PLANNING COMMISSION REPORT  
Regular Agenda - Public Hearing Item

ITEM NO. 1 CONDITIONAL USE PERMIT FOR VERIZON WIRELESS; 1200 BLOCK OF N 850 ROAD (SLD)

CUP-14-00451: Consider a Conditional Use Permit for a new 199’ self-supporting communication tower located on the south side of N 850 Rd and the east side of E 1296 Rd in Pleasant Grove. Submitted by James Cardinal on behalf of Horvath Towers and Leo and Sheryl Beier, property owners of record.

STAFF RECOMMENDATION: Staff recommends approval of the Conditional Use Permit for a communication tower located in the 1200 Block of N 850 Road and forwarding it to the County Commission for a recommendation of approval.

Reason for Request:
To build a 195’ self-supporting tower for wireless purposes, also a compound of 70’ by 70’ with (1) proposed shelter and its footprint of 20’ by 30’

ATTACHMENTS
1. Site plan
2. RF Justification Report
3. Map of towers in area
4. Floodplain Map
5. Loren Buntemeyer Communication
6. Marilyn Lynch Communication

KEY POINTS
• Property is encumbered by regulatory floodplain in the northeast corner of the parent parcel.
• Property is located south of the Lawrence Urban Growth Area.

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 if required by County Zoning and Codes Office.
• Submission and approval of a local building permit to Douglas County.
• Obtain a Conditional Use Permit from Douglas County.

PUBLIC COMMENT
• Public communication regarding location of proposed tower
• Email from Loren Buntemeyer in favor of application
• Phone call from Marilyn Lynch opposed to application
• Meeting with Rural Water District No. 2 regarding location of new tower in proximity to existing water line.
PROJECT DESCRIPTION
- Application is for a new 195’ self-supporting tower with a 4’ lightning rod for a total of 199’.
- The proposed tower shows space for up to five total carriers.
- Ground equipment includes an equipment shelter building and generator to be located within the shelter building.
- This application includes a 70’ by 70’ development area.

Site Summary:
Subject Property: 51.4 Acres
Proposed Buildings:
- 100’ x 100’ lease area
- 70’ by 70’ fenced/enclosed area
- 11’ 6” x 25’ 5 ½” equipment shelter building
- H frame for equipment
- 195’ self-supporting tower with 4’ lightning rod
- Generator located within shelter building
- Additional pad sites for future carriers
## GENERAL INFORMATION

|-----------------------------|------------------------------------------------------|
| Surrounding Zoning and Land Use: | A (Agricultural) District to the north, south, and east; existing agricultural fields, rural residential homes and new Highway 59 facility and right-of-way.  
A (Agricultural) District and I-2 (Light Industrial) District along the west property line on the east side of E 1296 Road. Existing uses include rural residential homes and Hull Iron Work.  
A-1 (Suburban Home Residential) District to the west, on the west side of E 1296 Road; existing rural subdivision. |

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![Map Image]

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I. ZONING AND USES OF PROPERTY NEARBY

The predominant zoning in the area is the A (agricultural) District. However, a large area to the west and northwest of the subject property is zoned A-1 (Suburban Home Residential) District and an area to the southeast is zoned R-T (Rural-Tourism Business) District generally known as Sadies Lake. The area to the northwest is developed with rural residential homes. The surrounding area to the north and south includes multiple parcels used for agricultural purposes and scattered rural residential homes.

Staff Finding - The predominate zoning and land use on the west side of E 1296 Road (Old Highway 59) is rural residential. The balance of the area is zoned and used for agricultural purposes with scattered homes in the remaining area. Towers are allowed in the Agricultural District subject a Conditional Use Permit.

II. CHARACTER OF THE AREA

This is a rural area with agricultural uses, suburban residential uses and scattered rural residences. The area is part of the unincorporated community known as Pleasant Grove. It is outside of any growth boundary of Lawrence or Baldwin City.

The topography of the area includes slopes, which contain most of the woodlands. High quality soils, as defined in Horizon 2020, are located south and west of the subject property. The property is not characterized by either Class I or Class II soils. The area contains environmentally sensitive lands in the form of regulatory floodway and floodway fringe and stands of mature trees. Map of the soils type and floodplain are provided as attachments to this report.

The property is near a major transportation corridor Highway 59. Access to the site is proposed from N 850 Road, an existing local road.

A large part of the property is populated with mature trees as shown in the following graphic. These mature trees will aid in screening ground equipment associated with the tower from the area to the west.
Staff Finding - This is a rural area with the following features which are defined as environmentally sensitive lands in the Subdivision Regulations: stream corridors, regulatory floodway and floodway fringe, and stands of mature trees which are part of a larger contiguous network. In addition to these features, steep slopes and high quality soils are also located in the surrounding area. Additionally there are numerous rural residential homes in the area.

