PLANNING COMMISSION REPORT  
Regular Agenda - Public Hearing Item

ITEM NO. 5  CONDITIONAL USE PERMIT FOR VERIZON WIRELESS; 1287 E 1200 RD (SLD)


STAFF RECOMMENDATION: Staff recommends approval of the Conditional Use Permit for a communication tower located at 1287 E 1200 Road and forwarding it to the County Commission with a recommendation of approval based on the findings of fact in the body of the staff report.

Reason for Request:
Verizon Wireless proposes to construct and operate a 190 foot tall self-supporting monopole type communications tower which will be used to provide enhanced wireless voice and data services to its local subscribers. The facility will be unmanned and will be designed to accommodate at least two additional sets of antennas for use by other carriers.

Staff comments: A CUP was previously approved by both the Planning Commission and the County Commission. The approval expired after one year when a building permit was not obtained. The County approval is valid for only 12 months. A corresponding Special Use Permit (within the city limits) is valid for a period of 24 months. The overall tower structure is 190’. Additional height is added by the placement of a 9’ lightning rod on top of the tower structure. Typically towers less than 200’ are not required to be lit by FAA standards.

ATTACHMENTS
1. Site plan

KEY POINTS
• Application is for a new 190’ monopole tower with a 9’ lightning rod.
• Ground equipment includes an equipment shelter building and generator to be located within the shelter building.
• Property is encumbered by regulatory floodplain.
• Property is located in the Lawrence Urban Growth Area.
• This application includes a 100’ by 100’ development area. Initially only a portion of the site will be developed with a tower and equipment. The future pad sites will require expansion of the enclosure.

ASSOCIATED CASES/ OTHER ACTION REQUIRED
• Board of County Commissioners’ approval of the Conditional Use.
• Submission and approval of a local floodplain development permit to Douglas County.
• Submission and approval of a local building permit to Douglas County.
• Obtain a Conditional Use Permit from Douglas County.
• Obtain a driveway permit from the City of Lawrence.
PUBLIC COMMENT
- No communication has been received.

**Site Summary:**
Subject Property:
Proposed Buildings:
- 14.55 acres
- 100' x 100' lease area
- 11' x 25' Pad site for equipment shelter building
- H frame for equipment
- 190’ monopole with 9’ lightning rod
- Generator located within shelter building
- Additional pad sites for future carriers

**Figure 1: Existing Zoning**

<table>
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<th>GENERAL INFORMATION</th>
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<td><strong>Current Zoning and Land Use:</strong></td>
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<td><strong>Surrounding Zoning and Land Use:</strong></td>
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I. ZONING AND USES OF PROPERTY NEARBY
This property includes county zoning to the north, south and west and urban (City of Lawrence) zoning to the east. The property to the east was annexed in 2009 and has been rezoned multiple times to accommodate future development of the site. The immediate property to the east is undeveloped at this time but has been platted for development.

Two properties located in proximity to the subject property are used for utility purposes.
- 1290 E 1200 Road, zoned A (Agricultural) District; RWD #5 (to the east).
- 1287 E 1200 Road, zoned A (Agricultural) and VC (Valley Channel) Districts; Westar substation (to the south).

**Staff Finding** - The predominate zoning and land use on the west side of E 1200 Road (Kasold Drive) is agricultural. The predominate zoning and land use on the east side of E 1200 Road (Kasold Drive) is currently undeveloped but zoned for future Religious Institution and Duplex Residential uses.

II. CHARACTER OF THE AREA
This property is located on the southwest fringe of the Lawrence city limits. The property is located between W. 31st Street (extended) and the South Lawrence Trafficway (SLT)/K-10. This area has an agricultural character with limited development potential because of extensive floodplain in the area.

The land area east of Kasold Drive is developing with urban residential uses.

The subject property is bounded on the west side by the Yankee Tank Creek. The Westar substation and large overhead transmission lines run parallel to the South Lawrence Trafficway. The Lawrence multi-use path is located along the west side of Kasold Drive and connects W. 31st Street to the path along the north side of K-10 Highway.

The right of way for Kasold Drive/E 1200 Road has been fully annexed into the site along the length of the property and an additional 180’ south of W. 32nd Street. The street/road extends south to an intersection with K-10 Highway. KDOT is proceeding with designs to make the intersection a right-in/right-out access to the highway. No other changes are proposed in the immediate area that impact or affect the character of the area.

**Staff Finding** - This property is located in a unique area of Lawrence between the existing city limits and the South Lawrence Trafficway/K-10. The property is bounded by Yankee Tank Creek and includes limited development options because of existing floodplain. Area to the east is developing with residential uses.
III. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED

Applicant’s response: “Yes”

This property is currently restricted to uses allowed in the A (Agricultural) and VC (Valley Channel) Districts. These two districts are generally associated with agricultural activities such as farms, truck gardens, nurseries, grazing and similar activities. The A portion of the property allows both residential and non-residential uses. The VC portion of the property is more restrictive regarding land use. The proposed tower will be located on the A zoned portion of the subject property.

