

PLANNING COMMISSION REPORT
Regular Agenda – Public Hearing Item

PC Staff Report
12/15/2014

**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 Buntmeyer Communication
6. Marilyn Lynch Commination

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 Buntmeyer 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.

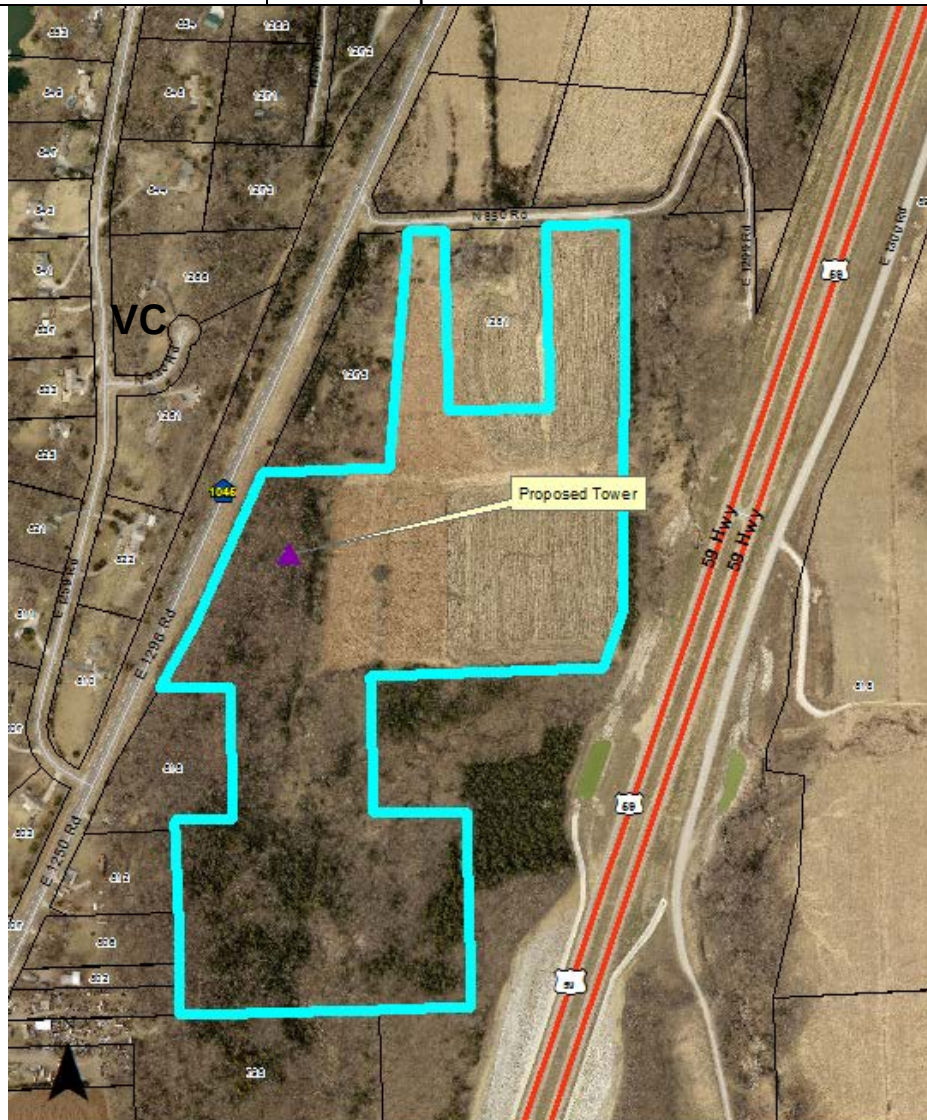
Site Summary:

Subject Property:

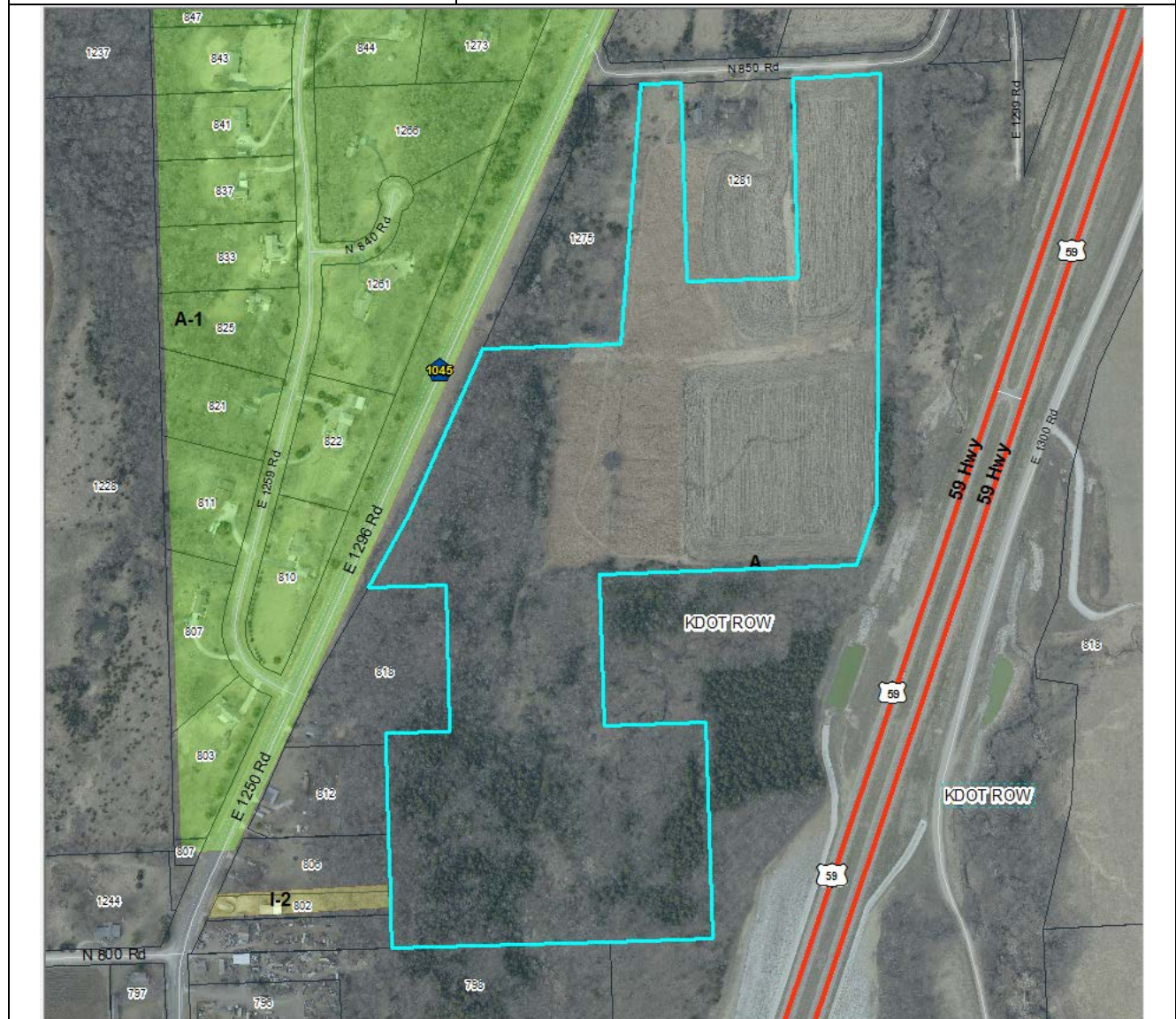
51.4 Acres

Proposed Buildings:

100' x 100' lease area
70' by 70' fenced/enclosed area
11' 6" x 25' 5 1/2" 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	
Current Zoning and Land Use:	A (Agricultural) District. Existing agricultural field.
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.



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 activities 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.

VII. 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 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. 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

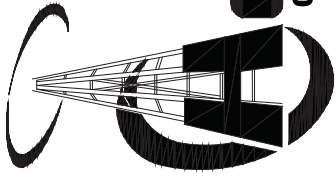
Access to this site is from N 850 Road. The applicant will be required to seek an access permit from the County for the driveway to the tower site. The access drive will provide maintenance access to the tower enclosure. This use does not require off-street parking. The design of the site provides adequate 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.



312 W. COLFAX AVE.
SOUTH BEND, IN 46601

HORVATH SITE ID/NAME: HV848/PLEASANT GROVE VERIZON WIRELESS PROJECT NAME: LAWC PLEASANT GROVE

PROPOSED ANTENNAS MOUNTED ON A NEW 195' SELF-SUPPORT TOWER (NOT TO EXCEED 199' IN
OVERALL STRUCTURE HEIGHT) WITH PROPOSED COMMUNICATIONS EQUIPMENT ON GROUND



10/6/2014

UTILITY INFORMATION	
POWER COMPANY:	WESTAR ENERGY (800) 401-5666
TELEPHONE COMPANY:	AT&T (888) 944-0447
CONSULTANT TEAM	
PROJECT CONSULTANT:	TERRA CONSULTING GROUP, LTD. 600 BUSSE HIGHWAY PARK RIDGE, IL 60068 (847) 698-6400
SURVEYOR:	LOVELACE & ASSOCIATES 929 SE 3RD ST LEES SUMMIT, MO 64063 (616) 347-4997
SITE ACQUISITION:	FORTUNE WIRELESS, INC. 6402 CORPORATE DRIVE INDIANAPOLIS, IN 46218 (317) 471-1234



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(DIG-SAFE)
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(FAX)

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DRIVING DIRECTIONS
KANSAS CITY INTERNATIONAL AIRPORT, MO
AT ROUNDABOUT, EXIT ONTO LP COOKINGHAM DR (1.5 MI), KEEP STRAIGHT
ONTO MO-D E (0.7 MI), TAKE RAMP RIGHT FOR I-29 S (4.0 MI), AT EXIT 9B,
TAKE RAMP RIGHT FOR MO-152 WEST (5.4 MI), TAKE RAMP RIGHT FOR I-435
S (1.1 MI), AT EXIT 12, TAKE RAMP RIGHT FOR I-70 W (25.7 MI), AT EXIT 202,
TAKE RAMP RIGHT TOWARD W. LAWRENCE (0.2 MI), AT ROUNDABOUT, TAKE
2ND EXIT (0.3 MI), KEEP STRAIGHT ONTO N McDONALD DR (0.3 MI),
CONTINUE TO THE END OF THE ROAD, TURN LEFT ONTO N 850 RD, FOLLOW
SIGNS FOR US-59 SOUTH (0.9 MI), TAKE RAMP RIGHT AND FOLLOW N 100TH
RD (0.2 MI), TURN RIGHT ONTO N 100TH RD / CR-458, AND THEN TURN LEFT
ONTO E 1300 RD / OLD US-59 (1.6 MI), TURN LEFT ONTO N 850 RD (0.1 MI).