III. SUITABILITY OF SUBJECT PROPERTY FOR THE USES TO WHICH IT HAS BEEN RESTRICTED
Applicant’s response: “Not proposing to change zoning. Towers are allowed with CUP.”

This property is currently restricted to uses allowed in the A (Agricultural) District. This district is associated with agricultural activates such as farms, truck gardens, nurseries, grazing and similar activities. The A District allows both residential and non-residential uses.

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 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. The zoning has remained unchanged since 1966.

Staff Finding - The property is vacant. The zoning has remained unchanged since 1966.

V. EXTENT TO WHICH REMOVAL OF RESTRICTIONS WILL DETRIMENTALLY AFFECT NEARBY PROPERTY
Applicant’s Response: “Tower is approximately 196 feet in height therefore will be visible from nearby properties from areas not obstructed by trees, buildings, or other structures.”

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 tower is sited to avoid areas of floodplain that touch the northeast corner of the site and the existing wooded area along the west side of the site.

Property on the west side of E 1296 Road and on the east side of E 1250 Road is developed with homes located on rural residential lots. Visibility of the tower is an aesthetic concern that may be perceived by residents as a detriment. The height of the tower does not require lighting. This will mitigate some concerns by maintaining a “dark sky” in the area.

Staff Finding - Detrimental affects are mostly likely to be categorized as aesthetic in nature. The base zoning district is appropriate for the request. The height of the tower mitigates the
requirements for lighting. The location of mature trees in the area will aid in buffering the tower from direct line of site from most property owners.

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 property will remain viable for existing land uses and uses permitted within the A (agricultural) District.

Staff Finding - The benefit to the public is improved cellular communication and wireless data capacity within the Verizon network and along the Highway 59 corridor. 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.

VI I. CONFORMANCE WITH THE COMPREHENSIVE PLAN

The subject property is not located within an identified Urban Growth Area for any of the incorporated cities in Douglas County. There are several unincorporated communities and land divisions forming informal subdivisions in the surrounding area.

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 space for multiple (up to 5) carriers. The site plans shows pad sites capable of supporting up to five carriers.

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 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 252’ from the nearest property line. The proposed tower exceeds the required district setbacks.

The tower and ground equipment will be located in a lease area that is 100’ by 120’. Improvements will be located within a fenced area 70’ by 70’ within the lease area.

Lighting
Lighting is not proposed with this application for the communication tower. Generally, towers less than 200’ are not required to be lit. Lighting of ground equipment must be shielded and directed down.

Access, Circulation, and Off Street Parking
Access to this site is from N 850 Road. The applicant will be required to seek an access permit from the County for the driveway to the tower site. The access 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 to the site.

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.

Conclusion
The proposed application meets the required documentation requirements of the County Zoning Regulations.
C-1

SITE PLAN

ENGINEERING

CONTRACTOR TO PROVIDE APPROXIMATE 50' x 50' STAGING AREA AND TEMPORARY ROAD. CONTRACTOR SHALL COORDINATE WITH ANTENNA CONTRACTOR, A STAGING AREA AND TEMPORARY ROAD THAT IS ACCEPTABLE TO THE OWNER. STAGING AREA AND TEMPORARY ROAD SHALL BE RESTORED TO EXISTING CONDITIONS AS NECESSARY UPON COMPLETION OF THE PROJECT.

BEFORE AND DURING CONSTRUCTION, THE CONTRACTOR SHALL PROVIDE ADEQUATE EROSION CONTROL AS NECESSARY IN THE FORM OF SILT FENCES FOR THE SITE AND BALES AROUND ANY EXISTING MANHOLES, INLETS, OR CATCHBASINS SUSCEPTIBLE TO EROSION. EROSION CONTROL MEASURES SHALL BE PERIODICALLY INSPECTED TO ENSURE PROPER FUNCTION. EROSION CONTROL SHALL BE REMOVED UPON COMPLETION OF WORK.

CONTRACTOR IS RESPONSIBLE FOR ANY DAMAGE TO EXISTING PAVEMENT. CONTRACTOR SHALL PHOTOGRAPH AND VIDEOTAPE EXISTING PAVEMENT PRIOR TO CONSTRUCTION. ANY DAMAGE CAUSED DURING CONSTRUCTION SHALL BE REPLACED TO EXISTING OR BETTER CONDITION AT NO ADDITIONAL COST.

