A. Kelly, Vice President    | Eudora, Kansas                                      | Olathe, Kansas 66062                | 7-9-2017 |

DATE[illegible]

COUNTY OF DOUGLAS

SS:

*Gatnick A. Kelly*  
Circulator Signature

PATRICK A. KELLY  
Printed Name

Circulator's Residence and Address 14600 Village Drive Olathe, KS 66062 Date 7-9-2017

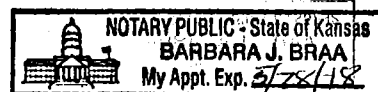
Signed and sworn to (or affirmed) before me on this 9th day of July.

2017, by Patrick A. Kelly, circulator of this Protest Petition.

Barbara J. Braca  
Notary Public

Notary Public

My appointment expires: 5/28/2018



## POWER OF ATTORNEY

KNOW ALL BY THESE PRESENTS:

**Rosalene A. Kelly** [individual], hereinafter referred to as PRINCIPAL, in the County of **Douglas** State of **Kansas**, does appoint **Patrick A. Kelly** [individual] to be and act as her true and lawful attorney.

In principal's name, and for principal's use and benefit, said attorney is authorized hereby;

- (1) To demand, sue for, collect, and receive all money, debts, accounts, legacies, bequests, interest, dividends, annuities, and demands as are now or shall hereafter become due, payable, or belonging to principal, and take all lawful means, for the recovery thereof and to compromise the same and give discharges for the same;
- (2) To buy and sell land, make contracts of every kind relative to land, any interest therein;
- (3) To buy, sell, mortgage, hypothecate, assign, transfer, and in any manner deal with goods, wares and merchandise, choses in action, certificates or shares of capital stock, and other property in possession or in action, and to make, do, and transact all and every kind of business of whatever nature;
- (4) To inquire and be granted all information regarding health related matters;
- (5) To execute, acknowledge, and deliver contracts of sale, escrow instructions, deeds, leases including leases for minerals and hydrocarbon substances and assignments of leases, covenants, agreements and assignments of agreements, mortgages and assignments of mortgages, conveyances in trust, to secure indebtedness or other obligations, and assign the beneficial interest thereunder, subordinations of liens or encumbrances, bills of lading, receipts, evidences of debt, releases, bonds, notes, bills, requests to reconvey deeds of trust, partial or full judgments, satisfactions of mortgages, and other debts, and other written instruments of whatever kind and nature, all upon such terms and conditions as said attorney shall approve.

Giving and granting to said attorney full power and authority to do all and every act and thing whatsoever requisite and necessary to be done relative to any of the foregoing as fully to all intents and purposes as principal might or could do if personally present.

All that said attorney shall lawfully do or cause to be done under the authority of this power of attorney is expressly approved.

Dated: 3-7-2011 /s/ Rosalene Kelly

STATE OF MISSOURI

COUNTY OF JACKSON

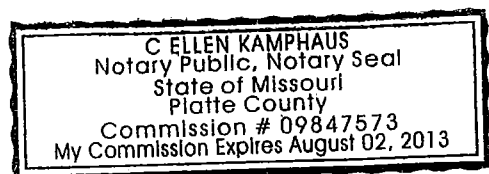
BEFORE ME, the undersigned authority, on this 7<sup>th</sup> day of MARCH, 2011, personally appeared Rosalene Kelly to me well known to be the person described in and who signed the foregoing Power of Attorney, and acknowledged to me that (s)he executed the same freely and voluntarily for the uses and purposes therein expressed.

WITNESS my hand and official seal the date aforesaid.

NOTARY PUBLIC

C. Ellen Kamphaus

My Commission Expires: AUGUST 2, 2013



Please Do  
Not Stamp**AR**  
**50****KANSAS SECRETARY OF STATE**  
**For-Profit Corporation**  
**Annual Report****Kansas Office of the Secretary of State:**Memorial Hall, 1st Floor (785) 296-4564  
120 S.W. 10th Avenue kssos@sos.ks.gov  
Topeka, KS 66612-1594 www.sos.ks.gov4819 01  
050 001  
\$ .**FILED BY KS SOS**  
**04-21-2017**  
**09:52:09 AM**  
**FILE#: 0843599**

04795260

**1. Business entity ID #**This is not the Federal Employer ID  
Number (FEIN).

0843599

**2. Name of corporation**Must match name on record with  
Kansas Secretary of State.

Kelco, Inc.

**3. Mailing address**Address will be used to  
send official mail from the  
Secretary of State's Office.

Do not leave blank.

Attention Name

Steve Kelly

Address

25610 W 69th Terr

City

SHAWNEE

State

KS

Zip

66226

Country

US

☐ Check this box if this is a new address. Our records will be updated **only** if this box is checked.**4. Principal office address**Must be a street, rural route,  
or highway. A P.O. box is  
unacceptable.

Street Address

25610 W 69th Terr

City

SHAWNEE

State

KS

Zip

66226

Country

US

**5. Tax closing date**

Month

December

Year

2016

**6. State of incorporation**

KS

**7. Name, title, and  
address of each  
officer of corporation**If additional space is needed,  
please provide attachment.

Do not leave blank.