The proposed request does not change the base zoning district or alter the allowed uses. Section 12-319.4.31(d) specifically identifies commercial, industrial or agricultural zoning districts as suitable for communication towers.

Staff Finding - The portion of the subject property zoned A (Agricultural) District is a suitable district for the proposed use. The base zoning district is not altered by this request. A communication tower is an allowed use in the A (Agricultural) District subject to a Conditional Use Permit.

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

The property is currently vacant with the exception of two silos located in the southeast corner of the site. The zoning has remained unchanged since 1966. Previously the applicant sought and obtained approval for construction of a communication tower. The approval expired resulting in the applicant seeking new approval for the same project.

Staff Finding - The property is essentially vacant with the exception of two silos as described above. The zoning has remained unchanged since 1966. The previously approved CUP expired.

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

Applicant’s Response: “No”

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. The location of the tower is situated so that it has a visual connection to other existing utility uses in the immediate area and to have the least adverse impact on the regulatory floodplain.

Staff Finding - Development potential in the area is limited by the presence of extensive regulatory floodplain. At this time the area to the north and east is undeveloped. Any future development will occur with knowledge of this improvement, if approved.
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

Approval of the request expands the structural network of towers and structures that are capable of supporting communication equipment. The proposed request facilitates cellular 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) and VC (Valley Channel) Districts.

Staff Finding - The benefit to the public is improved cellular communication and wireless data capacity within the Verizon network. Additionally, the structure provides an opportunity for other carriers to co-locate in the future. If denied, the property can continue to be used for current land uses and those uses allowed per the existing zoning of the property.

VII. CONFORMANCE WITH THE COMPREHENSIVE PLAN
The subject property is located within an the Lawrence Urban Growth Area and is immediately adjacent to the City Limits.

Chapter 10; Community Facilities of Horizon 2020 addresses public utilities. Key strategies (Page 10-10) primarily address municipal unities 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. 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 communication towers. 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.

STAFF 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 includes three co-location spaces in addition to the Verizon equipment space for a total of up to four carriers on this tower. Although, changes in federal law may negate this design criterion. Additional review of the existing County communication tower regulations is needed to align the regulations with the current laws.

**Setback**
The setback of the communication tower is required, per section 20-319-4.31(d), to be at least equal to the height of the tower to the nearest property line measured from the center of the tower. The east property line is the nearest property line to the proposed improvements. The tower setback may be reduced when documentation from a registered engineer is submitted certifying the “fall zone” of the tower in the event of a failure. 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 proposed setback is shown to be 118’ from the east property line to the center of the tower.

The tower and ground equipment will be located in a 100’ by 100’ enclosure area located approximately 90’ from the east property line. The initial enclosure area will be 50’ by 50’ to accommodate expansion of the base station as additionally carriers co-locate on the tower.

The proposed equipment shelter is located approximately 100’ from the east property line. The site plan shows pad sites within the enclosure to accommodate future carriers located on the north and west sides of the tower. The initial 50’ by 50’ fenced enclosure would need to be expanded to accommodate future co-location applications.

**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.

**Access, Circulation, and Off Street Parking**
Access to this site is from E 1200 Road/Kasold Drive. This segment of E 1200 Road is completely within the city limits. The applicant will be required to seek a driveway permit for access to the tower site from the City of Lawrence. The drive will provide maintenance access to the tower enclosure. This use does not require off-street parking. The design of the site provides adequate vehicular access and turnaround for maintenance activity on the site. The site plan shows a city standard driveway apron to the site.

**Landscaping/ Buffering**
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. Per previous discussions with the applicant street trees were recommended for this site. The site plan shows five street trees planted along the west side of the multi-use path.

**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 minor changes to the site plan to facilitate the project compatibility with some City design standards since this site is located on the boundary of the existing city limits.
A TRACT OF LAND LOCATED IN THE NORTHEAST QUARTER OF SECTION 14, TOWNSHIP 13 SOUTH, RANGE 19 EAST OF THE 6TH P.M., IN DOUGLAS COUNTY, KANSAS, NOW DESCRIBED AS FOLLOWS: BEGINNING AT THE NORTHEAST CORNER OF SAID QUARTER SECTION; THENCE SOUTH 91° 43' 30" EAST ALONG THE SOUTH LINE OF SAID QUARTER SECTION, 731.00 FEET; THENCE SOUTH 88° 06' 41" WEST PARALLEL WITH THE NORTH LINE OF SAID QUARTER SECTION, 596.59 FEET TO THE CENTERLINE OF A CREEK; THENCE ALONG SAID CREEK CENTERLINE FOR THE FOLLOWING COURSES: NORTH 45° 14' 54" WEST, 76.01 FEET; SOUTH 88° 06' 25" WEST, 59.21 FEET; NORTH 41° 35' 07" WEST, 147.26 FEET; NORTH 02° 25' 59" EAST, 121.88 FEET; NORTH 52° 01' 21" WEST, 133.21 FEET; THENCE NORTH 23° 42' 40" WEST, 196.03 FEET; NORTH 10° 35' 57" EAST, 101.55 FEET; NORTH 45° 49' 30" WEST, 104.16 FEET TO A POINT ON THE NORTH LINE OF SAID QUARTER SECTION; THENCE LEAVING SAID CREEK CENTERLINE, NORTH 88° 06' 41" EAST ALONG SAID NORTH LINE, 1029.78 FEET TO THE POINT OF BEGINNING, SUBJECT TO ALL RIGHTS-OF-WAY AND EASEMENTS OF RECORD, AND THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 14, ALL IN TOWNSHIP 13 SOUTH, RANGE 19 EAST OF THE 6TH P.M., IN DOUGLAS COUNTY, KANSAS, LESS TRACTS DESCRIBED AS FOLLOWS:

A. BEGINNING AT A POINT 1113.3 FEET EAST OF THE NORTHEAST CORNER OF THE NORTHEAST QUARTER OF SECTION 14, TOWNSHIP 13 SOUTH, RANGE 19 EAST OF THE 6TH P.M.; THENCE SOUTH PARALLELING WITH WEST LINE OF SAID QUARTER SECTION 417.4 FEET; THENCE EAST TO THE EAST LINE OF THE WEST HALF OF THE NORTHEAST QUARTER OF SAID SECTION; THENCE NORTH ON THE EAST LINE OF SAID WEST HALF TO THE POINT OF BEGINNING.

B. BEGINNING AT A POINT 982.8 FEET EAST OF THE NORTHEAST CORNER OF THE NORTHEAST QUARTER OF SECTION 14, TOWNSHIP 13 SOUTH, RANGE 19 EAST OF THE 6TH P.M., THENCE SOUTH PARALLELING WITH THE WEST LINE OF SAID QUARTER SECTION 417.4 FEET EAST 208.7 FEET; THENCE NORTH PARALLELING WITH THE WEST LINE OF SAID QUARTER SECTION, 417.4 FEET TO THE WEST LINE OF SAID QUARTER SECTION; THENCE WEST 208.7 FEET TO THE POINT OF BEGINNING.

C. A TRACT OF LAND IN THE NORTHEAST QUARTER OF SECTION 14, TOWNSHIP 13 SOUTH, RANGE 19 EAST OF THE 6TH P.M., IN THE CITY OF LAWRENCE, IN DOUGLAS COUNTY, KANSAS, DESCRIBED AS FOLLOWS: COMMENCING AT THE NORTHEAST CORNER OF THE NORTHEAST QUARTER SECTION; THENCE SOUTH 01° 43' 43" EAST 620.00 FEET, CONCISELY TO THE WEST LINE OF SAID QUARTER SECTION TO THE POINT OF BEGINNING; THENCE NORTH 88° 15' 21" EAST 97.00 FEET; THENCE SOUTH 01° 44' 39" EAST 40.00 FEET; THENCE SOUTH 88° 15' 21" WEST 97.00 FEET; THENCE NORTH 01° 44' 39" WEST 40.00 FEET TO THE POINT OF BEGINNING.

D. A TRACT OF LAND IN THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 14, TOWNSHIP 13 SOUTH, RANGE 19 EAST OF THE 6TH P.M., DESCRIBED AS FOLLOWS: BEGINNING AT THE SOUTHWEST CORNER OF SAID QUARTER SECTION; FIRST COURSE, THENCE ON AN ASSUMED BEARING OF NORTH 01° 47' 16" WEST 1408.84 FEET ALONG THE WEST LINE OF SAID QUARTER SECTION; SECOND COURSE, THENCE SOUTH 88° 12' 44" EAST 170.00 FEET; THIRD COURSE, THENCE SOUTH 11° 06' 59" EAST, 216.27 FEET; FOURTH COURSE, THENCE SOUTH 21° 22' 30" EAST, 200.00 FEET; FIFTH COURSE, THENCE SOUTH 09° 21' 53" WEST, 152.14 FEET; SIXTH COURSE, THENCE SOUTH 20° 14' 54" WEST 103.60 FEET; SEVENTH COURSE, THENCE SOUTH 65° 02' 05" EAST 1104.50 FEET TO A POINT ON THE EAST LINE OF THE SOUTHWEST CORNER OF THE WEST HALF OF THE SAID QUARTER SECTION; EIGHTH COURSE, THENCE SOUTH 01° 49' 33" EAST ALONG SAD EAST LINE TO THE SOUTHWEST CORNER OF THE WEST HALF OF SAID QUARTER SECTION; NINTH COURSE, THENCE SOUTH 88° 06' 37" WEST, 1036.28 FEET ALONG THE SOUTH LINE OF SAID QUARTER SECTION TO THE POINT OF BEGINNING FOR CONTROLLED ACCESS HIGHWAY, INCLUDING ANY AND ALL EASEMENTS AND RIGHTS-OF-WAY TO SAID HIGHWAY APPURtenant TO SAID PROPERTY, EXCEPT AND RESERVING THE RIGHT OF ACCESS TO THE HIGHWAY OVER AND ACROSS THE FOLLOWING DESCRIBED COURSES: ALL OF THE SECOND, THIRD, FOURTH, FIFTH AND SIXTH COURSES.