THE CONTRACTOR WILL, UPON BECOMING AWARE OF SUBSURFACE OR LATENT PHYSICAL CONDITIONS DIFFERING FROM THOSE DISCLOSED BY THE ORIGINAL SOIL INVESTIGATION WORK, PROMPTLY NOTIFY THE OWNER VERBALLY AND IN WRITING, AS TO THE NATURE OF THE DIFFERING CONDITIONS. NO CLAIM BY THE CONTRACTOR FOR ANY CONDITIONS DIFFERING FROM THOSE ANTICIPATED IN THE PLANS AND SPECIFICATIONS AND DISCLOSED BY THE SOIL STUDIES WILL BE ALLOWED UNLESS THE CONTRACTOR HAS SO NOTIFIED THE OWNER, VERBALLY AND IN WRITING, AS REQUIRED ABOVE, OF SUCH CONDITIONS INCORPORATED INTO THE CONTRACT FOR ANY ADDITIONAL COST TO THE CONTRACTOR.

The site dimension plan includes various details such as:
- Proposed (70' x 70') fenced area
- Proposed (100' x 100') Horvath Lease Area
- Proposed Lessee Antennas to be mounted on proposed 195' self-support tower
- Proposed 12' wide gravel access drive
- 20' wide utility and access easement
- Gate, 20' wide
- Proposed 12' wide, 545 S.Y.
- 4" aggregate overlay
- 1238 S.Y.
- 20' wide double swing gate with security latch
- Proposed 11'-6" x 25'-5 1/2" Lessee equipment shelter
- Proposed Fiber handhole (by fiber provider)
- Proposed utility H-frame
- Proposed transformer
- Proposed 12' wide double swing gate with security latch
- Proposed block retaining wall, 134± L.F., see details on sheet C-6
- Proposed 14' wide double swing gate with security latch
- Contractor to monitor, coordinate and temporarily relocate utility items or other items that may be in the proposed area and temporarily relocate temporary road, as necessary upon completion of the project.
SITE HV848

GROVE

PLEASANT

A

N 850 ROAD
PLEASANT GROVE, KS

VERIZON WIRELESS SITE NAME:
LAWC PLEASANT GROVE

1 ENTRY GATE DETAIL

SCALE N.T.S

20'-0" WIDE OPENING

6"x6" ACQ TREATED LUMBER (TYP.)

BOLT HOOK ASSEMBLY
3/4" x 12" GALVANIZED BOLT W/ 12" OF THREAD, DOUBLE NUT & WASHER

24" MAXIMUM CLEARANCE UNDER PIPE GATES TO GRADE AT POST

12" MINIMUM CLEARANCE UNDER PIPE GATES TO AT CENTER OF GATE OPENING

9 GA. SMOOTH GALV. ROD

6"x6" ACQ TREATED LUMBER TO BE FASTENED WITH GALV. SCREWS

2" GALVANIZED TUBE GATE HINGES (TYP.)

24" LONG LATCH CHAIN PER GATE

(2) - 12' LONG GALVANIZED 2" DIAMETER 16 GAUGE 8 BAR GATES - 50" HIGH

6'-8" 6"x6" ACQ TREATED LUMBER (TYP.)

6"x6" ACQ TREATED LUMBER TO BE FASTENED WITH GALV. SCREWS

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12" MINIMUM CLEARANCE UNDER PIPE GATES TO AT CENTER OF GATE OPENING

2'-0" Wide Opening

2" GALVANIZED TUBE GATE HINGES (TYP.)

24" LONG LATCH CHAIN PER GATE

(2) - 12' LONG GALVANIZED 2" DIAMETER 16 GAUGE 8 BAR GATES - 50" HIGH

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NOTE: PLEASE REFER TO KEYSTONE INSTALLATION MANUAL FOR ALL QUESTIONS PERTAINING TO CONSTRUCTION OF KEYSTONE BLOCK RETAINING WALL. DETAILS SHOWN ON THIS SHEET ARE PROVIDED AS A GUIDE FROM "KEYSTONE". CONTACT KEYSTONE: 1-800-747-8971

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Verizon Wireless Site Name: LAWF PLEASANT GROVE

Keynote Retaining Wall Details

C-6
ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF
A. ALLTEL CONTRACT DOCUMENTS AND THE PROJECT STANDARD
B. ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES
C. UNIFORM BUILDING CODE (UBC)/BUILDING OFFICIALS & CODE
D. AMERICAN CONCRETE INSTITUTE (ACI).
E. ELECTRONIC INDUSTRIES ASSOCIATION STANDARDS
F. SPECIFICATIONS.