PROJECT INFORMATION

HORVATH SITE ID: HV848
HORVATH SITE NAME: PLEASANT GROVE
VZW PROJECT NAME: LAWC PLEASANT GROVE
E911 ADDRESS: TBD

PROPERTY OWNER: LEO AND SHERYL BEIER
1281 N 850 RD,
LAWRENCE, KS 66047
PHONE: (660) 354-2515

APPLICANT: HORVATH COMMUNICATIONS
312 W. COLFAX AVE
SOUTH BEND, IN 46601

CONTACT PERSON: BILL PETTY
(740) 505-5212

LATITUDE: N 38° 51' 34.001" (FROM 1A)
LONGITUDE: W 95° 15' 57.012" (FROM 1A)

LAT/LONG TYPE: DEGREES MINUTES AND SECONDS
CURRENT ZONING: AG

SPECIAL NOTES

HANDICAPPED REQUIREMENTS:
FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION
HANDICAPPED ACCESS REQUIREMENTS NOT REQUIRED

PLUMBING REQUIREMENTS:
FACILITY HAS NO PLUMBING

SHEET INDEX	
SHEET	DESCRIPTION
T-1	TITLE SHEET
LP	LOCATION PLAN
C-1	ENGINEERING SITE PLAN
C-2	SITE GRADING PLAN - SHEET 1 OF 2
C-2A	SITE GRADING PLAN - SHEET 2 OF 2
C-3	SITE DETAILS
C-4	SITE DETAILS
C-5	KEYSTONE RETAINING WALL DETAILS
C-6	GENERAL CIVIL NOTES
ANT-1	SITE ELEVATION
ANT-2	ANTENNA INFORMATION
ANT-2A	ANTENNA PLUMBING DIAGRAM
ANT-3	ANTENNA MOUNTING DETAILS
ANT-4	ANTENNA MOUNTING DETAILS
E-1	UTILITY ROUTING PLAN
E-2	SITE GROUNDING PLAN
E-3	ELECTRICAL & GROUNDING DETAILS
E-4	ELECTRICAL DETAILS
E-5	GROUNDING DETAILS

ATTACHMENTS	
1 OF 1	LAND SURVEY
-	

REVISIONS			
NO.	DATE	BY	DESCRIPTION
A	07/31/14	EW	ISSUED FOR REVIEW
B	09/02/14	SA	REVISED PER CLIENT COMMENTS

SITE HV848

PLEASANT GROVE

VERIZON WIRELESS SITE NAME:
LAWC PLEASANT GROVE

N 850 ROAD
PLEASANT GROVE, KS

DRAWN BY: EW
CHECKED BY: AB
DATE: 07/31/14
PROJECT #: 44-568

TITLE SHEET	
SHEET NUMBER	
T-1	



LEGEND

- POWER POLE
- BENCHMARK
- CONTROL POINT
- FENCE POST
- PROPERTY CORNER
- TREE LINE
- FENCE
- OVERHEAD POWER LINE
- UNDERGROUND ELECTRIC
- UNDERGROUND FIBER
- TELEPHONE PEDESTAL
- TREE (DIA.)
- RIGHT-OF-WAY MARKER

PP

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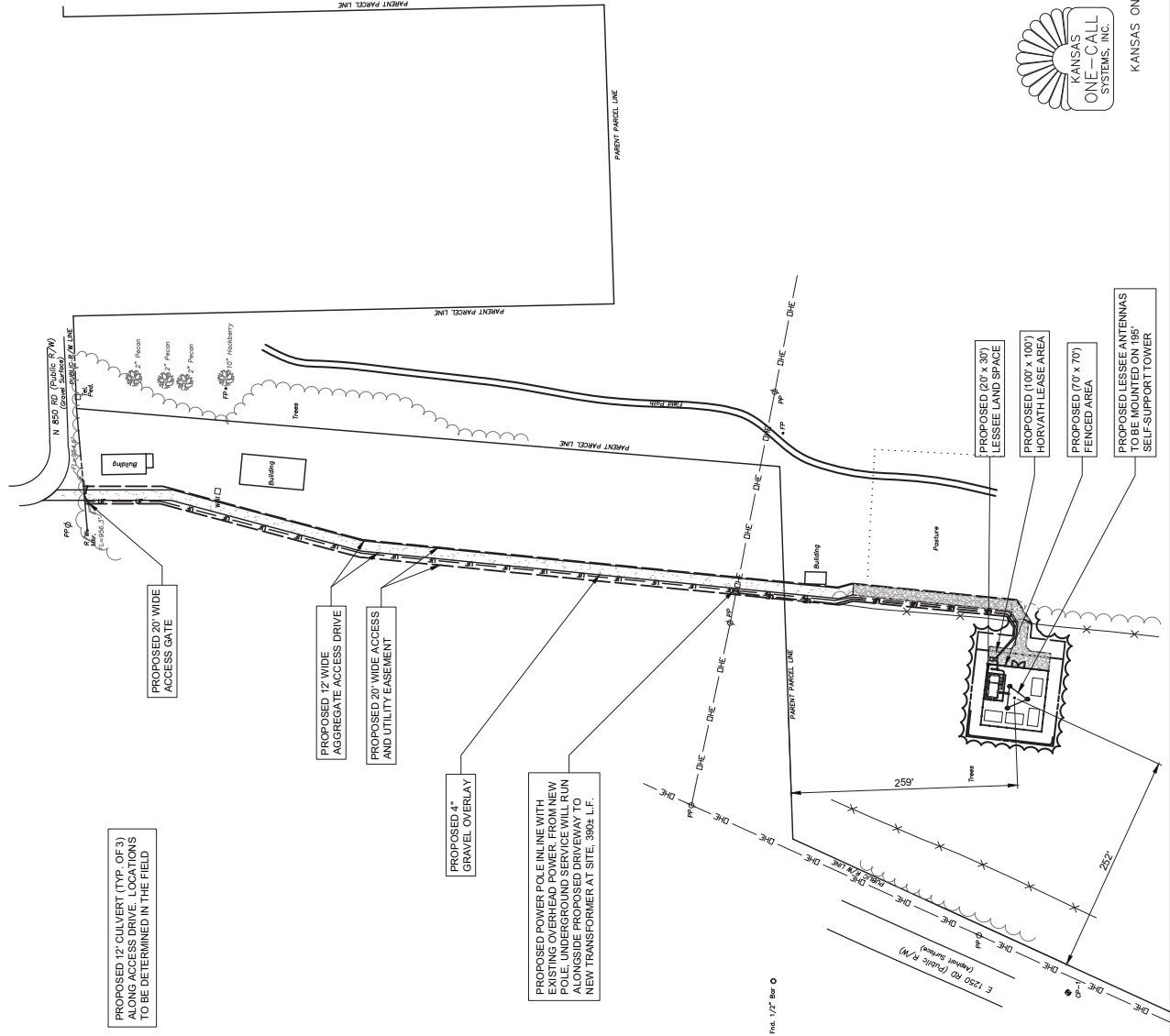
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HORVATH COMMUNICATIONS
312 W. COLFAX AVE.
SOUTH BEND, IN 46801



TERRA
COMMUNICATIONS SURVEYING, L.P.
600 Busse Highway
Park Ridge, IL 60069
PH: 847/698-6400
FAX: 847/698-6401

REVISIONS			
NO.	DATE	BY	DESCRIPTION
A	07/01/14	EW	ISSUED FOR REVIEW
B	09/02/14	SA	REVISED PER CLIENT COMMENTS

SITE HV848

PLEASANT GROVE

VERSION: WIRELESS SITE NAME:
LAWC PLEASANT GROVE

N 850 ROAD
PLEASANT GROVE, KS

LP

DRAWN BY: EW

CHECKED BY: AB

DATE: 07/01/14

PROJECT #: 44-066

SHEET TITLE:
LOCATION PLAN

SHEET NUMBER:
LP



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REVISIONS	
NO.	DESCRIPTION
A	ISSUED FOR REVIEW
B	REVISED PER CLIENT COMMENTS
SA	09/02/14

SITE HV848

PLEASANT GROVE

VERSION: WIRELESS SITE NAME:
LAWC PLEASANT GROVE

N 850 ROAD
PLEASANT GROVE, KS

DRAWN BY:	EW
CHECKED BY:	AB
DATE:	07/31/14
PROJECT #:	44-966

SHEET TITLE
SITE GRADING PLAN
SHEET 1 OF 2

SHEET NUMBER
C-2



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LOVELACE & ASSOCIATES
Land Surveying - Land Planning
Telecommunications Surveys
929 SE 3rd Street Lee's Summit, Missouri 64063
Phone: (816) 347-9997 Fax: (816) 347-9979

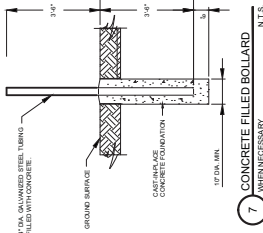
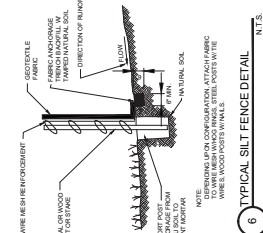
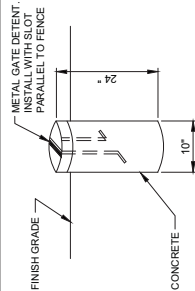
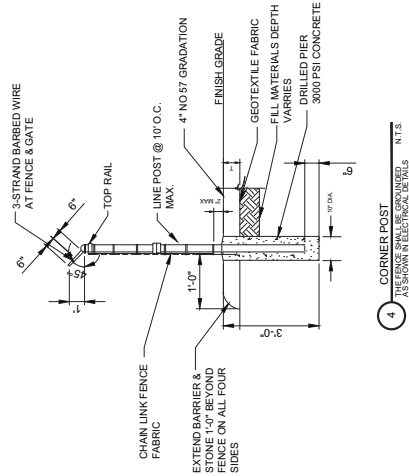
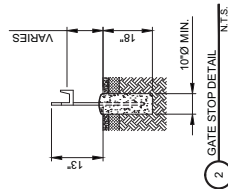
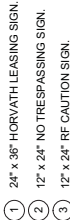
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1. ALL EARTHWORK, GRADING AND PAVING SHALL BE PERFORMED IN ACCORDANCE WITH THE STANDARD SPECIFICATIONS FOR ROAD AND BRIDGE CONSTRUCTION.
2. THE CONTRACTOR SHALL KEEP CAREFUL MEASUREMENTS AND RECORDS OF ALL EARTHWORK AND SHALL FURNISH TO THE ENGINEER AND THE WORKMASTER, AT THE END OF EACH MONTH, A SUMMARY OF THE WORK DONE SET OF MEASUREMENTS, RECORD DRAWINGS AND COPIES OF THE MEASUREMENTS AND RECORDS.
3. ALL WORK PERFORMED BY THE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF COMPLETION OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR ANY DEFECTS, MATERIALS AND WORKMANSHIP.
4. ALL STRUCTURES SHALL BE PROTECTED BY THE CONTRACTOR.
5. ALL UTILITIES SHALL BE DEPOSED OF OFFSET BY THE CONTRACTOR.
6. ALL UTILITIES, METERS, PIPES, SWALES AND ROADS SHALL BE KEPT CLEAN AND FREE OF DIRT AND DEBRIS AT ALL TIMES.
7. THE CONTRACTOR IS RESPONSIBLE FOR MAINTAINING ADJACENT SIGNS.
8. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL OTHER REQUISITES THAT ARE NECESSARY TO PROTECT THE SAFETY OF THE SHEET AREA.
9. THE CONTRACTOR SHALL BE RESPONSIBLE TO PROTECT ALL WORKS, ADJACENT UTILITIES AND HOLDINGS OF THE OWNER, THE ENGINEER, THE WORKMASTER AND ANY PERSONS ON THE PROJECT SITE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE PROTECTION OF ALL UTILITIES AND FURTHER AGREES TO REPAIR OR REPLACE ANY ALLEGED FEES INCURRED BY THE OWNER.
10. WORK MUST COMENCE AND BE COMPLETED BY THE TIME INDICATED IN THE PROJECT SPECIFICATIONS.
11. EXISTING UTILITIES, IF ANY, ARE SHOWN AS A GUIDE ONLY. THE CONTRACTOR SHALL BE RESPONSIBLE FOR THE LOCATION OF EXISTING UTILITIES PRIOR TO EXCAVATING ANYWHERE ON THE SITE.
12. ALL ADJACENT, IF ANY, MUST BE KNOWN BEFORE THE BEGINNING OF THE PROJECT.

1. ALL PROPOSED PAVING AREAS SHALL BE STRIPPED OF ALL TOPSOIL AND INSURABLE MATERIAL, AND EXCAVATED OR FILLED TO WITHIN 10% OF THE FINISHED GRADE.
2. THE SUBGRADE SHALL BE FREE OF ALL UNSURFACED MATERIAL AND SHALL BE COMPACTED TO A MINIMUM 98 PER CENT OF MODIFIED PROCTOR DENSITY.
3. THE QUANTITIES CONTAINED IN THESE DOCUMENTS ARE APPROXIMATE AND THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING THE NECESSARY INFORMATION IN DETERMINING ALL QUANTITIES AND TO BECOME FAMILIAR WITH THE SITE AND SOIL CONDITIONS.
4. THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL NECESSARY PERMITS AND TO MAKE ALL NECESSARY CHANGES TO THE POSITIVE PAVEMENT AT THE CONCLUSION OF EACH WORKDAY.
5. THE PAVING CONTRACTOR IS RESPONSIBLE FOR THE FINAL SUBGRADE PREPARATION, THE PAVED BASE, BINDER, AND SURFACE, AND ALL NECESSARY CHANGES TO THE POSITIVE PAVEMENT WITHIN THE PAVING OPERATION.
6. UPON COMPLETION OF THE PAVING, THE CONTRACTOR WILL BE RESPONSIBLE FOR THE PROTECTION OF ALL EXISTING ADJACENT TO ALL EXISTING UTILITIES AND TO MAKE ALL NECESSARY CHANGES TO THE POSITIVE PAVEMENT AT THE CONCLUSION OF EACH WORKDAY.