BY SURVEYORS NOTES

1) Generally located in Kansas State Plane Coordinates, Kansas Zone (NAD-83).

2) Not a survey of the parcel portion shown, but to be used only for the purposes shown herein.

3) The Utility locations shown hereon were determined by observed above ground evidence only. The surveyor was provided with above ground markings to determine any subsurface locations, and makes no guarantee that the underground utilities in the area, either in service or abandoned. The surveyor further does not warrant that the underground utilities shown are in the exact locations indicated. This surveyor has not physically located the underground utilities.

Zoning Information:

OS-Open Space District

Flood Information:

Property falls within Zone "A" (Areas subject to inundation by the 1 percent annual-chance flood event determined by detailed methods). BFEs are shown within these zones. "f" - Minimum flood area outside the 1 percent and 3 percent annual-chance floodplains. No BFEs or base flood depths are shown within these zones. (as determined by FEMA Flood Rate Map No. 2004001670, effective 2004/07/01.)

Surveyor's Certificate:

I, Jayme M. Molone, a Professional Registered Land Surveyor under the laws of the State of Kansas, certify the above survey was executed by me, on the date of survey shown, as measured in feet and decimals of a foot.

Signed this 20th day of August, 2015.

Jayme M. Molone

LAWYER MOLONE
LS #2736

SITE: LAWYER MOLONE

SITE ADDRESS: 2193 E 1200 RD
Lowrance, KS 66864

SITE NUMBER: LSE-1

LAND SPACE & R.O.W. EXHIBIT

LAND SPACE & R.O.W. DETAIL

Scale: 1"=50'
LESSEE’S LAND SPACE DESCRIPTION:
That part of the Northeast Quarter of Section 15, Township 13 South, Range 19 East of the 6th P.M., Douglas County, Kansas and being more particularly described as follows:

Referring to the Northeast corner of said Section 15, a 64' rebar in monument box found; thence southerly, on an assumed bearing, South 01°47'18" East, on the East line of the Northeast Quarter of said Section 15, 422.15 feet; thence westerly South 88°30'26" West, 120.94 feet, to the Point of Beginning for the described Land Space; thence following the perimeter of the described Land Space on the following bearings and distances of the described Land Space; South 01°47'18" East, 100.00 feet; thence South 88°12'42" West, 100.00 feet; thence North 01°47'18" West, 100.00 feet; thence North 88°12'42" East, 100.00 feet, to the Point of Beginning for the described Land Space.

Containing a total calculated area of 10,000 square feet or 0.229 acres, more or less.

LESSEE’S NON-EXCLUSIVE ACCESS/UTILITY RIGHT OF WAY DESCRIPTION:
A Non-Exclusive Access/Utility Right of Way, 20 feet in width, located in that part of the Northeast Quarter of Section 15, Township 13 South, Range 19 East of the 6th P.M., Douglas County, Kansas and the centerline being more particularly described as follows:

Referring to the Northeast corner of said Section 15, a 64' rebar in monument box found; thence southerly, on an assumed bearing, South 01°47'18" East, on the East line of the Northeast Quarter of said Section 15, 422.15 feet; thence westerly South 88°30'26" West, 120.94 feet, to the Northeast corner of the described Land Space; thence following the perimeter of the described Land Space on the following bearings and distances of the described Land Space; South 01°47'18" East, 100.00 feet; thence easterly North 88°12'42" East, 10.00 feet, to the Point of Beginning for the centerline of the described Right of Way; thence northerly North 01°47'18" West, 49.29 feet; thence easterly North 88°12'42" East, 77.84 feet, to a point of intersection on the westerly right-of-way line of E. 1250 Road, also being the Point of Termination for the centerline of the described Right of Way.

Containing a total calculated area of 2,545 square feet or 0.058 acres, more or less.

INFORMATIONAL REPORT:

Based on Commitment for Title Insurance with an effective date of January 24, 2014 provided by First American Title Insurance Company, Commitment No. NG5-61243-KCTY, the following are of survey matters:


10. An Easement in favor of the City of Lawrence, Kansas, recorded March 8, 1985 in Book 379, Page 182. Does not affect Land Space and Right of Way.


17. An Ordinance of the City of Lawrence, Kansas, annexing property into the city, recorded December 17, 2003 in Book 1057, Page 492. Does not affect Land Space and Right of Way.

18. An Amended Agreement between the Kansas District of the Wesleyan Church, Inc. and the City of Lawrence, Kansas, recorded February 8, 2010 in Book 1058, Page 502. Does not affect Land Space and Right of Way.

19. A Temporary Construction Easement in favor of the City of Lawrence, Kansas, recorded April 22, 2010 in Book 1060, Page 5364. Does not affect Land Space and Right of Way.