Name

See Statement 1

Title

Address

City

State

Zip

Country

Name

Title

Address

City

State

Zip

Country

Name

Title

Address

City

State

Zip

Country

**Kelco, Inc.**

8. Name and address of each director of corporation  
If additional space is needed, please provide attachment.

Do not leave blank.

|                                     |                    |                     |                      |
|-------------------------------------|--------------------|---------------------|----------------------|
| Name<br><b>Steven Kelly</b>         |                    |                     |                      |
| Address<br><b>21211 W 23rd St</b>   |                    |                     |                      |
| City<br><b>Olathe</b>               | State<br><b>KS</b> | Zip<br><b>66061</b> | Country<br><b>US</b> |
| Name<br><b>Joseph Kelly</b>         |                    |                     |                      |
| Address<br><b>815 W 21st St.</b>    |                    |                     |                      |
| City<br><b>Lawrence</b>             | State<br><b>KS</b> | Zip<br><b>66046</b> | Country<br><b>US</b> |
| Name<br><b>Patrick Kelly</b>        |                    |                     |                      |
| Address<br><b>14600 Village Dr.</b> |                    |                     |                      |
| City<br><b>Olathe</b>               | State<br><b>KS</b> | Zip<br><b>66062</b> | Country<br><b>US</b> |

9. Federal Employer Identification Number (FEIN)

**48-0984648**

10. What is the nature and kind of business in which corporation is engaged?

**Farming**

11. Total number of shares of capital stock issued

**60**

- 12a. Does this corporation hold more than 50% equity ownership in any other business entity that is filed with the Kansas Secretary of State?

☐ Yes (Complete Question 12b.) ☒ No (Skip to Question 13.)

- 12b. Name and ID number of each business

Name and ID # should be provided exactly as filed with Kansas Secretary of State.

ID number is not Federal Employer ID Number (FEIN).

|                      |                           |
|----------------------|---------------------------|
| Business Entity Name | Business Entity ID Number |
| Business Entity Name | Business Entity ID Number |
| Business Entity Name | Business Entity ID Number |

13. Does this corporation own or lease land in Kansas that is suitable for use in agriculture?

This question does not apply to 1) tracts of land of fewer than 10 acres, 2) contiguous tracts of land that are fewer than 10 acres in aggregate, or 3) state-assessed railroad operating property.

☒ Yes (Complete Attachment AG.) ☐ No

14. I declare under penalty of perjury pursuant to the laws of the state of Kansas that the foregoing is true and correct, and that I have remitted the required fee.

|                                                                |                                    |                                     |
|----------------------------------------------------------------|------------------------------------|-------------------------------------|
| Signature of Authorized Officer<br><b>X</b> <i>Steve Kelly</i> |                                    |                                     |
| Name of Signer (printed or typed)<br><b>Steve Kelly</b>        | Title/Position<br><b>President</b> | Phone Number<br><b>816-806-6951</b> |

**AG**

**KANSAS SECRETARY OF STATE**  
**Annual Report Agriculture Attachment**  
 for Forms AR or NP

Complete this form only if the business entity owns or leases land suitable for agricultural use. All information must be complete or this document will not be accepted for filing.

**1. Provide information on each lot, tract or parcel of agricultural land in Kansas owned or leased by corporation.**

| Location of tract or lot |         |          |       |                                 | Was this tract acquired after July 1, 1981? |    | Purpose for which land is owned or leased. | Indicate for each tract or parcel if the tract is... |                       |                         |                                                      |
|--------------------------|---------|----------|-------|---------------------------------|---------------------------------------------|----|--------------------------------------------|------------------------------------------------------|-----------------------|-------------------------|------------------------------------------------------|
| County                   | Section | Township | Range | Number of acres in tract or lot | Yes                                         | No |                                            | Owned by corporation                                 | Leased to corporation | Leased from corporation | If leased from corporation, indicate to whom leased. |
| Hodgeman                 | 34      | 21       | 24    | 160                             | X                                           |    | Farming                                    | X                                                    |                       |                         |                                                      |
| Lane                     | 26      | 20       | 28    | 80                              | X                                           |    | Farming                                    | X                                                    |                       |                         |                                                      |
| Pawnee                   | 34      | 21       | 15    | 160                             |                                             | X  | Farming                                    | X                                                    |                       |                         |                                                      |
| Douglas                  | 32      | 13       | 21    | 56                              | X                                           |    | Farming                                    | X                                                    |                       |                         |                                                      |
| Douglas                  | 31      | 13       | 21    | 80                              | X                                           |    | Farming                                    | X                                                    |                       |                         |                                                      |

**2. Total agricultural acres**

Must be numeric values.  
 "NA" or "-" is unacceptable.

A. Total acres owned and operated

536

B. Total acres owned, operated, and irrigated

0

C. Total acres leased to the corporation

0

D. Total acres leased to the corporation and irrigated

0

E. Total acres leased from the corporation

0

E. Total acres leased from the corporation and irrigated

0

**3. Total number of stockholders**

3

**4. Value and location of agricultural and nonagricultural assets owned and controlled by corporation**

Include all assets within and outside of Kansas.

All lines must be complete.

Within Kansas - Agricultural  
 Value

Location  
 Counties Listed Above

Within Kansas - Nonagricultural

Value

Location

Outside of Kansas - Agricultural

Value

Location

Outside of Kansas - Nonagricultural

Value

Location

**Att.**

K.S.A. 17-7503, 17-7505  
 Rev. 6/30/16 to

Please review to ensure completion.