1. REMOVABLE CASE MUST BE TIGHT TO MINIMIZE SOIL POLLUTION. REFER TO PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND CONSTRUCTION POLLUTION, PREPARED BY THE U.S. SOIL AND CONSERVATION SERVICE.
2. ALL NESTS, STRUCTURES, PILES, WAVES, AND ROCKS SHALL BE KEPT CLEAN AND FREE OF DIRT AND SILT.
3. STOCKPILES SHALL BE COVERED OR BENCH AROUND THE STOCKPILE TO PREVENT EROSION. STOCKPILING SHALL BE LIMITED TO 10 FEET TO REMAIN FOR MORE THAN ONE MONTH. MUST HAVE SUFFICIENT VEGETATION TO CONTROL BOTH WATER AND WIND EROSION.
4. STAMPALES FINELY ANCHORED SHALL BE PLACED AROUND ALL NESTS. STOCKPILING SHALL BE LIMITED TO 10 FEET TO REMAIN FOR MORE THAN ONE MONTH.
5. SILT FENCE WILL BE CONSTRUCTED ALONG THE WEST PROPERTY CORNER OF CONSTRUCTION.
6. ALL EROSION CONTROL MEASURES SHALL BE MAINTAINED THROUGH THE DURATION OF THE PROJECT.
7. REPAIR SOIL EROSION CONTROL DEVICES THROUGH THE DURATION OF THE COMPLETION OF THE PROJECT.
8. ALL ADJACENT ROADWAYS SHALL BE KEPT CLEAN AT ALL TIMES.
9. ADDITIONAL EROSION CONTROL MEASURES SHALL BE UNDERTAKEN AS REQUIRED BY THE ENGINEERING INSPECTOR DURING THE PROJECT.

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[illegible]

PLEASANT GROVE

VERIZON WIRELESS SITE NAME:
LAWC PLEASANT GROVE
N 850 ROAD
PLEASANT GROVE KS

DRAWN BY:	EW
CHECKED BY:	AB
DATE:	07/31/14
PROJECT #:	44-066

SHEET NUMBER

3



REVISIONS	
NO.	DESCRIPTION
A	ISSUED FOR REVIEW
DATE	07/01/14
BY	EW

SITE HV848

PLEASANT GROVE

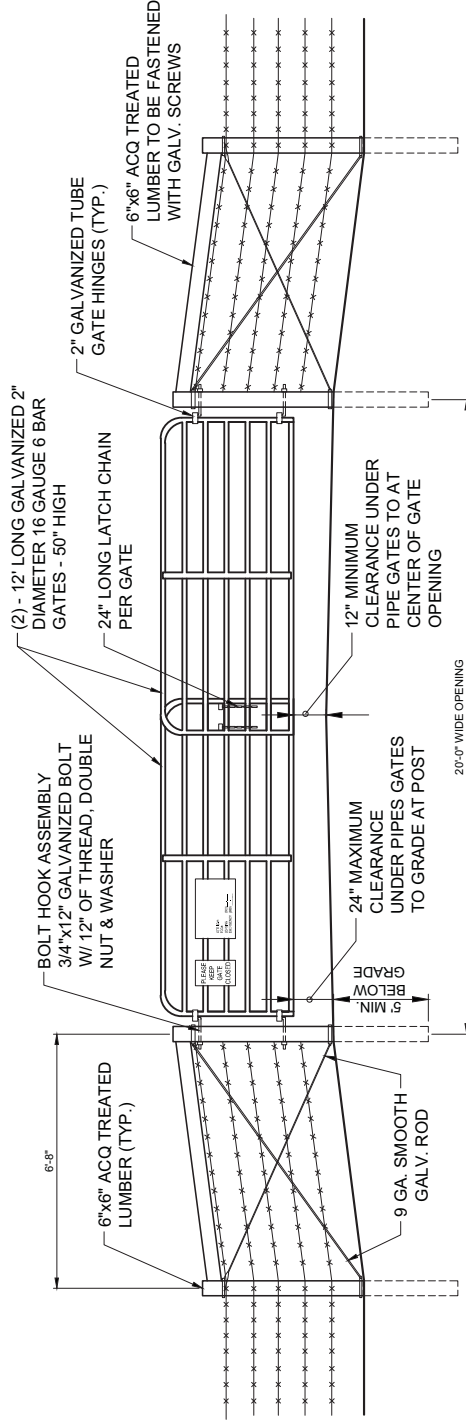
VERSION: WIRELESS SITE NAME: LAWC PLEASANT GROVE

N 850 ROAD PLEASANT GROVE, KS

DRAWN BY:	EW
CHECKED BY:	AB
DATE:	07/01/14
PROJECT #:	44-066

SHEET TITLE
SITE DETAILS

SHEET NUMBER
C-4

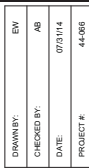
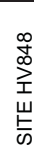
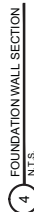
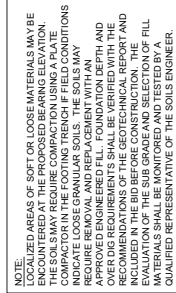
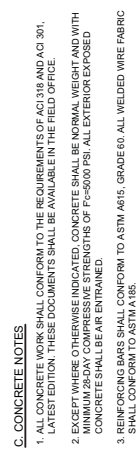
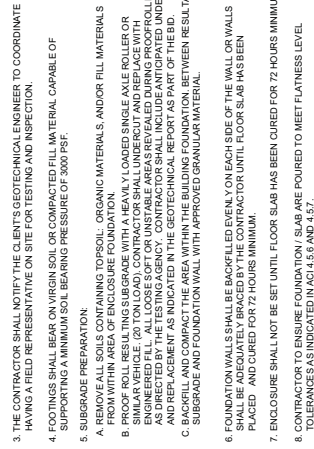
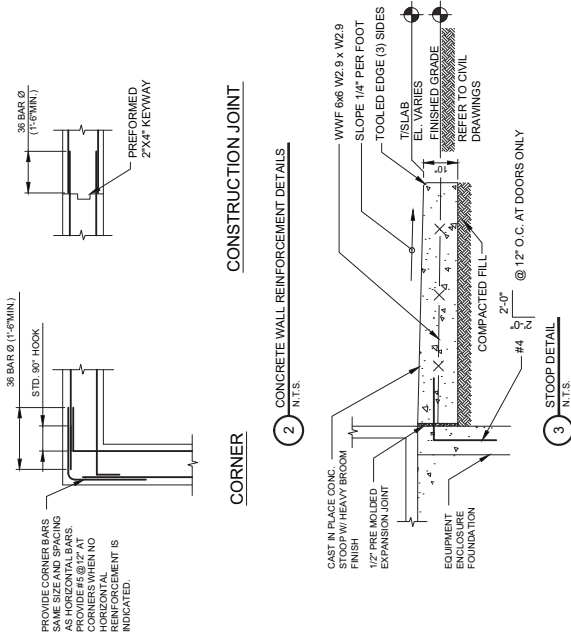
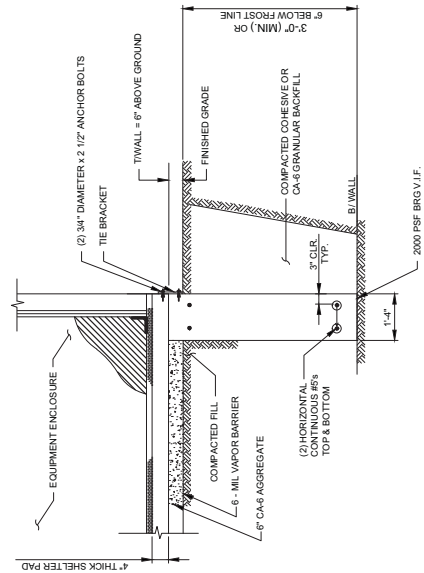
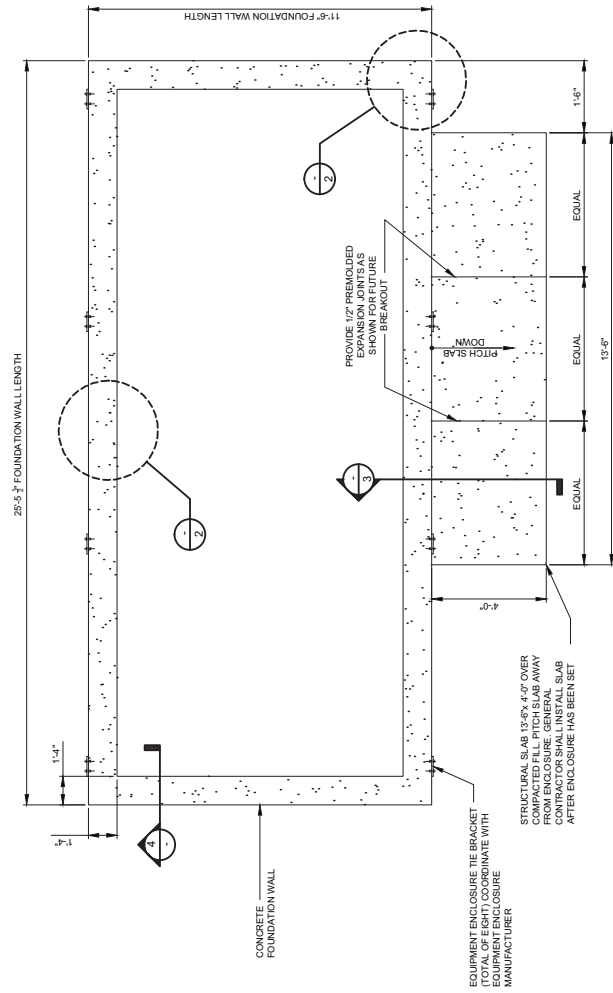


1 ENTRY GATE DETAIL
SCALE: N.T.S.

CALL BEFORE YOU DIG - DRILL - BLAST
800-344-7233
(DIG-SAFE)
(316) 687-3753
(FAX)

KANSAS ONE-CALL SYSTEMS, INC.

KANSAS ONE CALL SYSTEM, INC.



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: 1-800-747-8871
www.keystonewalls.com

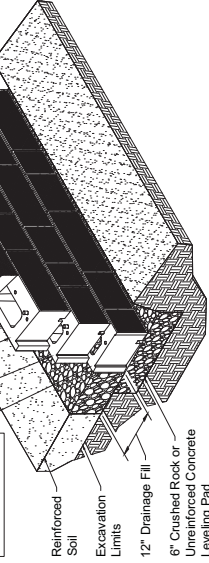
Base Leveling Pad Notes:

- The leveling pad is to be constructed of crushed stone or 2,000 psi unreinforced concrete
- The base foundation is to be approved by the site geotechnical engineer prior to placement of the leveling pad.

Large Unit			
Width:	18"	Universal Cap Unit	Width: 14 7/8"
*Depth:	12"		*Depth: 12"
*Height:	8"		*Height: 4"
*Weight:	93 lbs		*Weight: 30 lbs

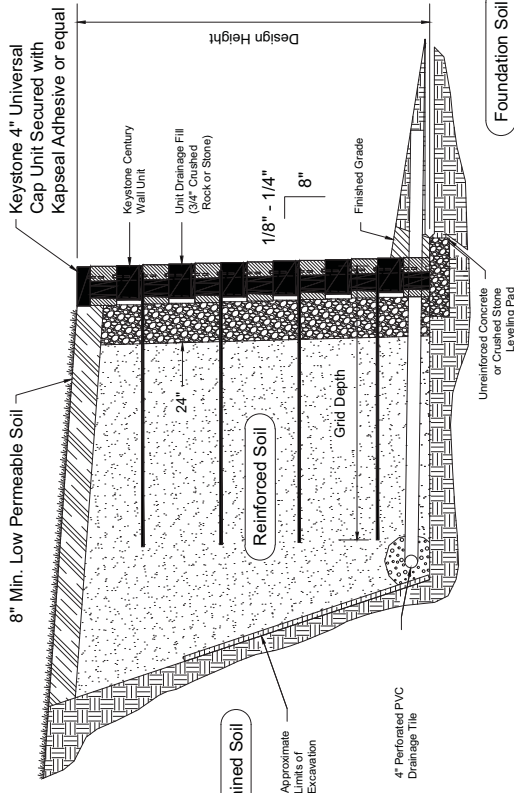
Medium Unit			
Width:	11"		
*Depth:	12"		
*Height:	8"		
*Weight:	58 lbs		

Small Unit			
Width:	7"		
*Depth:	12"		
*Height:	8"		
*Weight:	37 lbs		



Century Wall Unit/Base Pad Isometric Section View

* Dimensions & Weight May Vary by Region

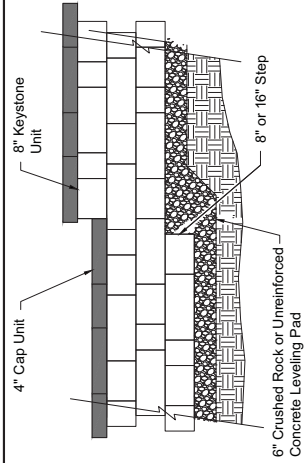


CALL BEFORE YOU DIG - DRILL - BLAST
800-344-7233
(TOLL-FREE)
(316) 777-3753
(FAX)
KANSAS ONE - CALL SYSTEM, INC.