20. A Dedication of Right-Of-Way in favor of the City of Lawrence, Kansas, recorded April 22, 2010 in Book 1060, Page 5364. Does not affect Land Space and Right of Way.
Keynote Legend

1. FABRIC & GAUGE: 3' GAUGE, ASTM A333 (SEE FENCE SECTION FOR HEIGHT).
2. BARBED WIRE: 12 GAUGE WIRE, A POINT (3 RINGS), FINISH TO WATCH FABRIC, ASTM A876.
3. EXTENSION ARM: STAMPED STEEL, WITH WAUBEKE IRON BASE, FINISH TO WATCH FENCE FRAMEWORK, ASTM F301.
4. END AND CORNER POSTS: 2¼" PIPE SCH. 40 (GALV.) ASTM F758.
5. CONCRETE FOUNDATION: 38"H x 30"W x 300 PSP.
6. LINE POSTS: 2¼" PIPE SCH. 40 (GALV.) ASTM F758.
7. CONCRETE FOUNDATION: 38"H x 30"W x 300 PSP.
8. GATE POSTS: 4½" PIPE SCH. 40 (GALV.) ASTM F758.
9. CONCRETE FOUNDATION: 48"H x 30"W x 300 PSP.
10. TOP RAIL & BRACE RAIL: 1½"x1½" PIPE SCH. 40 (GALV.) ASTM F758.
11. MIDDLE RAILS: 1½"x1½" PIPE SCH. 40 (GALV.) ASTM F758.
12. BOTTOM TENSION WIRE: 0.179" METAL-COATED STEEL (GALV.), MAROONED, ASTM A684.
13. TENSION BARS: 3/16"x2½", FULL HEIGHT OF FABRIC, FINISH TO WATCH FENCE FRAMEWORK.
14. TENSION ROPE: 3/8" WITH ADJ. TIGHTENER, FINISH TO WATCH FENCE FRAMEWORK.
15. GATE FRAME: 2¼" SCH. 40 (GALV.) ASTM F758.
16. POST CAPS: PER POST DIAMETERS.
17. GATE HANGS: NON-LIFT-OFF TYPE, OFFSET TO PERMIT 180 DEGREE SWING.
18. DOUBLE GATE LATCH: COMMERCIAL STILEN ARM EQUIL.
19. BARBED WIRE: ACCESS SLOPE, 36" LONG HOT DIP GALVANIZED ZINC COATED W/ NAPOLEX WIRE, HANG POLYPRO WASHED IVY BRAND OR APPROVED EQUAL.

NOTES:
1. REFER TO PROJECT SPECIFICATIONS FOR INFORMATION NOT SHOWN IN THE DRAWING.
2. FENCE FABRIC SHALL COMPLY WITH FENCE MANUFACTURERS INSTITUTE (FMI) PRODUCT MANUAL.
3. INSTALL FENCE IN COMPLIANCE WITH ASTM F 587.
4. INSTALL SWING GATES IN COMPLIANCE WITH ASTM F 1001.
5. DO NOT BEGIN INSTALLATION AND ERECTION BEFORE FINAL GRAVITY IS COMPLETE, UNLESS OTHERWISE PERMITTED. INSTALL FENCES ON BOUNDARY LINES INSIDE OF PROPERTY LINE ESTABLISHED BY SURVEY.
6. DRILL OR HAND-EXCAVATE (USING POST-HOLE DIGGER) HOLES FOR POSTS TO DIAMETERS AND SPACING INDICATED IN FABRIC UNLESS OTHERWISE SPECIFIED ON CONTRACTOR OR FENCE MANUFACTURER, BUT NOT LESS THAN (4) TIMES LARGEST CROSS-SECTION OF POST.
7. REMOVE POST-HOLE SPOILS FROM SITE. DO NOT SET SPOILS ON AGGREGATE WITHOUT ADEQUATE PROTECTION.
8. PROTECT END OF POSTS ABOVE GRADE FROM CONCRETE SPILLED. PLACE CONCRETE AROUND POSTS AND VIBRATE OR TAMPER FOR CONSOLIDATION. CHECK EACH POST FOR VERTICAL AND TOP LEVEL. TRUE ALL POSTS TO SAME LEVEL. IN ALL CASES OTHER THAN SHOWN, EXTEND CONCRETE FOOTING 1" ABOVE GRADE AND Trim to Crown to Shed Water.
9. INSTALL BARBED WIRE IN ACCORDANCE WITH MANUFACTURER'S INSTRUCTIONS.
10. APPLY FABRIC TO OUTSIDE OF FRAMEWORK.