K3070 Kelco, Inc.  
48-0984648  
FYE: 12/31/2016

# Kansas Statements

3/22/2017 1:38 PM

## Statement 1 - Form AR, Page 1, Line 7 - Officers of the Corporation

| Title          | Name          | Address           | City     | ST | Zip   | Country |
|----------------|---------------|-------------------|----------|----|-------|---------|
| President      | Steven Kelly  | 21211 W 23rd St   | Olathe   | KS | 66061 | US      |
| Secretary      | Joseph Kelly  | 815 W 21st St     | Lawrence | KS | 66046 | US      |
| Treasurer      | Steven Kelly  | 21211 W 23rd St   | Olathe   | KS | 66061 | US      |
| Vice President | Patrick Kelly | 14600 Village Dr. | Olathe   | KS | 66062 | US      |

# DOUGLAS COUNTY

## KANSAS

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[Home](#) / [Residents](#) / [Property and Taxes](#) / [Property Search](#)

## Property Search Results: Real Property

**Please Note:** This information is assumed current as of: **7/6/2017**. For more current information, please call the Appraiser's Office: (785) 832-5133.

[New Search](#) | [Modify Search](#) | [Search Results](#) | [Print this Page](#)

- Select Year -

### Property Information

[Map this Property](#)
**Year:** 2016**Pin Number:** 023-099-29-0-00-00-011.01-0**Plate/Record Id:** 200406A01**Owner 1:** RICHARDSON F DWANE TRUSTEE**Owner 2:** RICHARDSON VALERIE TRUSTEE**In-Care-Of:** (no record)**Property Address:** 2138 N 1000 RD, EUDORA, KANSAS**Mailing Address:** 2122 N 1000 RD EUDORA, KS, 66025-9193**Delinquent Tax:** No**Tax Unit:** 619**School:** USD 491**Sec-Twp-Rng:** (no record)**Book:** 1101**Page:** 5522

### Value Information

**Class****Appraised****Assessed**

|    | Land     | Improvements | Total*    | Land    | Improvements | Total    |
|----|----------|--------------|-----------|---------|--------------|----------|
| AR | \$19,440 | \$26,640     | \$46,080  | \$5,832 | \$6,660      | \$12,492 |
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| FR | \$9,750  | \$120,790    | \$130,540 | \$1,121 | \$13,891     | \$15,012 |

\*Market or Ag use

#### Tax Information

| Tax        | Special Tax | Total Tax  | Taxes Paid | Mill Levy |
|------------|-------------|------------|------------|-----------|
| \$4,134.84 | \$0.00      | \$4,134.84 | \$4,134.84 | 139.5990  |

#### Tax Payment Information

| Year | Payment Date | Payment Type | Payment Amount | Print Receipt                 |
|------|--------------|--------------|----------------|-------------------------------|
| 2016 | 03/06/2017   | PAYMENT      | \$2,067.42     | <a href="#">Print Receipt</a> |
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**Please Note:** The Accuracy of Payment Information is not Guaranteed. If you have questions regarding payment information, contact the Treasurer's office at (785) 832-5178.

#### Property Description

29-13-21 E 1650 OF SW/4 LESS W 467 OF S 467 & LESS R/W 100.1A(C)

#### Legal Description

94.99A 29-13-21 E 100A OF SW 1/4, LESS 5.01A D 452/2097 WW35(DIV 1991 200406)

Residents | Business | Courts and Law | Government | Employment | Health and Environment | Recreation  
Departments | FAQ | Maps and Directions | Contact Us

**Courthouse:** 1100 Massachusetts Street, Lawrence, KS 66044

**Judicial and Law Enforcement Center:** 111 East 11th Street, Lawrence, KS 66044

**Phone:** 785-832-5100 | Contact the Webmaster

**REZONING (CONDITIONAL USE PERMIT) PROTEST PETITION**

Protest Petition against CUP-17-00215

RECEIVED  
DOUGLAS COUNTY CLERK  
LAWRENCE, KANSAS

We, the undersigned property owners, do hereby protest the granting by the Board of County Commissioners of Douglas County, Kansas of [proposed rezoning from \_\_\_\_\_ (existing zoning) to \_\_\_\_\_ (proposed zoning)] or [a CUP to permit telecommunications tower] on the following described property: 2138 N 1000 Rd, Eudora, KS 66025

[Attach or insert legal description or general description of the real estate proposed to be rezoned (or for the proposed CUP). A description of the real estate is available through the Lawrence-Douglas County Planning Office.] 2138 N 1000 Rd  
Eudora, KS 66025

We, the undersigned, are owners of real property located within the statutory area of notification related to the area for which the rezoning (or CUP) is sought. See K.S.A. 12-757(f).

**Note: Print name legible below or beside signature. All owners of the property must sign.**

| <u>PRINTED NAME AND<br/>SIGNATURE OF OWNER</u> | <u>DESCRIPTION OF PROPERTY<br/>WITHIN NOTIFICATION AREA</u> | <u>RESIDENCE ADDRESS<br/>(IF DIFFERENT)</u> | <u>DATE</u>      |
|------------------------------------------------|-------------------------------------------------------------|---------------------------------------------|------------------|
| <u>Huiqun Ma</u>                               | <u>2115 N 1000 RD.</u>                                      |                                             | <u>7-11-2017</u> |
| <u>Xigella</u>                                 | <u>Eudora, KS 66025</u>                                     |                                             |                  |
| <u>Zongwu Cai</u>                              | <u>2115 N 1000 RD.</u>                                      |                                             | <u>7-11-2017</u> |
| <u>ZD</u>                                      | <u>Eudora, KS 66025</u>                                     |                                             |                  |
| <u>by Xigella</u>                              |                                                             |                                             |                  |
|                                                |                                                             |                                             |                  |
|                                                |                                                             |                                             |                  |