1. ALL CONCRETE SHALL BE NORMAL WEIGHT AND SHALL ACHIEVE
2. MIX AND DELIVER CONCRETE IN ACCORDANCE WITH ASTM C94,
3. ALL REINFORCING STEEL SHALL BE DEFORMED AND CONFORM TO
4. STRAW BALES FIRMLY ANCHORED SHALL BE PLACED AROUND ALL INLETS,
5. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND
6. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185.
7. NO ADMIXTURES SHALL BE USED WITHOUT THE PRIOR WRITTEN
8. PROVIDE TEST CYLINDERS AS FOLLOWS:
9. CONCRETE SHALL BE PER ACI 308_89, STANDARD
10. ALL FORMWORK SHALL BE RIGID, TIGHT, LEVEL, PLUMB AND
11. ALL REBAR SPLICES SHALL BE CLASS ‘C’; NO WELDING
12. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADEQUATE SIGNS,
13. PLACE CONCRETE IN ACCORDANCE WITH ACI 304_89.
14. ALL WORK PERFORMED BY THE CONTRACTOR SHALL BE GUARANTEED BY
15. ALL DIRT WILL BE DISPOSED OF OFFSITE BY THE CONTRACTOR.
16. EXISTING UTILITIES IF ANY, ARE UNDER A GUARDIAN "AS IS"
17. PROVIDE TEST CYLINDERS AS FOLLOWS:
18. ALL ADDENDA, IF ANY, MUST BE ACKNOWLEDGED BY THE BID.
ANTENNA INFORMATION

**DESCRIPTION**
- **Antenna Schedule**

**Material List**
- **Antenna Points**

**Notes**
- Contractor is to verify the antenna layout with the engineer.
- Contractor must install a 330° sector on top of the antenna.
- Contractor must install a 90° sector on the left side of the antenna.
- Contractor must install a 210° sector on the right side of the antenna.
- Contractor must install a CDMA sector on the front of the antenna.
- Contractor must install an AWS sector on the back of the antenna.
- Contractor must install a future AWS sector on the right side of the antenna.
- Each sector must be installed with the latest equipment.

**Equipment**
- **Antenna**
  - **Specifications**
  - **Manufacturer**
  - **Model**
  - **Serial Number**
  - **Purchase Order Number**
  - **CO2**
  - **Pole Number**
  - **Grounding**
  - **Face Number**
  - **Model/Equipment**
  - **Contractor/Owner**

**Antenna Notes**
- Contractor shall verify the exact locations of each antenna before installation.
- Contractor shall provide the necessary labor and materials for the installation.
- Contractor shall provide the necessary labor and materials for the integration of the equipment.
- Contractor shall provide the necessary labor and materials for the testing of the equipment.
- Contractor shall provide the necessary labor and materials for the commissioning of the equipment.
- Contractor shall provide the necessary labor and materials for the maintenance of the equipment.
- Contractor shall provide the necessary labor and materials for the repair of the equipment.
- Contractor shall provide the necessary labor and materials for the replacement of the equipment.
- Contractor shall provide the necessary labor and materials for the decommissioning of the equipment.

**Equipment**
- **Specifications**
  - **Model**
  - **Serial Number**
  - **Purchase Order Number**
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- Each sector must be installed with the latest equipment.
NOTE:
THIS DETAIL IS CONCEPTUAL TO DEMONSTRATE GROUNDING AT THE ANTENNAS. VERIFY NUMBER OF ANTENNAS, MOUNTING FRAME, ANTENNA TYPE AND AZIMUTH WITH ANT-2 SHEET.

ANTENNA CABLE GROUNDING AT ANTENNA ELEVATION
N.T.S.2

ANTENNA CABLE, TYP.

SECTOR GROUND BAR BONDED DIRECTLY TO TOWER STEEL, TYP.

ANTENNA MOUNTING FRAME
N.T.S.1

4 ANTENNA AND OVP JUNCTION BOX MOUNTING DETAIL
SCALE: N.T.S.

CABLE LADDER
DIAG. TOWER BRACE (REF)

PROPOSED ROHN LADDER ASSEMBLY, 15 HOLE 4' KD, 2.25" O.C. OR APPROVED EQUAL

4'-0" (TYP.)

TRANSMISSION LINE HANGER

PROPOSED HEAVY DUTY SECTORFRAME AND (12) ANTENNA MOUNTING PIPES TO BE SUPPLIED BY TOWER MANUFACTURER.
VERIZON WIRELESS SITE NAME: LAWCT PLEASANT GROVE

ANTENNA MOUNTING DETAIL

ANT-4

7/8" 1 - 1/4" 1 - 5/8"

ICE BRIDGE DETAIL 1

920989-004-BOLT-IN
810921-001 915660
810916-001 915554

CABLE HANGER REQUIREMENTS, SEE TABLE

NOMINAL CABLE SIZE

CABLE TYPE NUMBER

ROHN 10' WAVEGUIDE BRIDGE (GRIP STRUT) OR APPROVED EQUAL

CUT TO FIT, SEE C-2 FOR DIMENSION

GRADE

VIRGIN SOIL OR COMPACTED BACKFILL WITH A MINIMUM BEARING CAPACITY OF 2,000 PSF, TYP.

GRAVEL COMPOUND

12" Ø CONCRETE PIER (TYP.)