1. Typical Fence Elevation
   SCALE: 1/8" = 1'-0"

3. Barbed Wire Detail
   SCALE: 1" = 1'-0"

2. Typical Fence Section
   SCALE: 1/8" = 1'-0"
Landscape Notes

1. All work shall be done in accordance with the landscape plan.
2. All necessary permits and approvals from agencies governing this work shall be secured by the General Contractor prior to beginning any work.
3. The General Contractor is responsible for keeping all roads, walks, and adjacent property clear of any debris, dirt, and construction equipment during construction.
4. The General Contractor shall, prior to the final grading of any area, verify all existing utility line locations prior to beginning any work. All deviations from the design locations shall be reported to the Architect/Engineer.
5. The General Contractor is responsible for coordinating and scheduling all landscape-related work with other contractors and trades.
6. The General Contractor is responsible for contacting the Architect/Engineer if any discrepancies in the construction documents are found.
7. The General Contractor is responsible for grading to within 1" of the final grade in all lawn areas. The General Contractor is responsible for the final grading and planting of all lawn areas. The General Contractor is responsible for installing positive drainage in all planting beds.
8. The General Contractor is responsible for designing and planting all lawn areas as indicated on the landscape plan with the following seed mix and application rate:
   - **Seed Mix:**
     - 628 Bluegrass
     - 228 Perennial Rye
     - 208 Tall Fescue
   - **Application Rate:** 3 lbs. per 1,000 sq. ft.
9. The General Contractor is responsible for providing a planting soil, basic fill, and mulch in all tree, shrub, and turf plantings. The General Contractor shall also provide "17" of planting soil back fill. The planting beds shall be designed in accordance with the following:
   - **Approved Topsoil:**
     - 308 Topsoil Sand
     - 308 Peat Moss
     - 108 Processed Shredded Hardwood Mulch
10. Herbicide (Trelax 24F or equivalent) shall be applied to all plant beds prior to planting for non-spot use.
11. All planting beds shall have a minimum of 3" processed shredded hardwood mulch and a natural space edge.
12. All trees shall be installed per landscape planting details.
13. Dimensions for heights, spread, and caliper of trees on the plans are general requirements. Trees shall have a uniform and consistent appearance as it pertains to the species and particular size. Any plant material which fails to conform to the specifications is subject to rejection by the Architect/Engineer.
14. The quantities indicated on the plans are provided for the benefit of the General Contractor only in the event of a discrepancy, the quantities on the plans will take precedence over those listed in the plans. The General Contractor is responsible for all quantities, calculations, and the liability pertaining to those quantities and any related contract documents and/or price quotations.
15. All trees planted in lawn areas shall be planted in a bed of processed shredded hardwood mulch 3" in depth and 10' to 12' beyond spread of the tree.
16. All landscape plants shall be warrantied by Verizon Wireless and replaced as required by Verizon Wireless for a period of 12 months after planting.

**General Notes**

1. Trees/shrubs over 5' in height shall be staked.
2. Cedar Pine Tree Wrap to First Branching
3. Designates trees
4. Root/Top 1.5’ of ball shall be removed
5. Provide plastic or metal flags on each
6. Map soil in or near sidewalks
7. 3’ Shredded Processed Hardwood Mulch Keep Mulch 2”-3” from trunk
8. (2) 2” x 4” x 6” wood stakes at 10' from trunk with holes on trees 3” deeper and over set in undisturbed soil
9. 24’ Min. G.O. by existing root ball

**Tree Planting Detail**

**Units of Verdant Area**

**Grass**

**Chain Link Fence**

**Monopole Tower**

**Aggregate Drive**

**Utilities/Pipe and Overhead Electric**

**Existing Concrete**

**New Austrian Pine**

**Street Trees to Be Located 10' West of Bike Path**
GENERAL NOTES

1. All references to standards required to be observed at the time these plans and specifications are issued for bid.

2. Work not indicated on a part of the drawing but reasonably implied to be similar to that shown at corresponding places shall be repeated and included in the project.

3. In the absence of the notes, details and specifications, the most rigid requirements shall govern.

4. The contractor shall not make deviations from the design drawings without written approval of the engineer.

5. The contractor shall make all the necessary precautions, measures, to protect exposed facilities, structures and utility lines from damage. The contractor shall assume full responsibility for any damage that may occur during construction.

6. The contractor shall, in the event of conditions arising which are not covered by the drawings, be required to perform their work before starting construction.

7. Refer to architectural, mechanical, and electrical drawings for locations and basements of doors, windows, openings, slabs, steps, medical facilities, elevators, and other objects not shown in the structural drawings. Structural drawings shall be used in conjunction with architectural, mechanical, electrical, plumbing, civil and all other contract drawings relative to other trades. The contractor is responsible to check and coordinate dimensions, clearances, etc., with the work of other trades.

8. Job safety, construction procedures and construction rules and methods are the responsibility of the contractor.

9. Complete shop drawings for construction of all applicable specialty items including but not limited to: framing, door stations and overhangs. Steel framing shall be scaled and signed by a professional, licensed engineer in the state of Kansas and shall be available at the job site during the time of inspection.

10. Contractor shall verify all dimensions and conditions in the field prior to fabrication and erection of any material. Any unusual conditions shall be reported to the attention of the engineer.

FOUNDATION

1. The allowable bearing pressure used in design of similar foundation is assumed to be 1,500 psf.

2. Contractor shall familiarize himself with the subsurface and existing conditions before commencing work.

3. All concrete shall be controlled concrete and all concrete practices shall conform with ACI-318-83. "American Concrete Institute, Building Code for Reinforced Concrete, 1983 Edition," shall be in accordance with ACI-318-83, "Manual of Standard Practice for Detailed Reinforced Concrete Structures," unless otherwise noted on the drawings. Concrete tests for the preliminary design work prepared by an approved laboratory must be submitted to the engineer for review and approval. The contractor shall place no concrete without the approved design mix.