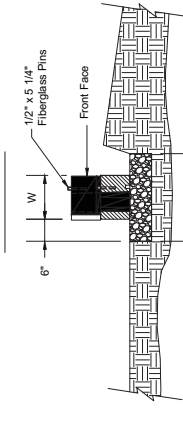
Typical Reinforced Wall Section

Century Wall Unit - Near Vertical Setback

NOTE:
WHEN SITE CONDITIONS REQUIRE, WRAP
REINFORCED CONCRETE BACK DRAIN
COMPOSITE OR AGGREGATE BACK DRAIN
SYSTEM AS DIRECTED BY GEOTECHNICAL
ENGINEER.

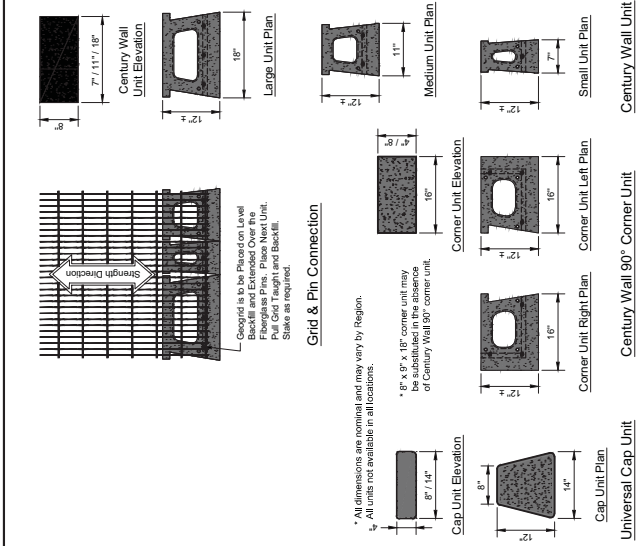


Elevation



Section

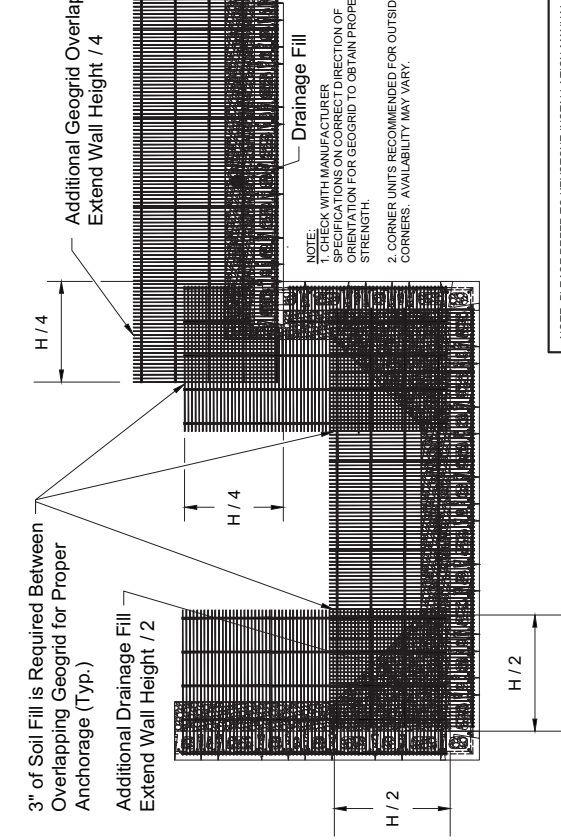
Leveling Pad and Cap Step Detail



Universal Cap Unit

Century Wall 90° Corner Unit

Century Wall Unit



Geogrid Installation at Corners

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: 1-800-747-8871
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FORVATH COMMUNICATIONS

312 W. COLFAX AVE.
SOUTH BEND, IN 46801

TERRA

600 Russe Highway
Park Ridge, IL 60068
Tel: 847/698-6400
Fax: 847/698-6401

REVISIONS			
NO.	DESCRIPTION	DATE	BY
1	ISSUED FOR REVIEW	07/01/14	EW

SITE HV848

PLEASANT GROVE

VERSION: WIRELESS SITE NAME
LAWC PLEASANT GROVE

N 850 ROAD
PLEASANT GROVE, KS

DRAWN BY: EW

CHECKED BY: AB

DATE: 07/01/14

PROJECT #: 44-066



KANSAS ONE - CALL SYSTEM, INC.

GENERAL NOTES

GENERAL REQUIREMENTS

1. ALL WORK SHALL CONFORM TO THE REQUIREMENTS OF THE LATEST EDITION OF THE FOLLOWING CODES/SPECIFICATIONS:
- A. ALL CONTRACT DOCUMENTS AND THE PROJECT STANDARD SPECIFICATIONS.
 - B. ALL APPLICABLE LOCAL, STATE AND FEDERAL CODES AND REGULATIONS.
 - C. UNIFORM BUILDING CODE (UBC) BUILDING OFFICIALS & CODE ADMINISTRATIONS (BOCA) AS APPLICABLE.
 - D. AMERICAN CONCRETE INSTITUTE (ACI).
 - E. AMERICAN SOCIETY FOR TESTING AND MATERIALS (ASTM).
 - F. ELECTRIC INDUSTRIES ASSOCIATION STANDARDS (EIA/IEEE225E).
2. THE FACILITY IS AN UNOCCUPIED SPECIALIZED MOBILE RADIO FACILITY.
3. IRANS ARE NOT TO BE SCALED AND ARE INTENDED TO BE USED FOR THE CONSTRUCTION OF THE FACILITY. THEREFORE, THE WORK SHALL INCLUDE FINISHING MATERIALS, INSTALLATIONS AS NOTICED ON THE DRAWINGS.
4. PRIOR TO THE SUBMISSION OF THE BID, THE CONTRACTOR SHALL VISIT THE JOB SITE AND BECOME FAMILIAR WITH THE FIELD CONDITIONS. ANY DISCREPANCIES ARE TO BE REPRESENTATIVE.
5. THE CONTRACTOR SHALL RESERVE IN WRITING, AUTHORIZATION TO PROCEED BEFORE STARTING WORK ON ANY ITEM NOT CLEARLY IDENTIFIED BY THE CONTRACT DOCUMENTS.
6. THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS IN ACCORDANCE WITH MANUFACTURERS' NOTED RECOMMENDATIONS UNLESS SPECIFICALLY OTHERWISE NOTED.
7. THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE WORK, BE RESPONSIBLE FOR THE PROTECTION OF THE WORK, AND BE SAFELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, MATERIALS, EQUIPMENT, AND PERSONNEL. THE CONTRACTOR SHALL BE RESPONSIBLE FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT INCLUDING CONTRACT AND COORDINATION WITH THE LANDLORD'S AUTHORIZED REPRESENTATIVE.
8. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS AND LOCATIONS OF EXISTING UTILITIES PRIOR TO THE STARTING OF ANY WORK.
9. THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING UTILITIES AND ADJACENT PROPERTIES OF WORK, REPAIR ANY DAMAGE THAT OCCURRED DURING CONSTRUCTION.
10. KEEP THE CONSTRUCTION SITE CLEAN, HAZARD FREE, AND EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. LEAVE PREMISES IN CLEAN CONDITION AND FREE FROM PAINT, SPILLS, DUST, OR SHADINGS OF ANY NATURE.
11. CONTRACTOR SHALL PROVIDE A COMPLETE SET OF AS-BUILT DRAWINGS TO THE OWNER AFTER COMPLETION OF THE JOB.
12. MEANS AND METHODS OF CONSTRUCTION INCLUDING, BUT NOT LIMITED TO, THE PROTECTION OF EXISTING UTILITIES AND SHORING ARE THE RESPONSIBILITY OF THE CONTRACTOR.
13. ALL EARTHWORK, GRADING AND PAVING SHALL BE PERFORMED IN ACCORDANCE WITH THE CURRENT STATE DEPARTMENT OF TRANSPORTATION SPECIFICATIONS.
14. ALL WORK PERFORMED BY THE CONTRACTOR SHALL BE GUARANTEED BY THE CONTRACTOR FOR A PERIOD OF TWELVE (12) MONTHS FROM THE DATE OF COMPLETION OF THE WORK. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DEFECTS IN MATERIALS AND WORKMANSHIP ARISING OUT OF THE DEFENSE OF SAID PARTIES.
15. ALL DIRT WILL BE DEPOSED OFF SITE BY THE CONTRACTOR.
16. EMBANKMENTS, TRENCHES, EXCAVATIONS, AND MEASURES AND OTHER MEASURES THAT ARE NECESSARY TO PROTECT THE SAFETY OF THE WORK SHALL BE THE RESPONSIBILITY OF THE CONTRACTOR.
17. THE CONTRACTOR BY AGREEING TO PERFORM THE WORK AGREES TO INDEMNIFY AND HOLD HARMLESS THE OWNER, THE ENGINEER, THE ARCHITECT, AND ANY OTHER PARTY FROM AND AGAINST ALL CLAIMS, DAMAGES, LOSSES, SUITS AND CLAIMS ARISING OUT OF THE PERFORMANCE OF THE WORK, INCLUDING THE DEFENSE OF SAID PARTIES.
18. EXISTING UTILITIES: IF ANY ARE SHOWN AS GUIDE ONLY, THE CONTRACTOR SHALL BE RESPONSIBLE FOR EXISTING UTILITIES PRIOR TO EXCAVATING ANYWHERE ON THE SITE.
19. ALL ADDENDA, IF ANY, MUST BE ACKNOWLEDGED WITH THE BID.

CONCRETE AND STEEL REINFORCEMENT

1. ALL CONCRETE SHALL BE NORMAL WEIGHT AND SHALL ACHIEVE A COMPRESSIVE STRENGTH OF 4000 PSI. ALL CONCRETE SHALL BE NOTED OTHERWISE. CEMENT SHALL CONFORM TO ASTM C150 TYPE II.
2. MIX AND DELIVER CONCRETE IN ACCORDANCE WITH ASTM C94. THE ENGINEER FOR REVIEW PRIOR TO PLACEMENT OF CONCRETE.
3. MAXIMUM AGGREGATE SIZE SHALL NOT EXCEED 3/4".
4. SLUMP OF CONCRETE SHALL BE 2" TO 5".
5. ALL REINFORCING STEEL SHALL BE DEFORMED AND CONFORM TO THE REQUIREMENTS OF ASTM A615 GRADE 60.
6. WELDED WIRE FABRIC SHALL CONFORM TO ASTM A 185.
7. NO REINFORCING SHALL BE USED WITHOUT THE PRIOR WRITTEN AUTHORIZATION OF THE ENGINEER.
8. ALL CONSTRUCTION AND EXPANSION JOINTS SHALL BE INSTALLED PER THE DRAWINGS.
9. ALL EXPOSED CORNERS OF CONCRETE WORK SHALL BE CHAMFERED 3/4" UNLESS NOTED OTHERWISE.
10. UNLESS NOTED OTHERWISE ALL REINFORCING STEEL SHALL BE PLACED IN ACCORDANCE WITH THE FOLLOWING:
11. ALL FORMWORK SHALL BE RIGID, TIGHT, LEVEL, PLUMB, AND SUFFICIENTLY SHORED TO RESIST CONSTRUCTION LOAD CONDITIONS.
12. CURING OF CONCRETE SHALL BE PER ACI 308.86, STANDARD PRACTICE FOR CURING CONCRETE.
13. PLACE CONCRETE IN ACCORDANCE WITH ACI 304.86.
14. NOT WEATHER CONCRETE SHALL BE PER ACI 308.86.
15. WELDING OF REINFORCING STEEL ARE PROHIBITED.
16. PRIOR TO THE PLACEMENT OF THE CONCRETE, THE CONTRACTOR SHALL OBTAIN THE APPROVAL OF THE ENGINEER AND THE OWNER'S REPRESENTATIVE AND THE TESTING AGENCY.
17. PROVIDE TEST CYLINDERS AS FOLLOWS:
- A. EQUIPMENT ENCLOSURE:
 - 1 CYLINDER AT 28 DAYS
 - B. DRILLED PIER:
 - 1 CYLINDER AT 7 DAYS
 - 1 CYLINDER AT 28 DAYS
18. ALL REBAR SPICES SHALL BE CLASS C; NO WELDING WILL BE ALLOWED