Barbara Braa <bjbrea@gmail.com>

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**Cell Tower near our Eudora homes**

1 message

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Cai, Zongwu <caiz@ku.edu>  
To: Barbara Braa <bjbrea@gmail.com>  
Cc: Huiqun Ma <Hma@firsttennessee.com>

Tue, Jul 11, 2017 at 1:01 AM

Dear Barbara,

I am strongly opposed to the cell tower at 2138 N 1000 Road and I give my wife Huiqun Ma) the power to sign the petition on my behalf as I am not able to sign in person (I am out of country now).

Best, Zongwu

+++++

Dr. Zongwu Cai

The Charles Oswald Professor of Econometrics & Professor of Economics

The Advisor for the Master Program in Economics

Department of Economics

University of Kansas

Lawrence, KS 66045, USA

Tel: (785) 864-1886 (Office) | Fax: (785) 86-5270 (Department)

E-mail addresses: caiz@ku.edu OR zongwucai@gmail.com

\*\*\*\*\*

RECEIVED  
DOUGLAS COUNTY CLERK  
LAWRENCE, KANSAS

2017 JUL 12 PM 4 28

REZONING (CONDITIONAL USE PERMIT) PROTEST PETITION

Protest Petition against CUP-17-00215

We, the undersigned property owners, do hereby protest the granting by the Board of County Commissioners of Douglas County, Kansas of [proposed rezoning from \_\_\_\_\_ (existing zoning) to \_\_\_\_\_ (proposed zoning)] or [a CUP to permit telecommunications tower] on the following described property:

[Attach or insert legal description or general description of the real estate proposed to be rezoned (or for the proposed CUP). A description of the real estate is available through the Lawrence-Douglas County Planning Office.] 2138 N 1000 Rd.,  
Eudora, KS

We, the undersigned, are owners of real property located within the statutory area of notification related to the area for which the rezoning (or CUP) is sought. See K.S.A. 12-757(f).

**Note: Print name legible below or beside signature. All owners of the property must sign.**

| PRINTED NAME AND<br>SIGNATURE OF OWNER                                | DESCRIPTION OF PROPERTY<br>WITHIN NOTIFICATION AREA           | RESIDENCE ADDRESS<br>(IF DIFFERENT) | DATE            |
|-----------------------------------------------------------------------|---------------------------------------------------------------|-------------------------------------|-----------------|
| KELLY, STEVEN J<br><i>[Signature]</i>                                 | Plate: 200419A 78+- Ac.<br>200420 35+- Ac.<br>200426 59+- Ac. | 25610 W. 69th Ter., Shawnee, KS     | 6/22/16         |
| Justin N. Kelly<br><i>[Signature]</i>                                 | Plate: 200501A → 160+- Ac.<br>9-14-21                         | 18962 W. 118th St., Olathe, KS      | 66061 7/12/2017 |
| Kelly Children Trust, By: Justin Kelly, Trustee<br><i>[Signature]</i> | Plate: 200485A<br>160+- Ac. +/-                               | 18962 W. 118th St., Olathe, KS      | 66061 7/12/2017 |
|                                                                       |                                                               |                                     |                 |
|                                                                       |                                                               |                                     |                 |
|                                                                       |                                                               |                                     |                 |

DATE

SS:

~~Circulator Signature~~

Printed Name \_\_\_\_\_

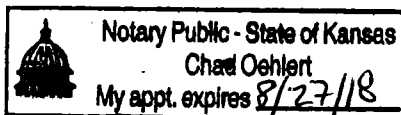
Circulator's Residence and Address 18962 W. 118th St., Olathe, KS Date 7/12/2017

Signed and sworn to (or affirmed) before me on this 12 day of July

2017, by Sybil Kelly, circulator of this Protest Petition.

Notary Public

My appointment expires:



**From:** Dawn Buehler  
**To:** [AD - Crabtree, Robin](#)  
**Subject:** Proposed Tower on 1000 Road in Douglas County  
**Date:** Friday, July 14, 2017 9:15:05 AM

---

Dear Douglas County:

We are writing to express our concerns about a proposed tower for 1000 Road in Douglas County, south of Eudora. We live at 978 E 2100 Road, but we also own the 5 acre property to the north of us on 2100 Road. We recently built a house and moved in about a 2 months ago. We are concerned about several factors:

- We built in this part of the county because of the beautiful landscape and this tower will diminish the enjoyment of the area. Every year we watch the Eudora 4th of July fireworks from our property and this tower will likely block the view forever. It is unfortunate that one land owner can do something that will impact all of their neighbors and we are suppose to just accept it.
- We are concerned that a property owner could put up the tower, own the lease on the tower, then sell the property and be an absentee lease holder. There would then be no one local to take of any issues and that always creates problems. We all know that land in this part of the county is rising in value and in demand.
- We are also concerned about the presently vacant 5 acres that we own to the north of our house. We bought this property as an investment and to have the option to sell in the future for someone to build a house. The addition of this tower will likely result in a decrease in the value of the land and that would result in a lower price as no one wants to build a house and look at a tower. We have invested in this part of the county. We bought a very distressed property and have worked hard to rebuild it. Now we believe our property's value is being threatened. Not just the 5 acres to the north, but our present property with the house that we just built. What a shame. It makes me feel like we made a bad choice to build here if the county is going to let a tower come into the neighborhood to benefit one person and potentially lower property values to the neighbors.