4. A rod template shall be used to install all anchor bolts.

5. Unless otherwise noted on the plan, all concrete shall be normal weight with 28 days compressive strength as follows:
   A. Footings: 3000 psi
   B. Concrete slab on grade: 3000 psi
   C. Concrete slab on grade: 4000 psi

6. All reinforcing bars shall conform to ACI 405. Canoe to: 40-inch (60,000 psi). All reinforcing bars shall be welded to conform to ACI 405. The reinforcing bars supplied shall provide the engineer with an affidavit of the producer of steel certifying that the steel meets the requirements of the ACI 405.

7. All reinforcing shall be securely held in place while placing concrete. If required, the contractor shall provide additional bars or stirrups necessary to support all required to complete his work.

8. Unless otherwise noted on structural drawings, provide minimum concrete cover for reinforcing bars as follows:
   A. Structural concrete: 3.5" exposed to earth or weather
   B. Slab and smaller: 3.5" exposed to earth or weather
   C. Slab and smaller: 3.5" exposed to earth or weather
   D. Slab and smaller: 3.5" exposed to earth or weather

9. Concrete shall be non-metallic mix with a minimum strength of 5,000 psi at 28 days.

STRUCTURAL STEEL

1. Fabrication and erection of structural steel shall conform to the American Institute of Steel Construction (AISC) specifications. Structural fabrication shall be AISC certified.

2. Structural steel shall be as specified below, unless otherwise noted:
   A. Channels, angles, plates: ASTM A572 with yield strength of 50 ksi or ASTM A36 with yield strength of 36 ksi or ASTM A709 Grade 50 with yield strength of 50 ksi.

3. The frame shall be carried up true and plan and temporary bracing shall be introduced where necessary to account for all loads to which the structure may be subjected, excluding equipment and operation of same. Such bracing shall be the responsibility of the steel contractor and shall be left in place as long as required for safety.

4. All bolts shall conform to the following AISC designation, latest edition: HEx-strength bolts A795-A, 0.60.

5. All caps shall be cambered Warren unless otherwise shown on the drawings.

6. All shop or field connections shall be HEx-strength bolts or welded. Welded connections shall be assembled and inspected in accordance with AISC-300 specifications for structural joints using A795-A or ASTM A325SE. All structural welded joints shall conform to the provisions of AISC-357. Structural welding code by American Welding Society.

7. Provisions shall be made for connections of other trades including cutting and punching of structural members, where required by the drawing or for which information is furnished prior to fabrication.

8. Overhead or slotted holes shall not be used for any connections unless specifically indicated on the drawings or approved in writing by the engineer.

9. The use of a cutting torch in the field will not be permitted.

10. Welding electrodes shall be conform to type electrodes, and shall have comparable chip-on-steel when welded to the base metal, with chip-on-steel requirement.

11. Proof of welder certification shall be available at the job site during time of inspection.

12. All structural steel not receiving shop or field connection shall be frame welded. Structural steel shall receive one end of plate, zinc or braminium coating of equivalent real protection before erection as specified. Parts of structural steel, list unplated because of welding or bolting shall receive a field application of metal protection.

13. Structural steel sections not specifically detailed for seismic resistance.

14. Design of special connections between steel framing components by other than the project structural engineer-on-record shall be performed by a professional engineer registered in the state of Kansas including but not limited to brace end connections, moment-resisting connections, modified beam seat connections, and member space connections.

15. All steel materials shall be galvanized after fabrication in accordance with ASTM A515 zinc ( zinc-coating). Galvanize on iron and steel products, unless otherwise noted.

16. All bolts, angles, and miscellaneous hardware shall be galvanized in accordance with ASTM A515 zinc-coating (zinc-plating) on iron and steel hardware, unless otherwise specified.

17. Damaged galvanized surfaces shall be repaired by cold galvanizing in accordance with ASTM A660.

DESIGN STANDARD

1. ACI-705 Minimum design loads for building and other structures
2. Manual of Steel Construction
3. Manual of Steel Construction
4. Manual of Steel Construction
5. Manual of Steel Construction

DESIGN LOADS

1. Loads on floor: 1000 psi
2. Loads on roof: 500 psi
3. Loads on columns: 1000 psi
4. Loads on beams: 500 psi
5. Loads on girders: 1000 psi
6. Loads on columns: 500 psi
7. Loads on beams: 500 psi
8. Loads on girders: 1000 psi

LAWC KASOLD

CELL SITE

1. Site Address
2. Site Address
3. Site Address
4. Site Address
5. Site Address
6. Site Address
7. Site Address
8. Site Address
9. Site Address
10. Site Address
11. Site Address
12. Site Address
13. Site Address
14. Site Address
15. Site Address
16. Site Address
17. Site Address
18. Site Address
19. Site Address
20. Site Address

S-1
Utility Site Plan

1. Fiber conduit 6" from AON pole
2. 4 gas meter base by hereon
3. 2-3/8" SDH 40 conduct 22 T5 79 meter by hereon
4. Conductor to meter by power co.