EARTHWORK, GRADING, AND PAVING

1. AND UNSURFACED MATERIAL, AND EXCAVATED OR FILLED TO WITHIN 0.10 FEET OF DESIGN SUBGRADE.
2. THE SUBGRADE SHALL BE A MINIMUM 18% PER CENT OF ACHIEVED PROCTOR DENSITY.
3. THE QUANTITIES CONTAINED IN THESE DOCUMENTS ARE APPROXIMATE. THE CONTRACTOR SHALL BE RESPONSIBLE FOR DETERMINING THE QUANTITIES AND SOIL CONDITIONS. TOR IS RESPONSIBLE FOR MAINTAINING POSITIVE DRAINAGE AT THE CONCLUSION OF EACH WORKING DAY.
4. THE PAVING CONTRACTOR IS RESPONSIBLE FOR THE FINAL SUBGRADE PREPARATION, THE PAVEMENT BASE, BINDER, AND SURFACE, AND ALL OPERATIONS, AND RELATED WORK ASSOCIATED WITH THE PAVING OPERATION.
5. UPON COMPLETION OF THE PAVING, THE CONTRACTOR WILL MAINTAIN THE EXISTING PAVING EXISTENCE ADJACENT TO ALL CONSTRUCTED IMPROVEMENTS.
- SOIL EROSION AND SEDIMENT CONTROL
1. REASONABLE CARE MUST BE TAKEN TO MINIMIZE SOIL EROSION. REFER TO PROCEDURES AND STANDARDS FOR URBAN SOIL EROSION AND SEDIMENTATION CONTROL PREPARED BY THE U.S. SOIL AND WATER CONSERVATION SERVICE.
2. ALL INLETS, STRUCTURES, PIPES, SWALES, AND ROADS SHALL BE KEPT CLEAN AND FREE OF DIRT AND SILT.
3. THE CONTRACTOR SHALL BE RESPONSIBLE FOR MAINTAINING THE CIRCUMFERENCE TO CONTROL SILT, IF NEEDED. IF THE STOCKPILE IS TO REMAIN FOR MORE THAN NINE MONTHS IT MUST HAVE SUFFICIENT EROSION CONTROL MEASURES TO PREVENT SILT RUNOFF. STRAW BALES FRAMLY ANCHORED SHALL BE PLACED AROUND ALL INLETS, CATCHBASINS, AND SWALES THAT RECEIVE SILTY RUNOFF DURING THE CONSTRUCTION.
4. SILT FENCE WILL BE CONSTRUCTED ALONG THE WEST PROPERTY LINE ACROSS THE ENTIRE CONSTRUCTION AREA.
5. MAINTAIN SOIL EROSION CONTROL DEVICES THROUGH THE DURATION OF THIS PROJECT.
6. REPLACE SOIL EROSION CONTROL DEVICES WITH SOD AND TOPSOIL AT THE END OF THE CONSTRUCTION PERIOD.
7. ALL ADJACENT ROADWAYS SHALL BE KEPT OPEN AT ALL TIMES.
8. ADDITIONAL SOIL EROSION CONTROL MEASURES SHALL BE UNDERTAKEN IF DEEMED NECESSARY BY THE ENGINEERING INSPECTOR DURING THE COURSE OF CONSTRUCTION.



REVISIONS		NO.	A.
DESCRIPTION	DATE	BY	
ISSUED FOR REVIEW	07/01/14	EW	

SITE HV848

PLEASANT GROVE

VERSION: WIRELESS SITE NAME: LAWG PLEASANT GROVE

N 850 ROAD

PLEASANT GROVE, KS

DRAWN BY:	EW
CHECKED BY:	AB
DATE:	07/01/14
PROJECT #:	44-066

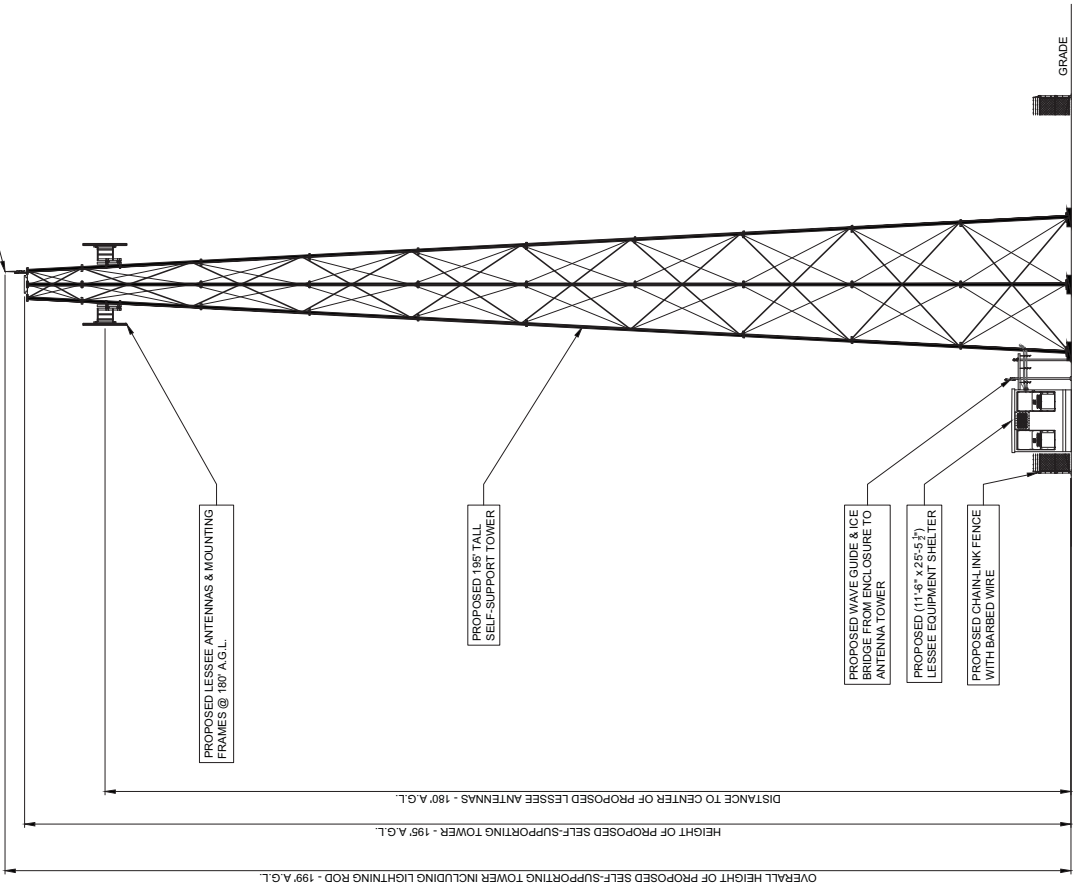
SHEET TITLE: GENERAL CIVIL NOTES

SHEET NUMBER: C-7



20% OF PRINT IS THE FULL SCALE
FOOTPRINT. ANY SEE OTHER THAN
THIS IS AT REDUCED SCALE.

PROPOSED LIGHTNING ROD



1 WEST ELEVATION
SCALE: 3/32" = 1'

HORVATH
COMMUNICATIONS

312 W. COLFAX AVE.
SOUTH BEND, IN 46801

TERRA
COMMUNICATIONS ENGINEERING, LLC

600 Busse Highway
Park Ridge, IL 60068
PH: 847/698-6400
FAX: 847/698-6401

REVISIONS			
NO.	DATE	DESCRIPTION	BY
1	07/31/14	ISSUED FOR REVIEW	EW

SITE HV848

PLEASANT GROVE

VERSION: WIRELESS SITE NAME:
LAWC PLEASANT GROVE

N 850 ROAD
PLEASANT GROVE, KS

DRAWN BY: EW

CHECKED BY: AB

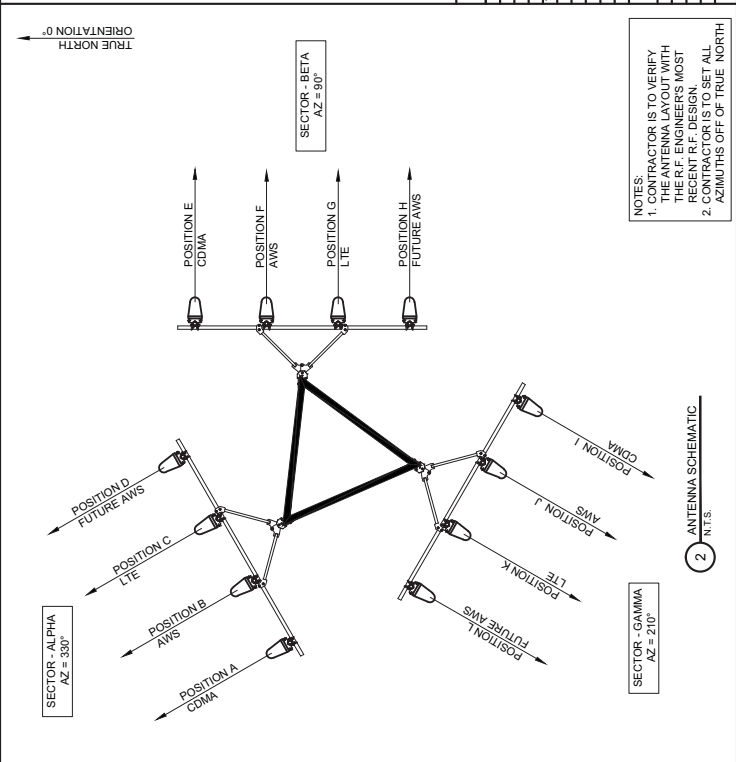
DATE: 07/31/14

PROJECT #: 44-066

SHEET TITLE:
SITE ELEVATION

SHEET NUMBER:
ANT-1

Mainline Cable & Distribution	Position	Antenna Centerline (ft AGL)	Antenna Make / Model	Antenna Count	Height (in)	Width (in)	Depth (in)	Weight (lbs)	Azimuth (true north)	Mech Downtilt	Electrical Downtilt	RRU Make/Model	RRU Count	Distribution Box Make/Model	Raycap Count	Hybrid Cable Make/Model		Hybrid Cable Size	Hybrid Cable Length	Hybrid Jumper Count	RF Jumper Count	RF Length
																RF-5 HybridFlex HBP-114-EU0512-200F	RF-5 HybridFlex HBP-114-EU0512-200F					
Alpha Sector	A	proposed	180 Andrew LMK251TQ5-A-IM-Q2(CDMA/LTE)	1	96.4	11.9	7.1	48.9	330	0	2	RRUS B13 / A2	1					5/8"	1	14'	2	15
	B	proposed	180 Air - 32(A/V5)	1	97	13	9	110	330	0	2							5/8"	1	14'		
	C	proposed	180 Andrew LMK251TQ5-A-IM-Q2(LTE)	1	96.4	11.9	7.1	48.8	330	0	2							5/8"	1	14'	2	15
	D	reserved	180 Air - 32(A/V5) - future	1	57	13	9	110	330	0	2							5/8"	1	14'		
Beta Sector	E	proposed	180 Andrew LMK251TQ5-A-IM-Q2(CDMA/LTE)	1	96.4	11.9	7.1	48.9	90	0	2	RRUS B13 / A2	1					5/8"	1	14'	2	15
	F	proposed	180 Air - 32(A/V5)	1	97	13	9	110	90	0	2							5/8"	1	14'		
	G	proposed	180 Andrew LMK251TQ5-A-IM-Q2(LTE)	1	96.4	11.9	7.1	48.8	90	0	2							5/8"	1	14'	2	15
	H	reserved	180 Air - 32(A/V5) - future	1	57	13	9	110	90	0	2							5/8"	1	14'		
Gamma Sector	I	proposed	180 Andrew LMK251TQ5-A-IM-Q2(CDMA/LTE)	1	96.4	11.9	7.1	48.9	210	0	2	RRUS B13 / A2	1					5/8"	1	14'	2	15
	J	proposed	180 Air - 32(A/V5)	1	97	13	9	110	210	0	2							5/8"	1	14'		
	K	proposed	180 Andrew LMK251TQ5-A-IM-Q2(LTE)	1	96.4	11.9	7.1	48.8	210	0	2							5/8"	1	14'	2	15
	L	reserved	180 Air - 32(A/V5) - future	1	57	13	9	110	210	0	2							5/8"	1	14'		