We realize that there are many important issues that the county faces and that these types of towers are important to infrastructure. However, building it in the middle of our neighborhood serves no one other than the landowner that is gaining the lease profits. Surely there are more suitable sites for a tower that the county could look to serve the people. We are asking you to consider denying this request and protecting our property values and landscape views.

Sincerely,  
Dennis & Dawn Buehler  
978 E 2100 Road  
Eudora, KS 66025

**ITEM NO. 1      CONDITIONAL USE PERMIT FOR CELL TOWER; 2138 N 1000 RD (SLD)**

**CUP-17-00215:** Consider a Conditional Use Permit for a new 190 ft self-supporting wireless telecommunications facility (tower), located at 2138 N 1000 Rd. Submitted by MW Towers LLC for F. Dwane Richardson & Valerie Richardson, property owners of record. *Joint meeting with Eudora Planning Commission.*

**STAFF PRESENTATION**

Ms. Sandra Day presented the item.

**APPLICANT PRESENTATION**

Mr. Vincent O'Flaherty, MW Towers, said the condition to move the tower back 150' was acceptable to the applicant. He said MW Towers had built 25 towers in the Kansas/Missouri area to improve cellular service. He referenced the State Statute established in 2016 that restricted the subject that Planning Commission can consider. He said that towers provide significant economic impact and were encouraged by the State Statute.

**PUBLIC HEARING**

Mr. Patrick Kelly, representing three property owners, expressed opposition. He expressed concern regarding decrease in property value and aesthetics of an ugly tower. He stated the Oregon Trail crossing was 1/10 mile away. He expressed safety hazard issues with an additional access point to the site. He was concerned about the fall zone and the proximity to the natural gas well nearby. He also expressed concern about low flying aircraft from the unregulated airstrip nearby as well as crop dusters.

Mr. Justin Kelly spoke in opposition on behalf of two property owners. He expressed concern about farmers being restricted with crop dusting. He said the Wakarusa River was nearby and contaminants from the cell tower could end up in the river. He expressed concern regarding the impact to migratory birds passing through the area of the cell tower site.

Ms. Barbara Braa echoed Mr. Justin Kelly's comments regarding migratory birds and the impact to them. She wondered how intrusive fencing would be around the cell tower. She wondered if a monopole would be less intrusive to the area. She expressed concern about the potential harm to the growth of Eudora. She asked for the addresses of other towers that MW Towers had built so she could see what they looked like.

Mr. Michael Braa questioned the need for another tower in the area and that he could already see two towers from his home. He said he was not aware of the lack of cell service in the area.

Mr. Mark Elston echoed Mr. Braa's comments regarding the need for another tower. He wondered who would profit from the cell tower being built.

Ms. Braa said the lease holder of the land moved away.

**APPLICANT CLOSING COMMENTS**

Mr. O'Flaherty said the fence would be 6' with three strands of barb wire on the top. He said the property was being leased from the land owner and subject to a ground lease. He said regarding questions about the floodplain and birds he referenced the Kansas Statute (KSA 66-2009) that said environmental impacts were not a reason to deny an application. He stated other towers being in the area was not grounds for rejecting an application per the Kansas Statute. He said the area needs additional coverage which was why the tower was being placed where it was. He said there were no statistics regarding a decrease in property value. He said Kansas public policy encouraged the development of wireless structures as being an economic benefit. He said regarding safety the electrical would be brought in underground to the site. He said staff had no concerns about access to the site. He said he would be happy to sit down with property owners to address any further concerns.

## **COMMISSION DISCUSSION**

Commissioner Kelly asked staff about the limitations of the State Statute.

Ms. Day said Planning Commission could not consider other towers in the area as a factor for denial. She said they could also not consider the need or justification for the tower. She said regarding evidence of value loss that was a specific burden of property owners to show economic loss. She said one of the environmental factor considered was floodplain and it would still need to meet local standards. She said the proposed location did not encroach in floodplain.

Commissioner Kelly said Planning Commission had dealt with cell towers before and the laws conflict with the charge of Planning Commission. He said sometimes they cannot talk about certain concerns and it was frustrating.

Commissioner Sands said the proposed site drawings show up to four more facilities added to the tower.

Ms. Day said that was correct.

Commissioner Willey inquired about what else could be added within the fencing.

Ms. Day said the pad sites for ground equipment could be added. She said the lease area is initially larger than what they would fence at first. She said the fencing could be expanded if more equipment was added.

Commissioner Carpenter inquired about the tower being expanded by 20' and adding a light without public comment.

Ms. Day said it would probably come back as an administrative modification. She said the lighting was guided by the Federal Aviation Administration (FAA).

Mr. McCullough said the laws had evolved to benefit the cell tower industry. He urged Planning Commission to consider it has the potential to go up 20' and then be lit.

Commissioner Carpenter said the Comprehensive Plan does not specifically address cell towers.

Mr. McCullough said it was a matter of competing values and a necessary evil for everyone to have cell phones. He said the only study he had seen on property values showed that there was no effect on values. He said they were becoming less and less able to prohibit cell towers.