NOTES:

1. ICE BRIDGE POST SHOULD BE STAGGERED ON EITHER SIDE OF ICE BRIDGE FOR EXTRA STABILITY

2. ANY SPLICES OR CANTILEVERED SECTIONS OF THE ICE BRIDGE SHALL BE LOCATED WITHIN 2'-0" OF A SUPPORT POST.

PROPOSED GLOBAL POSITIONING SYSTEM (GPS) ANTENNA. SEE DETAIL #2 THIS SHEET

EXISTING WAVEGUIDE BRIDGE (GRIP STRUT)

EXISTING ICE BRIDGE POST

GPS MOUNTING DETAIL 2

DUAL MOUNT GPS ANTENNA
TELWORX KIT
PART # PM-101

(2) TEL GPS ANTENNAS
SUPPORT CLAMP (TYP.)

POLYPHASER MODEL # GT-DFM-AL

ANTENNA COAX CABLES

GPS COAX CABLE
1-1/2" RIGID ALUM. CONDUIT

GPS POLES TO BE ADJUSTED UP OR DOWN BY SET SCREWS

ENCLOSURE ENTRY PANEL DETAIL

MAIN LINE COAX ANTENNA CABLE
PROPOSED ENTRY PANEL

POLYPHASER, TYP.

EXISTING WALL CONSTRUCTION

ANTENNA CABLE JUMPER

12"

3/8" THREADED ROD

POLE MOUNTED APPLICATION 2A

1" RIGID ALUM. CONDUIT (60" TYP.)

4" Ø

5-1/2" 3/8"x3" BOLTS TYPICAL OF (4) REQUIRED MOUNTING BOLTS BY OTHERS

EXISTING WALL MOUNTED APPLICATION 2B

G.C. IS RESPONSIBLE FOR INSTALLING CONNECTORS, PROVIDED BY VERIZON WIRELESS, ON THE JUMPER CABLES FROM THE RADIO EQUIPMENT AT THE HATCH PLATE INSIDE THE SHELTER. JUMPER CABLES WILL ALREADY BE CONNECTED TO RADIO EQUIPMENT WHEN SHELTER IS DELIVERED.
Versión Wireless Site Name: Lawc Pleasant Grove

N 850 Road
Pleasant Grove, KS

1. Air conditioning is provided by a 5 kW, 18,840 BTUH, 240 Volt, single phase, electric heat strip, within Bard unit listed above.

2. Electric heat is provided by a Bard wall mounted self-contained energy efficient cooling system, model # WA602-A05EX2XI, 5 ton, 120/240 Volt, 30 amp, single phase, 57,500 BTUH cooling capacity, 10.20 SEER, 2600 CFM with filter.

3. EPS board insulation is listed to have a flame spread of 25 or less and smoke developed of 450 or less with a maximum thickness of 2 inches at 1 pcf density. Polyisocyanurate foam insulation has been tested to a maximum thickness of 3 inches at 1.9 pcf and has a flame spread of 25 and a smoke product of 395.

4. This enclosure is classified as Use Group S-2, Type VB construction; per 2009 IBC and is in compliance with the 2009 IBC, 2009 IMC, 2009 IFGC, 2008 NEC and 2009 IECC.

5. Equipment enclosure is manufactured by Fibrebond. This sheet is provided as guide only. Refer to actual Fibrebond drawings for full building plans.

6. Enclosure and associated equipment is provided by owner under separate contract. Equipment enclosure information indicated herein is provided for reference only and is taken from manufacturer's available data. Refer to civil, structural and electrical drawings for work to be performed under this contract.
THE GENERAL NOTES AND ACCOMPANYING DRAWINGS ARE TO INDICATE THE PROVISIONS AND REQUIREMENTS NEEDED TO INSTALL THE ELECTRICAL WORK IN CONFORMITY WITH THIS SITE WORK.

1. THE INSTALLATION, PROVISIONS AND CONNECTION OF A SPARING RED ELECTRICAL SYSTEM ARE SHOWN IN THE DRAWINGS.

2. THE INSTALLATION PROVISIONS OF AN ELECTRICAL CONTRACTOR SHALL BE CONFORM TO THE ACCOMPANYING ELECTRICAL AND NATIONAL ELECTRICAL CODE (N.E.C.) AND ALL LOCAL CODES.

3. ALL ELECTRICAL INSTALLATIONS SHALL BE 100% ON-VEHICLE, WITH ALL RED AND BROWN WIRES BEING USED TO INSTALL THE ELECTRICAL SYSTEM. ALL WIRING SHALL BE APPROVED PRIOR TO INSTALLATION OF ELECTRICAL METER CENTER.