MATERIAL LIST

	DESCRIPTION	FURNISHED BY	INSTALLED BY
1.	ANTENNA PRE MOUNTS	TOWER VENDOR	CONTRACTOR
2.	ICE BRIDGE HARDWARE	CONTRACTOR	CONTRACTOR
3.	GSC CLOSURES	TOWER VENDOR	CONTRACTOR
4.	TOWER BUS BARS	CONTRACTOR	CONTRACTOR
5.	ANTENNAS	VERIZON WIRELESS	CONTRACTOR
6.	COAX	CONTRACTOR	CONTRACTOR
7.	GRIP TIES	VERIZON WIRELESS	CONTRACTOR
8.	PPC CONNECTORS	CONTRACTOR	CONTRACTOR
9.	ENTRY PORT	CONTRACTOR	CONTRACTOR
10.	BOOTS & CAPS	CONTRACTOR	CONTRACTOR
11.	HANGER KITS	CONTRACTOR	CONTRACTOR
12.	DC BLOCKS	CONTRACTOR	CONTRACTOR
13.	DUPLEXERS	VERIZON WIRELESS	CONTRACTOR
14.	DIPLEXORS	VERIZON WIRELESS	CONTRACTOR
15.	GROUNDING AND TOWER HARDWARE	CONTRACTOR	CONTRACTOR

RECENT R.F. DESIGN.

2. CONTRACTOR IS TO SET ALL
AZIMUTHS OFF OF TRUE NORTH

ANTENNA NOTES

1. CONTRACTOR TO CALL PROJECT MANAGER TO SCHEDULE ANTENNA AND LINE SWEEP.
2. CONTRACTOR TO CALL PROJECT MANAGER TO SCHEDULE ANTENNA AND LINE SWEEP.
3. CONTRACTOR TO CALL PROJECT MANAGER TO SCHEDULE ANTENNA AND LINE SWEEP.
4. CONTRACTOR TO CALL PROJECT MANAGER TO SCHEDULE ANTENNA AND LINE SWEEP.
5. CONTRACTOR TO CALL PROJECT MANAGER TO SCHEDULE ANTENNA AND LINE SWEEP.
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8. CONTRACTOR TO CALL PROJECT MANAGER TO SCHEDULE ANTENNA AND LINE SWEEP.
9. CONTRACTOR TO CALL PROJECT MANAGER TO SCHEDULE ANTENNA AND LINE SWEEP.
10. CONTRACTOR TO CALL PROJECT MANAGER TO SCHEDULE ANTENNA AND LINE SWEEP.

[illegible]

PLEASANT GROVE

VERIZON WIRELESS SITE NAME:
LAWC PI EASANT GROVE

N 850 ROAD
PLEASANT GROVE KS

DRAWN BY:	EW
CHECKED BY:	AB
DATE:	07/31/14
PROJECT #:	44-056

ANTENNA INFORMATION

SHEET NUMBER

ANT-2





NO.

A

DESCRIPTION

ISSUED FOR REVIEW

DATE

07/03/14

BY

EW

REV

1

REV

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REV

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REV

6

REV

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REV

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REV

10

312 W. COLFAX AVE.

SOUTH BEND, IN 46801

HORVATH COMMUNICATIONS

600 Busse Highway

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TERRA

COMMUNICATIONS

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Park Ridge, IL 60069

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TERRA

COMMUNICATIONS

SITE HV848

PLEASANT GROVE

VERSION: WIRELESS SITE NAME: LAWC PLEASANT GROVE

N 850 ROAD

PLEASANT GROVE, KS

DRAWN BY: EW

CHECKED BY: AB

DATE: 07/03/14

PROJECT #: 44-066

EQUIPMENT ENCLOSURE ELEVATIONS

B-2

1/8"

The diagram shows four elevation views of equipment enclosures and an elevation key. Elevation 1 (left) shows a front view with dimensions 11'-10" and 11'-6" for the main body, and 5'-1/2" for the top section. It includes a generator exhaust, a bull head, and an optional component. Elevation 2 (top right) shows a side view with dimensions 25'-9 1/2" and 25'-5 1/2" for the main body, and 83" for the top section. It includes a generator exhaust, a bull head, and an optional component. Elevation 3 (bottom right) shows a front view with dimensions 11'-10" and 11'-6" for the main body, and 5'-1/2" for the top section. It includes a generator exhaust, a bull head, and an optional component. Elevation 4 (top left) shows a side view with dimensions 25'-9 1/2" and 25'-5 1/2" for the main body, and 83" for the top section. It includes a generator exhaust, a bull head, and an optional component. The elevation key shows four views labeled 1, 2, 3, and 4, corresponding to the elevations shown.

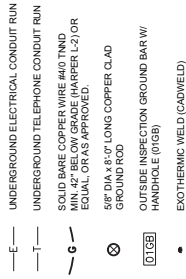
THE GENERAL NOTES AND ACCOMPANYING DRAWINGS ARE TO INDICATE THE PROVISIONS AND REQUIREMENTS BY THE ELECTRICAL CONTRACTOR OF ALL LABOR, MATERIALS, AND EQUIPMENT REQUIRED TO INSTALL THE ELECTRICAL WORK COMPLETE IN CONNECTION WITH THIS SITE AND SHALL INCLUDE, BUT NOT BE LIMITED TO, THE FOLLOWING:

1. THE INSTALLATION, PROVISIONS, AND CONNECTION OF A GROUND ROD (ELECTRODE) SYSTEM AS INDICATED IN THE DRAWINGS.
2. THE INSTALLATION AND PROVISION OF AN ELECTRICAL SERVICE (OVERHEAD OR UNDERGROUND) AND ALL CONDUIT AND WIRE ASSOCIATED WITH IT AS INDICATED AND/OR REQUIRED ON PLANS.
3. THE INSTALLATION, PROVISION OF CONDUIT AND CONNECTIONS FOR LOCAL TELEPHONE SERVICE.
4. CONDUITS SHALL BE PVC SCHED. 40 UNLESS OTHERWISE NOTED.

1. ALL WIRING OF ALL KINDS MUST BE INSTALLED IN CONDUIT, UNLESS OTHERWISE NOTED OR APPROVED BY THE ENGINEER

2. ALL WIRING SHALL BE COPPER TYPE THINWALL IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE OR AS INDICATED ON PLANS.
3. ALL RACEWAYS SHALL BE STEEL GALVANIZED WITH SIZE AS SPECIFIED ON PLANS.
4. ALL ELECTRICAL CODE UNLESS OTHERWISE NOTED ON PLANS. ALL ELECTRICAL CODE SHALL BE APPROVED PRIOR TO INSTALLATION.
5. JUNCTION BOXES OR PULL BOXES SHALL MEET (N.E.C.) NATIONAL ELECTRICAL CODE STANDARDS AND AS APPROVED FOR INSTALLATION OF RACEWAYS AND WIRING.
6. THE RACEWAY AND WIRING INSTALLATION SHALL BE IN ACCORDANCE WITH THE NATIONAL ELECTRICAL CODE AND IN ACCORDANCE WITH ARTICLE 290 OF THE (N.E.C.) NATIONAL ELECTRICAL CODES.
7. THE CONTRACTOR SHALL BE AWARE THAT ALL STATE AND LOCAL CODES SHALL APPLY TO THIS INSTALLATION AND

E SURFACE ELECTRICAL PANELBOARD
M ELECTRIC SERVICE METER
T TRANSFORMER



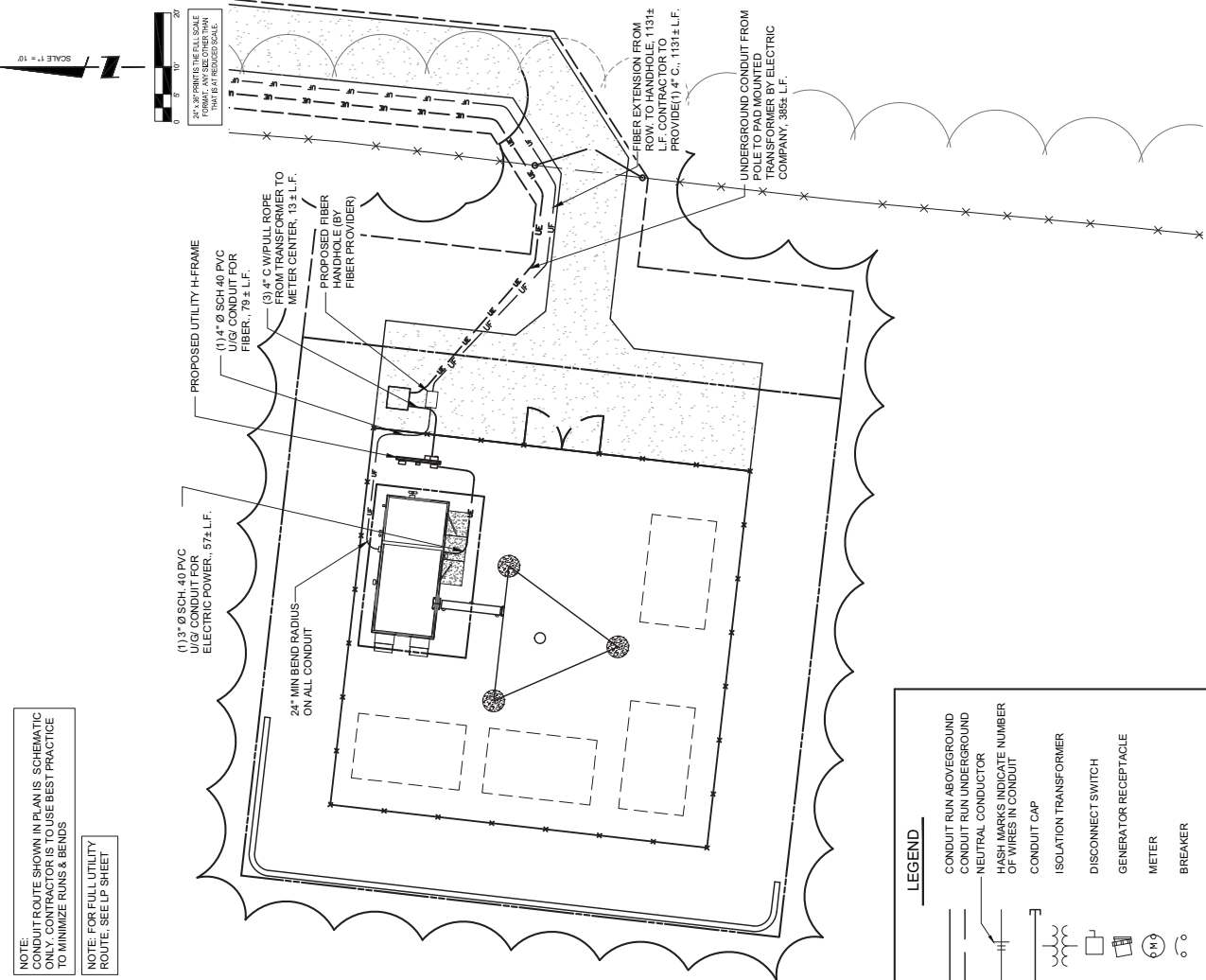
MTD MOUNTED
 MGB MASTER GROUND BUS BAR
 NEC NATIONAL ELECTRIC CODE
 PB PULL BOX
 PH PHASE (Ø)
 PNL PANEL
 RGS RIGID GALVANIZED STEEL CONDUIT
 SW SWITCH
 TTC TELEPHONE TERMINAL CABINET
 V VOLTS
 W WIRE
 WM WATER MAIN

- WP WEATHERPROOF
ATW ATTACHED TO WALL
C CONDUIT
CB CLOSE TO WALL
EGB EXTERNAL GROUND BUS BAR
EGR EMERGENCY GENERATOR RECEPTACLE
FBO FURNISHED BY OTHERS
GFI GROUND FAULT INTERRUPTOR
HP HORSEPOWER
JB JUNCTION BOX
KW KILOWATTS
MAX MAXIMUM
MIN MINIMUM

UTILITY POINTS OF SERVICE AND WORK / MATERIALS SHOWN ARE BASED ON PRELIMINARY INFORMATION ONLY / PROVIDED BY THE UTILITY COMPANIES AND ARE FOR BID PURPOSE ONLY. CONTRACTOR SHALL COORDINATE WITH UTILITY COMPANY FOR FINAL AND EXACT WORK / MATERIALS REQUIREMENTS AND CONSTRUCT TO UTILITY COMPANY PLANS AND SPECIFICATIONS. ONLY CONTRACTOR SHALL FURNISH AND INSTALL ALL CONDUIT, PULL WIRE, CABLES, PULLEYS, CONCRETE ENCASEMENT OF CONDUIT (IF REQUIRED), TRANSFORMER PAD, BARRIERS, POLE RISERS, TRENCHING, BACKFILL, PAY ALL UTILITY COMPANY FEES AND INCLUDE ALL REQUIREMENTS IN SCOPE OF WORK.