Commissioner Sands wondered if a light study should be required.

Ms. Day said it was not part of the old or recently approved regulation. She said a photometric plan that other development requires was completely different than a light study for a cell tower.

Commissioner Sands said he was talking about a low blinking red light.

Mr. McCullough said staff could not answer that.

Mr. O'Flaherty said he had no problem adding a condition that the tower would not go higher without public comment.

Mr. Paul Wrablica said lighting on towers over 200' was nighttime lighting was a red pulsing light that beats 30 strobes per minute. He said daytime lights were a medium intensity strobe.

Commissioner Carpenter inquired about how the FAA looks at towers near unregulated airstrips.

Mr. Wrablica said the FAA looks at airstrips that have FAR 75 protection, mostly paved airstrips. He said the landlord for the cell tower site owned an ultralight and was aware of the tower and had no concerns. He said the property owner does not fly at night.

Commissioner Butler appreciated the public comment. She referenced the State Statute and did not see any problem with not supporting the Conditional Use Permit. She felt the issues brought forth by the community were relevant and did not feel they were in specific contrast to what Planning Commission could consider.

Commissioner Sands asked how sites were selected.

Mr. O'Flaherty said it was a combination of a land owner willing to lease their land and coverage maps of who they want covered.

Commissioner Struckhoff inquired about tower camouflage.

Ms. Day said there was discussion about a monopole versus a sub-support. She said the applicant indicated that monopoles were more challenging to co-locate on.

Commissioner Culver wondered about the historical marker nearby and any restrictions in in the Code.

Ms. Day said there were no registered historic properties in the area. She said the applicant would have to coordinate with the State as part of the process. She said she forwarded the application to the State and they said the tower was not in the immediate vicinity. She said there may be historic elements but there was nothing regulatory at the local level that would regulate it.

Mr. O'Flaherty he said he had a letter from the State saying that the tower would have no adverse impact from their perspective.

Commissioner Willey appreciated the public comment. She said cell towers provide a public good by providing service but also becomes a burden in part of the landscape. She said the law does not allow them to regulate where towers are placed. She said she would vote in favor with a heavy heart. She said they did not have a lot to stand on in opposing it at this level. She encouraged the public to voice their opinions to County Commission.

Commissioner Sands said he was inclined to support it but not because he liked seeing cell towers. He said it was a private and public good. He said the State Statute requires a reasonable reason for denial. He said one of the Golden Factors that Planning Commission looks at is opposition and support from neighbors. He appreciated the public comment.

Commissioner Kelly echoed what Commissioner Willey said. He said there was probably a time when people didn't want telephone poles in their yard and now everyone is just used to them. He said he would support the Conditional Use Permit.

Commissioner Carpenter thanked the public for their comments. He said the Kansas Statute prohibits what Planning Commission can and can't do. He said he did not like cell towers and how they look. He felt like they were boxed into a corner of approving this. He was thankful the applicant was willing to bring it back for public comment if it would become taller.

Commissioner Butler encouraged residents to express their opposition to the County Commission. She was troubled by the applicant using Statue Statutes and regulations in an attempt to force their hands.

**ACTION TAKEN**

Motioned by Commissioner Carpenter, seconded by Commissioner Sands, to recommend approval the Conditional Use Permit, CUP-17-00215, for a *Communication Tower (Wireless Facility)* use, and forward to the Board of County Commission, subject to the following conditions:

1. Provision of a revised site plan drawing that shows the location of the tower enclosure setback at least 60' north of the right-of-way line and the tower to be setback a minimum of 150' from the future right-of-way line per section 12-310 of the County Zoning Regulations, and
2. Provision of a note on the face of the plan that states any increase in height above 200' or that would require installation of lights for FAA regulations will require a full public hearing process by the Planning Commission and County Commission with notice prior to modifications being permitted.

Commissioner Culver said based on the criteria they had it met the staff findings. He said he would support the motion since they could not consider other factors.

Commissioner Struckhoff said he would support the motion begrudgingly. He echoed Commissioner Culver's statement and said it was in line with the Comprehensive Plan and staff report findings of fact. He thanked the public for their comments.

Motion carried, 6-2 with Commissioners Butler & Carpenter voting in opposition.



## Heart of America Real Estate & Auction

PO Box 56

313 Jefferson St.

Oskaloosa, KS 66066

785-863-3322

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July 15, 2017

Dear Barbara Braa,

It has been a pleasure working with you over the years in real estate. Our company thanks you for recommending us for real estate and auction needs to your friends and business affiliates.

Our last conversation we discussed cell towers and the effects on real estate a cell tower has on value. I would be happy to tell you my personal experience over the last 20 years in North East Kansas with selling property as a listing agent or representing buyers. Our company has had the experience of personally listing, auctioning and representing buyers in four counties in the last 5 years with cell towers in Leavenworth, Jefferson, Shawnee and Douglas County. In each case the value was definitely effected by the tower.

In Jefferson County a past owner kept the benefits of the payments and we believe that not only was the land harmed by the visual effect but also any value of being reimbursed by the looks were taken away. We have listed, auctioned and tried to sell the property over a 10 year period and have not been successful. This property will sell but at a value that is far less than the seller would like to have. This particular piece of property is in the city limits of Valley Falls and is in the 3-5 acre range and would be an ideal setting for subdividing in larger city lots or for someone that would enjoy a small town business and need parking and a large business building. The city would be open to re-zoning the property. This value is being estimated to be 40 to 50% less than average market value of like properties.