4. ALL WIRING OF ALL KINDS MUST BE INSTALLED IN CONDUIT, UNLESS OTHERWISE NOTED OR APPROVED BY THE LOCAL UTILITY COMPANY.

5. THE CONTRACTOR SHALL BE AWARE OF ALL STATE AND LOCAL CODES THAT APPLY TO THIS INSTALLATION AND SHALL COMPLY WITH ALL REQUIREMENTS OF THE ELECTRICAL CODE.

6. THE INSTALLATION AND PROVISION OF AN ELECTRICAL SERVICE (OVERHEAD OR UNDERGROUND) AND ALL CONDUIT AND WIRE ASSOCIATED WITH IT AS INDICATED AND/OR REQUIRED FOR A COMPLETE OPERATING INSTALLATION. ELECTRICAL CONTRACTOR SHALL VERIFY AND COORDINATE CHARACTERISTICS OF CONDUIT AND WIRING TO AVOID CONFLICT.

7. CONTRACTOR SHALL FURNISH AND INSTALL ELECTRICAL SERVICE EQUIPMENT WITHIN THE BUILDING.

8. THE INSTALLATION SHALL BE IN ACCORDANCE WITH ALL REGULATIONS AND SHALL GET THE APPROVAL FROM SAME, SHALL CONFORM TO THE LOCAL UTILITY COMPANY'S SPECIFICATIONS.

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NOTE: FOR FULL UTILITY ROUTING PLAN, SEE LP SHEET

PROJECT #:

07/31/14

DRAWN BY:

07/31/14

DATE:

07/31/14

SA

312 W. COLFAX AVE.
SOUTH BEND, IN 46601

(1) 3" Ø SCH. 40 PVC

U/G/ CONDUIT FOR FIBER., 79 ± L.F.

(1) 4" C., 1131± L.F.

UNDERGROUND CONDUIT FROM HANDHOLE (BY VERIZON PROVIDER), 1131± L.F.

UNDERGROUND CONDUIT FROM ROW. TO HANDHOLE, 1131± L.F.

CONTRACTOR TO PROVIDE 10' CRIMPS FOR RISER, 19± L.F.

GENERAL NOTES:

THE GENERAL NOTES AND ACCOMPANYING DRAWINGS ARE TO INDICATE THE PROVISIONS AND REQUIREMENTS NEEDED TO INSTALL THE ELECTRICAL WORK IN CONFORMITY WITH THIS SITE WORK.

1. THE INSTALLATION, PROVISIONS AND CONNECTION OF A SPARING RED ELECTRICAL SYSTEM ARE SHOWN IN THE DRAWINGS.

2. THE INSTALLATION PROVISIONS OF AN ELECTRICAL CONTRACTOR SHALL BE CONFORM TO THE ACCOMPANYING ELECTRICAL AND NATIONAL ELECTRICAL CODE (N.E.C.) AND ALL LOCAL CODES.

3. ALL ELECTRICAL INSTALLATIONS SHALL BE 100% ON-VEHICLE, WITH ALL RED AND BROWN WIRES BEING USED TO INSTALL THE ELECTRICAL SYSTEM. ALL WIRING SHALL BE APPROVED PRIOR TO INSTALLATION OF ELECTRICAL METER CENTER.

4. ALL WIRING OF ALL KINDS MUST BE INSTALLED IN CONDUIT, UNLESS OTHERWISE NOTED OR APPROVED BY THE LOCAL UTILITY COMPANY.

5. THE CONTRACTOR SHALL BE AWARE OF ALL STATE AND LOCAL CODES THAT APPLY TO THIS INSTALLATION AND SHALL COMPLY WITH ALL REQUIREMENTS OF THE ELECTRICAL CODE.

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TYPICAL KEYED GROUNDING NOTES:

1. CONTRACTOR SHALL VERIFY THAT THE GROUNDING ELECTRODES WILL BE CONNECTED IN A RING USING #2 AWG BARE TINNED SOLID COPPER WIRE. THE TOP OF THE GROUND ROSS AND THE RING CONDUCTOR SHALL BE A MINIMUM OF 42 INCHES BELOW GRADE (HARPER L-2) OR EQUAL. GROUNDING ELECTRODES SHALL BE SPACED AT MINIMUM 10'-0" ON CENTER AND A MAXIMUM OF 15'-0" ON CENTER. PROVIDE AND INSTALL AS REQUIRED PER PLAN.


3. GROUND RING CONNECTION CONDUCTORS SHALL BE OF EQUAL LENGTH, MATERIAL, AND BONDING TECHNIQUE.

4. CONTRACTOR SHALL ENSURE GROUND RING IS WITHIN 12 TO 36 INCHES OF THE EQUIPMENT PAD. PROVIDE/INSTALL GROUNDING CONNECTIONS SHOWN ABOVE AS NEEDED PER IS SITE GROUNDING SYSTEM. CONTRACTOR SHALL VERIFY ALL EXISTING SITE GROUNDING CONDITIONS BEFORE STARTING WORK OR PURCHASING EQUIPMENT.