1. ALL GROUND ROD CONNECTIONS SHALL BE INSTALLED USING CADWELDS AND SHALL INCLUDE ALL CABLING TO GROUND RODS, SPLICES AND FOR LIGHTNING SURGE PROTECTION SYSTEM AS SHOWN ON THESE PLANS. ALL EQUIPMENT AND MATERIALS USED SHALL BE "CADWELD" AND INSTALLED AS PER THE MANUFACTURER'S SPECIFICATION.

- [illegible]



NOTE:
CONDUIT ROUTE SHOWN IN PLAN IS SCHEMATIC
ONLY. CONTRACTOR IS TO USE BEST PRACTICE
TO MINIMIZE PULLS & BENDS

NOTE: FOR FULL UTILITY
ROUTE, SEE LP SHEET

REVISIONS			
NO.	DESCRIPTION	DATE	BY
A	ISSUED FOR REVIEW	07/31/14	EW
B	REVISED PER CLIENT COMMENTS	09/02/14	SA

SITE HV848

PLEASANT GROVE

VERIZON WIRELESS SITE NAME:
LAWC PLEASANT GROVE

N 850 ROAD
EASANT GROVE KS

AWN BY:	EW
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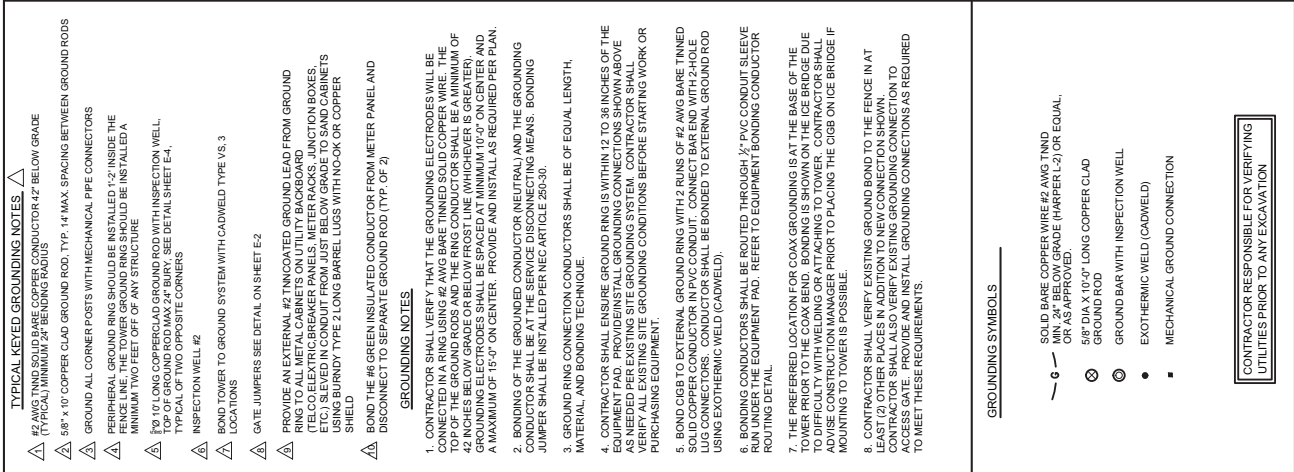
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OBJECT #: 44-066

SHEET TITLE

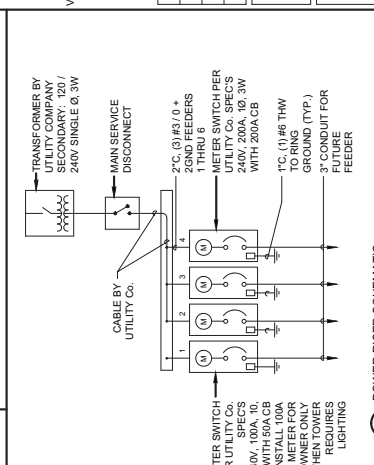
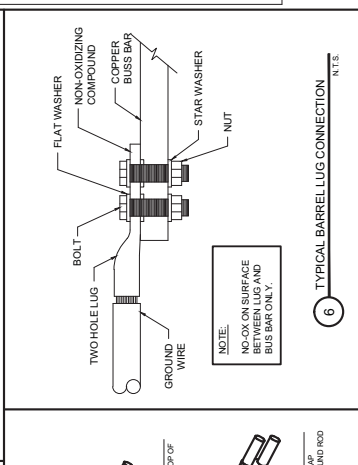
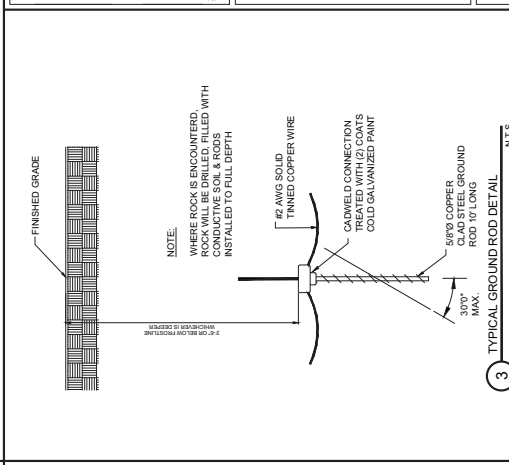
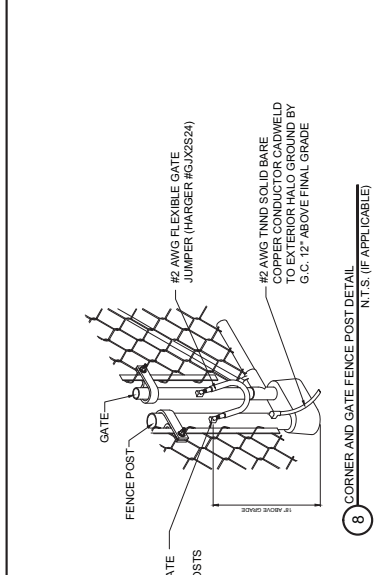
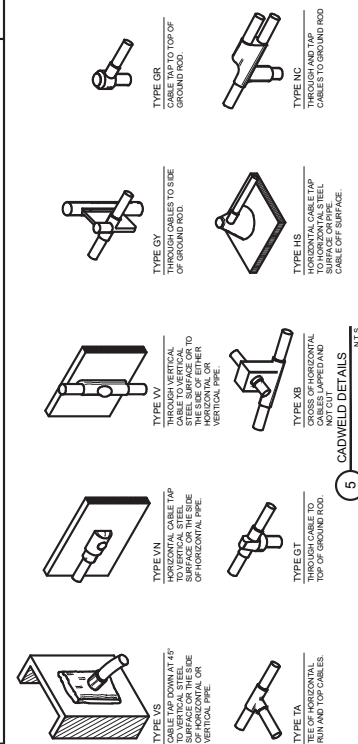
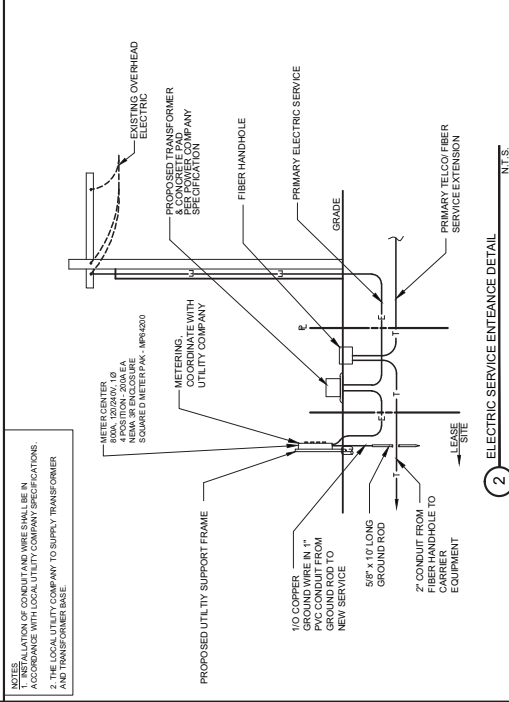
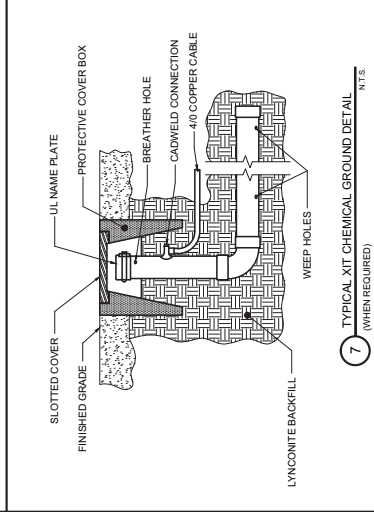
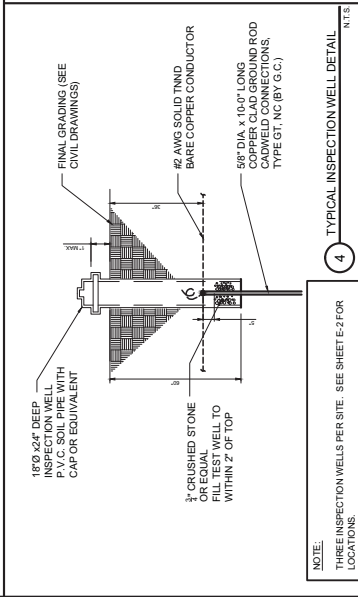
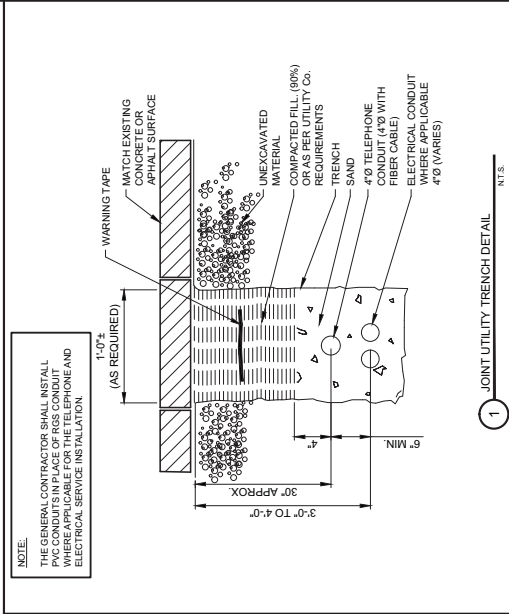
SHEET NUMBER