In Shawnee County we represented a buyer that was willing to buy a property with the tower adjoining the subject property. In this case the buyer was able to purchase a home that was of better quality and value than other homes that they had been seeing in their price range. Upon driving up to the property they found out why it was priced less than other homes that they had been looking at. A cell tower was directly behind the property. The buyer was not concerned because the seller was selling at a discounted price because of the cell tower. This would be considered a plus for the buyer. The buyers and I discussed that when they would want to sell that they would have to take into consideration the cell tower, also. I believe that the sale price was approximately \$5,000-5,300 less than like homes in a 6-mile radius.



## Heart of America Real Estate & Auction

PO Box 56

313 Jefferson St.

Oskaloosa, KS 66066

785-863-3322

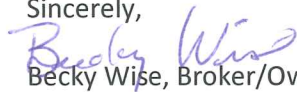
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The land affected by a tower in Leavenworth County is prime building ground within a 5 mile radius of the city of Leavenworth. There are homes that are in the \$250-300,000 +-value on small acreages nearby. This 20 acre site was dividable, had black top access, visually beautiful and good for building and would be cropped until the seller decided to take it out of production. The sale price was listed for the same as other parcels had sold in the area. The price was reduced after a 6 month period and after 18 months on the market the seller decided to keep the parcel.

I have shown 2 small acreages in the Douglas County area south of the city of Lawrence and another South East of Lawrence. Both were priced at what the buyer's deemed as very reasonable and each buyer was excited to find just the right home and acreage for such a great price. Both of these buyers were "turned off" and did not purchase the properties due to the cell towers being near the subject listings.

The above references were all my personal experience. I do believe that cell towers do adjust the price of real estate and that adjustment would lower the value.

Sincerely,

  
Becky Wise, Broker/Owner

United Country Heart of America Real Estate & Auction

## AD - Crabtree, Robin

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**From:** Mark Elston <elstonauction@embarqmail.com>  
**Sent:** Tuesday, July 18, 2017 4:51 PM  
**To:** County Commissioner - Derusseau, Michelle; County Commissioner - Thellman, Nancy; AD - Crabtree, Robin; County Commissioner - Gaughan, Mike  
**Cc:** bBraa; pkelly3855@aol.com  
**Subject:** FW: Re Cup-17-00215 Cell tower letter - opinion from realtor on effects on property values due to cell towers  
**Attachments:** 20170717175744043.pdf  
**Importance:** High

I echo the letter as the prices are effected!

Talking to my Real Estate Connections with our Auction Co. they seem to agree.

Thanks for your consideration and keep that open mind of no we cannot just approve it by legal litigations or we are wrongly representing our constitution!

I cannot attend the meeting but my Dad(Gary) and Sister(Kim) will be present.

Sincerely

Mark Elston/Elston Family

Property owner 2106 North 1000 Rd.

**From:** Barbara Braa [mailto:bjbraa@gmail.com]

**Sent:** Tuesday, July 18, 2017 1:44 PM

**To:** pkelly3855@aol.com; Kelly, Pat; Mark Elston; Jayhawk Dental

**Subject:** Fwd: Re Cup-17-00215 Cell tower letter - opinion from realtor on effects on property values due to cell towers

Fyi Just wanted all of you to see this new info I sent today to the commissioners.

Hope to see some/most of you Wed 7/19 on evening at 6 pm.

Barbara J. Braa

785-760-7525 Mobile

785-542-3829 Home

[bjbraa@gmail.com](mailto:bjbraa@gmail.com)

----- Forwarded message -----

From: "Barbara Braa" <[bjbraa@gmail.com](mailto:bjbraa@gmail.com)>

Date: Jul 18, 2017 1:38 PM

Subject: Re Cup-17-00215 Cell tower letter - opinion from realtor on effects on property values due to cell towers

To: <[rcrabtree@douglas-county.com](mailto:rcrabtree@douglas-county.com)>, <[nthellman@douglas-county.com](mailto:nthellman@douglas-county.com)>, <[mgaughan@douglas-county.com](mailto:mgaughan@douglas-county.com)>, <[mderusseau@douglas-county.com](mailto:mderusseau@douglas-county.com)>

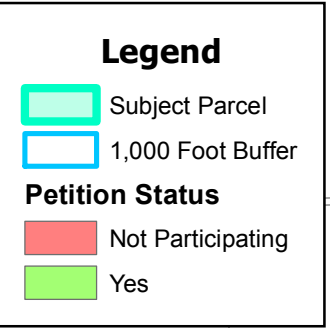
Cc:

Hello everyone,

Please see the attached letter from a broker, realtor who relays her experience with diminished property values due to cell towers in 4 counties, including Douglas County.

Please consider this information when you vote tomorrow.

Barbara J. Braa  
[bjbraa@gmail.com](mailto:bjbraa@gmail.com)





July 18, 2017

Douglas County Commissioners,

My name is Bill Gaughan and I am a licensed real estate broker in the states of Kansas and Missouri with Farmers National Company. We are the largest real estate company in the country specializing in selling rural properties. We have sold many rural properties across the state of Kansas including properties in Douglas County, Kansas.

The issue of how much a cell phone tower affects property value and its marketability is directly proportional to visibility. Can you see it from a home? Does it have lights? If the answer is yes to either of those it has an impact. Additionally, buyers have expressed concerns about the potential health hazards associated with exposure to the radiation cell towers emit.