5. CONTRACTOR SHALL ENSURE ALL GROUNDING ELECTRODES ARE BONDED TO THE GROUND RING WITH #2 AWG BARE TINNED SOLID COPPER CONDUCTOR IN PVC CONDUIT. CONNECT UPRIGHT CONductor WITH 1/2-20 LUG CONNECTORS. BONDING JUMPER SHALL BE INSTALLED AT INGRESS/EGRESS LOCATION. PROVIDE/INSTALL GROUNDING CONNECTIONS AS REQUIRED TO MEET THESE REQUIREMENTS.

6. CONTRACTOR SHALL VERIFY EXISTING GROUND BOND TO THE FENCE IN AT LEAST (2) OTHER PLACES IN ADDITION TO NEW CONNECTION SHOWN. CONTRACTOR SHALL ALSO VERIFY EXISTING GROUNDING CONNECTION TO ACCESS GAME. PROVIDE AND INSTALL GROUNDING CONNECTIONS AS REQUIRED TO MEET THESE REQUIREMENTS.

GROUNDING SYMBOLS:

- SOLID BARE COPPER WIRE #2 AWG TINNED.
- INFECTION WELD (TYP.)
- MECHANICAL GROUND CONNECTION
- GROUND BAR WITH INSPECTION WELL
- EXOTHERMIC WELD (TYP.)
- ALL CONNECTIONS TO GROUND BAR SHALL BOND TO EXTERNAL GROUND ROD (TYP. #2 AWG TINNED)
- CONTRACTOR RESPONSIBLE FOR VERIFYING LOCATIONS PRIOR TO ANY EXCAVATION
- CONTRACTOR RESPONSIBLE FOR RESTORING SURFACE TO ORIGINAL OR BETTER CONDITION
NOTE:
THE GENERAL CONTRACTOR SHALL INSTALL PVC CONDUIT IN PLACE OF RGS CONDUIT AND TRANSFORMER BASE.

NOTES

1. ACCORDANCE WITH LOCAL UTILITY COMPANY SPECIFICATIONS.

THE GENERAL CONTRACTOR SHALL INSTALL:

- PVC CONDUITS IN PLACE OF RGS CONDUIT AND TRANSFORMER BASE.
- WHERE APPLICABLE FOR THE TELEPHONE AND ELECTRICAL SERVICE INSTALLATION.

WARNING TAPE

FINISHED GRADE

THE GENERAL CONTRACTOR SHALL INSTALL:

- PVC CONDUITS IN PLACE OF RGS CONDUIT AND TRANSFORMER BASE.
- WHERE APPLICABLE FOR THE TELEPHONE AND ELECTRICAL SERVICE INSTALLATION.

NOTE:

1'-0"±

METER CENTER

WARNING TAPE

800A, 120/240V, 1Ø

MATCH EXISTING NEMA 3R ENCLOSURE

EXISTING OVERHEAD CONCRETE OR ASPHALT SURFACE

PROPOSED TRANSFORMER METERING, & CONCRETE PAD

PER POWER COMPANY COORDINATE WITH

WHERE ROCK IS ENCOUNTERD, SPECIFICATION

312 W. COLFAX AVE. SOUTH BEND, IN  46601

UTILITY COMPANY

PROPOSED UTILITY SUPPORT FRAME

ROCK WILL BE DRILLED, FILLED WITH CONDUCTIVE SOIL & RODS WHICHEVER IS DEEPER 3'-6" OR BELOW FROSTLINE INSTALLED TO FULL DEPTH

FIBER HANDHOLE

MATERIAL

#2 AWG SOLID TINNED COPPER WIRE

30" APPROX.

COMPACTED FILL. (90%)

1/O COPPER PRIMARY ELECTRIC SERVICE REQUIREMENTS

3'-0" TO 4'-0"

4"

PVC CONDUIT FROM GROUND ROD TO TRENCH

4"Ø TELEPHONE FIBER CABLE

5/8" x 10' LONG GROUND ROD

CONDUIT (4"Ø WITH FIBER CABLE)

ELECTRICAL CONDUIT

#2 AWG SOLID TNND BARE COPPER CONDUCTOR

COPPER CLAD GROUND ROD 5/8" DIA. x 10-0" LONG

CADWELD CONNECTIONS, BUS BAR ONLY.

NOTE:

N.T.S.

36"

TYPE VS

HORIZONTAL CABLE TAP TO VERTICAL STEEL SURFACE OR TO VERTICAL PIPE.

CABLE TAP DOWN AT 45° THROUGH VERTICAL STEEL SURFACE OR THE SIDE OFeither HORIZONTAL OR VERTICAL PIPE.