Enlarged Utility Plan

1 in = 10 ft
**Application Data**

**Engine Electrical System**
- Battery charging alternator: 12 V, 120 A
- Voltage regulator: 120 A, 1.2 V
- Amperage rating: 70 A
- Starter motor rated voltage (DC): 12 V
- Battery, recommended cold cranking amps (CCA): 600 A
- Quantity, CCA rating: 600 A
- Battery voltage (DC): 12 V

**Fuel**
- Fuel system: 12 V, 120 A
- Fuel return line, mm: 12 V, 0.7 A
- Max. lift, engine-driven fuel pump, m (H2O): 30 m
- Max. fuel flow, L/h (gph): 28 L/h (6.7 gph)
- Fuel pump: Manual
- Fuel filter: Yes
- Water separator: Yes
- Recommended fuel: #2 Diesel

**Lubrication**
- Lubricating system: Full Pressure
- Oil pan capacity, L (gallons): 7.3 L (2.0 gallons)
- Oil filter: 1 (Cartridge)
- Cooling system: Water-Cooled

**Exhaust**
- Exhaust manifold type: Dry
- Exhaust flow at rated kW, m³/min (cfm): 12.0 (423)
- Exhaust temperature at rated kW, dry exhaust, °C (°F): 574 (1,064)
- Maximum allowable back pressure, kPa (in. Hg): 7.5 (2.2)
- Exhaust outlet size at engine hookup, mm (in.): 65.5 (2.6)

**Application Data**

**Cooling**
- Radiator System
  - Ambient temperature, °C (°F): 50 (122)
  - Engine jacket water capacity, L (gallons): 0.8 (0.7)
  - Radiator system capacity, including engine, L (gallons): 10.6 (2.8)
  - Engine jacket water flow, L/min (gpm): 99 (28)
  - Heat rejected to cooling water at rated kW, dry exhaust, kW (Btu/h): 35.7 (202)
  - Heat rejected to air charge cooler at rated kW, dry exhaust, kW (Btu/h): 10.8 (661)
  - Water pump type: Centrifugal
  - Fan diameter, including blades, mm (in.): 387 (15.2)
  - Fan, Whm (HP): 1.2 (0.8)
  - Max. restriction of cooling air intake and discharge pipe of radiator, kPa (in. H2O): 0.125 (0.3)

  * End pressure reduces ambient temperature capability by 5°C (9°F).

**Operation Requirements**
- Air requirements: 1.14 kg/cm² (0.075 bar)
- Combustion air, m³/min (cfm): 96 (600)
- Heat rejected to ambient air: Engine, kW (Btu/h): 14.0 (747)
- Alternator, kW (Btu/h): 7.0 (400)

**Fuel Consumption**
- Diesel, L/h (gph) at % load: Standby Rating
  - 100%: 16.2 (4.3)
  - 75%: 12.1 (3.0)
  - 50%: 8.5 (2.0)
  - 25%: 6.0 (1.5)

- Diesel, L/h (gph) at % load: Prime Rating
  - 100%: 13.7 (3.6)
  - 75%: 10.8 (2.5)
  - 50%: 7.6 (2.0)
  - 25%: 4.5 (1.2)

**Controllers**
- DecisionMaker® 5000 Controller
  - Provides advanced control, system monitoring, and system diagnostics for optimum performance and competitiveness
  - Digital display and menu control provide easy local data access
  - Measurements are selectable in metric or English units
  - Remote communication through a PC via network or serial configuration
  - Controller supports Modbus® protocol
  - Integrated hybrid voltage regulator with ±0.5% regulation
  - Built-in alternator thermal overload protection
  - NFPA 110 Level 1 capability
  - Refer to Q6-100 for additional controller features and accessories.
Generator Details

1. Block Heater
   120 and 240 Volt

2. Battery Charger
   - 80-135V AC
   - Power Cord Length 1820 (32.0)

Scale: N.1/12
3 Shelter Ground Elevation

- **Type GY**: Through cable to side of Ground Rod
- **Type GR**: Cable tap to top of Ground Rod
- **Type NC**: Through and tap cables to Ground Rod
- **Type GT**: Through cable to top of Ground Rod
- **Type VN**: Horizontal cable tap to vertical steel surface on the side of horizontal pipe
- **Type TA**: Top of horizontal run and tap cables
- **Type HS**: Horizontal tap to horizontal steel surface or pipe cable off surface
- **Type VS**: Cable tap from kit to vertical steel surface or side of horizontal on vertical cable
- **Type XB**: Cross of horizontal cables tapped and not cut

4 Exothermic (Cadweld) Details

5 Mechanical Ground Connection

6 Ice Bridge Grounding Schematic

**Note**: No scale.
CUP-16-00312: Conditional Use Permit for a New 190' Communication Tower for Verizon Wireless
Located North of Westar Substation at 1287 E 1200 Road

Lawrence-Douglas County Planning Office
September 2016