I have been selling rural properties for many years and part of the dream of owning a rural property is having a peaceful country lifestyle, and that does not include having a tower of any kind in the field of view of the house. No one enjoys a quiet night sky with a red light that never stops blinking. I do not find this an issue for homes in the city. Folks in the city anticipate that they will be bombarded with sights, sounds, and smells that come with a city, but not so for people buying in the country.

I have had buyers refuse to consider buying a house or property in rural areas with a cell tower in view, and some have looked at rural properties on aerial maps such as Google Earth and when they notice a cell tower they drop that property off of their list. Rural properties with towers nearby and in view will sell, but only at a discount from properties that are more serene and undisturbed.

Sincerely,

Bill Gaughan  
Farmers National Company

Sincerely,  
Bill Gaughan  
913-837-0760  
Bill@RuralKC.com



## United States Department of the Interior

FISH AND WILDLIFE SERVICE  
Kansas Ecological Services Field Office  
2609 Anderson Avenue  
Manhattan, Kansas 66502



June 9, 2017

Mark W. Kelly, J.D.  
K&K Environmental LLC

RE: Proposed 190-foot tall Self-Support Telecommunications Tower, Douglas Co.  
FWS Tracking # 2017-CPA-0435

Dear Mr. Kelly:

This is in response to your letter dated April 29, 2017, requesting comment on the proposed construction of a new 190-foot tall Self-Support Telecommunications Tower and associated equipment placed on a 75-foot by 75-foot leased tract of land located in Section 29, Township 13 South, Range 21 East, Douglas County, Kansas.

In accordance with section 7(c) of the Endangered Species Act, it has been determined that the federally-listed Mead's milkweed (*Asclepias meadii*) and the western prairie fringed orchid (*Platanthera praeclara*) may occur in the project area. If the project may affect listed species, the federal funding/permitting agency should initiate section 7 consultation with this office.

If warm season, native grasslands or hay meadows are present and will be disturbed or removed by the project, we recommend that a qualified botanist inspect the proposed site in early June to determine the presence of suitable habitat and the federally-listed plant species prior to ground disturbing activities. If these plants are present within the project boundaries, project construction may adversely affect the species. The Kansas Biological Survey, 2041 Constant Avenue, Lawrence, Kansas 66047-2906, (785) 864-1538 may be contacted for assistance in determining the necessity of and protocols for plant surveys.

Any company/applicant/licensee proposing to construct a new communications tower should be strongly encouraged to co-locate the communications equipment on an existing communication tower or other structure (e.g., billboard, water tower, or building mount). Depending on tower load factors, from 6 to 10 providers may collocate on an existing tower.

If collocation is not feasible and a new tower or towers are to be constructed, communications service providers should be strongly encouraged to construct towers no more than 199 feet above ground level (AGL), using construction techniques which do not require guy wires (e.g., use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Aviation Administration regulations permit.

If constructing multiple towers, providers should consider the cumulative impacts of all of those towers to migratory birds and threatened and endangered species as well as the impacts of each individual tower.

If at all possible, new towers should be sited within existing "antenna farms" (clusters of towers). Towers should not be sited in or near wetlands, other known bird concentration areas (*e.g.*, state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.

If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. Unless otherwise required by the FAA, only white (preferable) or red strobe lights should be used at night, and these should be the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) allowable by the FAA. The use of solid red or pulsating red warning lights at night should be avoided. Current research indicates that solid or pulsating (beacon) red lights attract night-migrating birds at a much higher rate than white strobe lights. Red strobe lights have not yet been studied.

Towers and appendant facilities should be sited, designed and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint". However, a larger tower footprint is preferable to the use of guy wires in construction. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.

If significant numbers of breeding, feeding, or roosting birds are known to habitually use the proposed tower construction area, relocation to an alternate site should be recommended. If this is not an option, seasonal restrictions on construction may be advisable in order to avoid disturbance during periods of high bird activity.

In order to reduce the number of towers needed in the future, providers should be encouraged to design new towers structurally and electrically to accommodate the applicant/licensee's antennas and comparable antennas for at least two additional users (minimum of three users for each tower structure), unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or un-guyed tower.

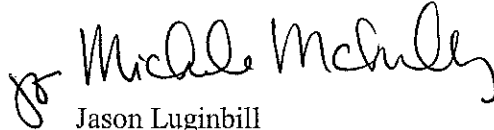
Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.

If a tower is constructed or proposed for construction, Service personnel or researchers from the Communication Tower Working Group should be allowed access to the site to evaluate bird use, conduct dead-bird searches, to place net catchments below the towers but above the ground, and to place radar, Global Positioning System, infrared, thermal imagery, and acoustical monitoring equipment as necessary to assess and verify bird movements and to gain information on the impacts of various tower sizes, configurations, and lighting systems.

Towers no longer in use or determined to be obsolete should be removed within 12 months of cessation operations.

Please notify this office with the results of any surveys for Meads milkweed and western prairie fringed orchid, so that we may determine whether there may be any impacts to these species. Thank you for this opportunity to comment on the proposal. If we can be of any further assistance, please call Ms. Michele McNulty, of this office, at 785-539-3474 ext. 106.

Sincerely,

  
Jason Luginbill  
Field Supervisor

cc: KDWPT, Pratt, KS (Ecological Services)  
KBS, Lawrence, KS (Deslisle)