HORIZONTAL OR VERTICAL PIPE.

THE SIDE OF EITHER HORIZONTAL OR VERTICAL PIPE.

CABLE TAP TO TOP OF GROUND ROD. RUN AND TOP CABLES.

CABLE TAP DOWN AT 45° THROUGH AND TAP CABLES LAPPED AND CROSS OF HORIZONTAL 

CABLE OFF SURFACE.

CABLE TO VERTICAL STEEL SURFACE OR THE SIDE 

CABLE TO VERTICAL STEEL SURFACE OR THE SIDE OF HORIZONTAL PIPE.

SURFACE OR PIPE.

NOT CUT SURFACE OR PIPE.

TYPICAL GROUND ROD DETAIL

TYPICAL BARRIL LUG CONNECTION

TYPICAL INSPECTION WELL DETAIL

TYPICAL GROUND ROD DETAIL

TYPICAL XIT CHEMICAL GROUND DETAIL

TYPICAL WELD GATE DETAIL

TYPICAL ELECTRIC SERVICE ENTEANCE DETAIL

TYPICAL POWER RISER SCHEMATIC

TYPICAL POWER RISER SCHEMATIC
Dear City Representatives,

Verizon Wireless is proud to serve the greater Lawrence area and we are always diligent to maintain excellent service and improvements. At this time, we are trying to enhance the area near and surrounding Pleasant Grove, KS where coverage service reliability and capacity must be improved. The area that needs improvement at this time in both coverage and performance is along Highway 59 south of Lawrence near the community of Pleasant Grove. The fast growing 3G voice and 4G (LTE) data have required us to put a new site in this area to improve coverage, performance and offload capacity from our existing sites namely Wakarusa River and South Lawrence as shown below, Map 1.

Map 1 – Existing Coverage
Below is map 2 showing with the proposed new site, Pleasant Grove.

Map 2 – Coverage with the new site

With the new site, the coverage, performance and capacity will improve within about 1.5 mile radius from the new site.
Other locations near this area were considered, a water tank to the south and an existing tower to the northwest of the proposed Verizon location.

Below is map 3 showing coverage if the proposed site was located on the water tank located at latitude: 38-50-15.61 N and longitude: 95-16-13.37 W.

The water tank location is too close to the existing South Lawrence cell site. This results in unequal spacing between the existing cell sites along Highway 59 creating a coverage null to the north and excessive overlap of signal to the south, which will impact call quality. The objective of the future site is not being met at the water tank location. The limited height of the water tank is also a contributing factor of it not being considered a prime candidate.
Below is map 4 showing coverage if the proposed site was located on the Kansas Broadband tower located at latitude: 38-53-23.0 N and longitude: 95-17-17.9 W.

Map 4 – Coverage with the new site on Kansas Broadband tower

The Kansas Broadband tower is too far northwest of the Pleasant Grove area to adequately address coverage issues along that part of Highway 59. (2.4 miles NW of the proposed location) The large coverage null of initial concern still remains. Even when increasing antenna height and new azimuths on the Kansas Broadband tower, the coverage null remains throughout much of the Pleasant Grove area and the site objective is not met.
Map 5 – Coverage with the new site on Kansas Broadband tower at 200 ft and new azimuths

Area of concern: even with higher antenna height and new azimuths on Kansas Broadband tower the coverage null remains throughout much of the area.
CUP-14-00451: Conditional Use Permit for a New Wireless Communications Tower Located Just South of 1275 N 850 Road in Pleasant Grove

Lawrence-Douglas County Planning Office
December 2014

Subject Property
Due to the very poor reception for cell phones in the hole of Pleasant Grove, I would like to vote that the request for a cellular tower for Verizon be completed.

Thanks,
Loren
I AM OPPOSED TO THE BUILDING A COMMUNICATION TOWER IN PLEASANT GROVE, located on the south side of N 850 Rd and the east side of E 1296 Rd in Pleasant Grove.

MY REASONS:

1. The area west of E 1296 Rd. has a relative high density of houses, that have high appraised values according to your Real Estate Tax Statements. Therefore, the selling of these properties will be affected with the communication tower. We have suffered the recession on real estate in the past few years and now will suffer more with the tower, in our valuation of property.

2. Many individuals (who would be prospective buyers) do not want near a tower and will not look at any houses near them.

3. I will be few feet (approximately 1/4 mile) from the tower and the tower will be first thing people will see out my front door and my breakfast table. My house faces South and my front yard faces the tower.

4. I choose this area for my home as the area South of town, is to me, the prime area of Lawrence.

Please deny the communication tower in Pleasant Grove.

Thank you for your attention to this email.

Marilyn Lynch
1272 N. 870 Road
Lawrence, Kansas