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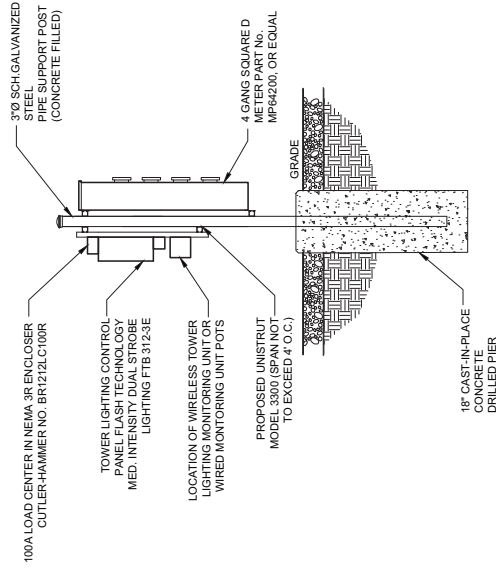
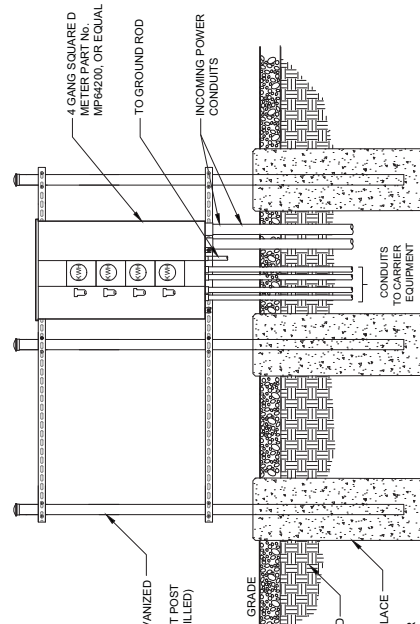
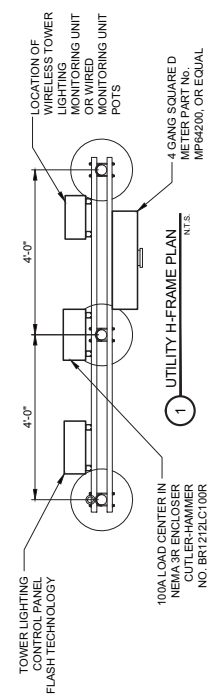


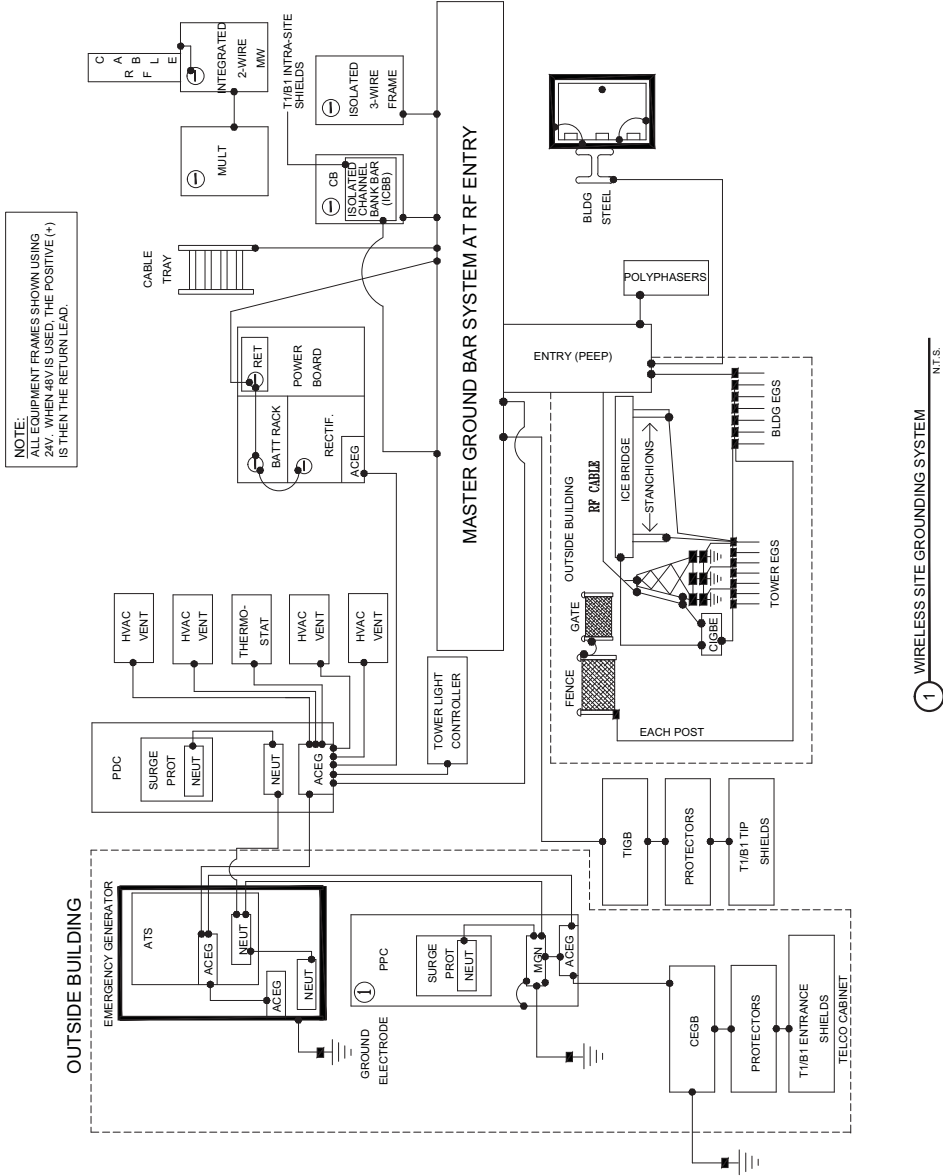
REVISIONS			
NO	DESCRIPTION	DATE	BY
A	ISSUED FOR REVIEW	07/31/14	EW
B	REVISED PER CLIENT COMMENTS	09/02/14	SA

SITE HV#848	
PLEASANT GROVE	
N 850 ROAD PLEASANT GROVE, KS	
DRAWN BY:	EW
CHECKED BY:	AB
DATE:	07/31/14
PROJECT #	44-006
SHEET TITLE	
SITE GROUNDING PLAN	
SHEET NUMBER	
E-2	



REVISIONS		NO.	DESCRIPTION	DATE	BY	EW
		A	ISSUED FOR REVIEW	07/31/14		





1 WIRELESS SITE GROUNDING SYSTEM
N.T.S.

From: Hank Madden – RF Engineer, Verizon Wireless

October 7, 2014

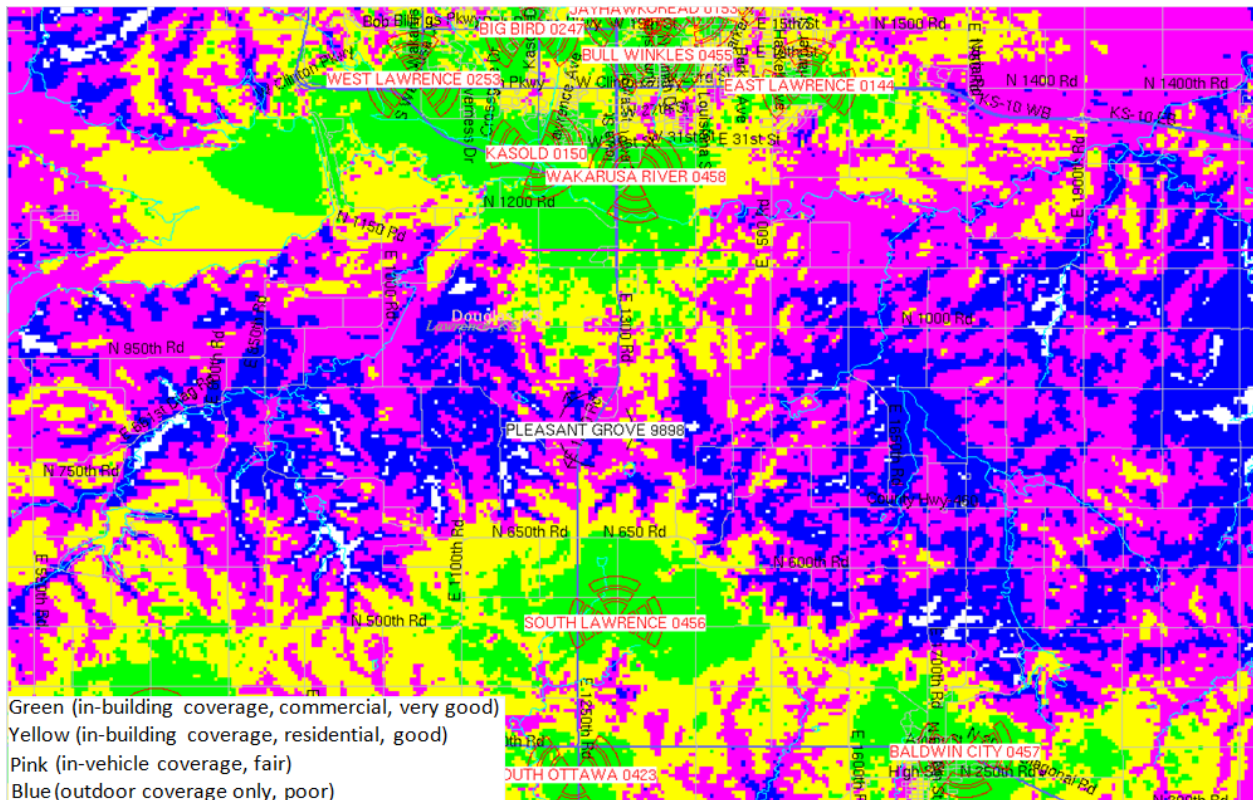
To: **The City Representatives**

RE: **New Cell Site near Pleasant Grove, KS**

Dear City Representatives,

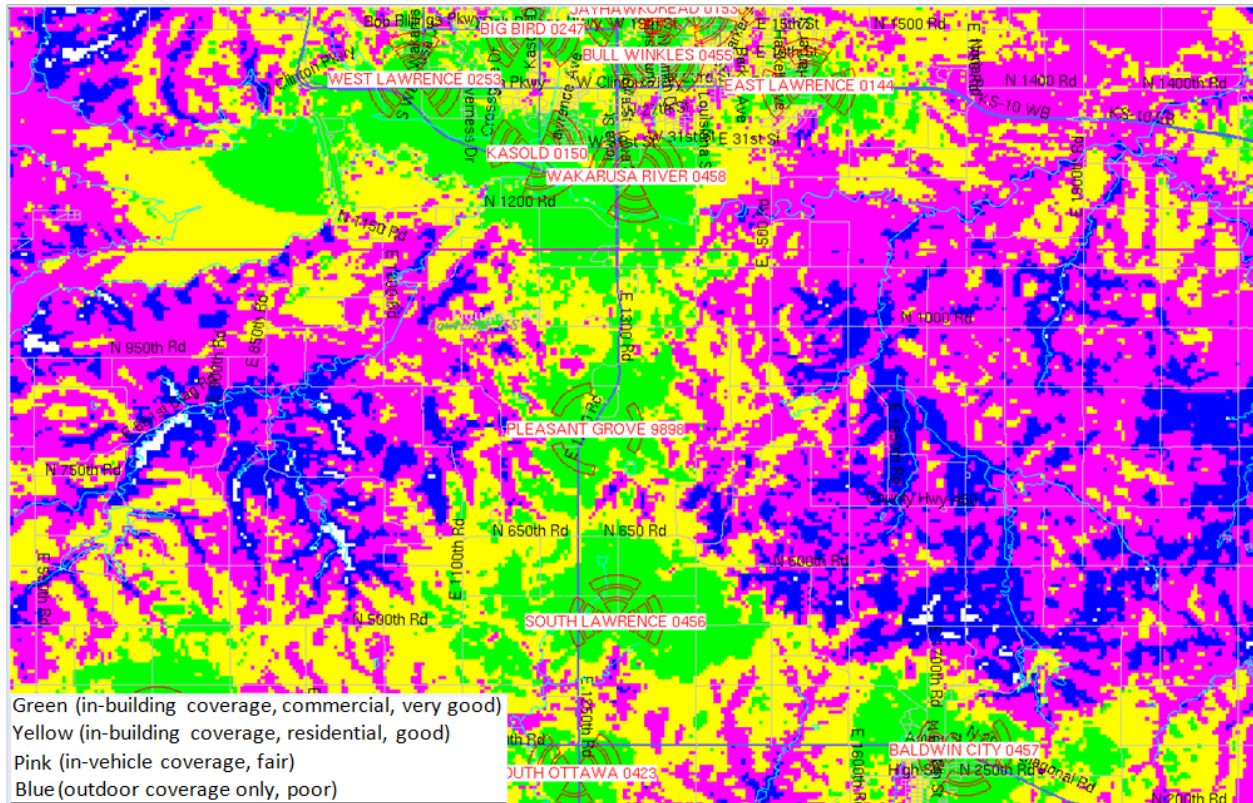
Verizon Wireless is proud to serve the greater Lawrence area and we are always diligent to maintain excellent service and improvements. At this time, we are trying to enhance the area near and surrounding Pleasant Grove, KS where coverage service reliability and capacity must be improved. The area that 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

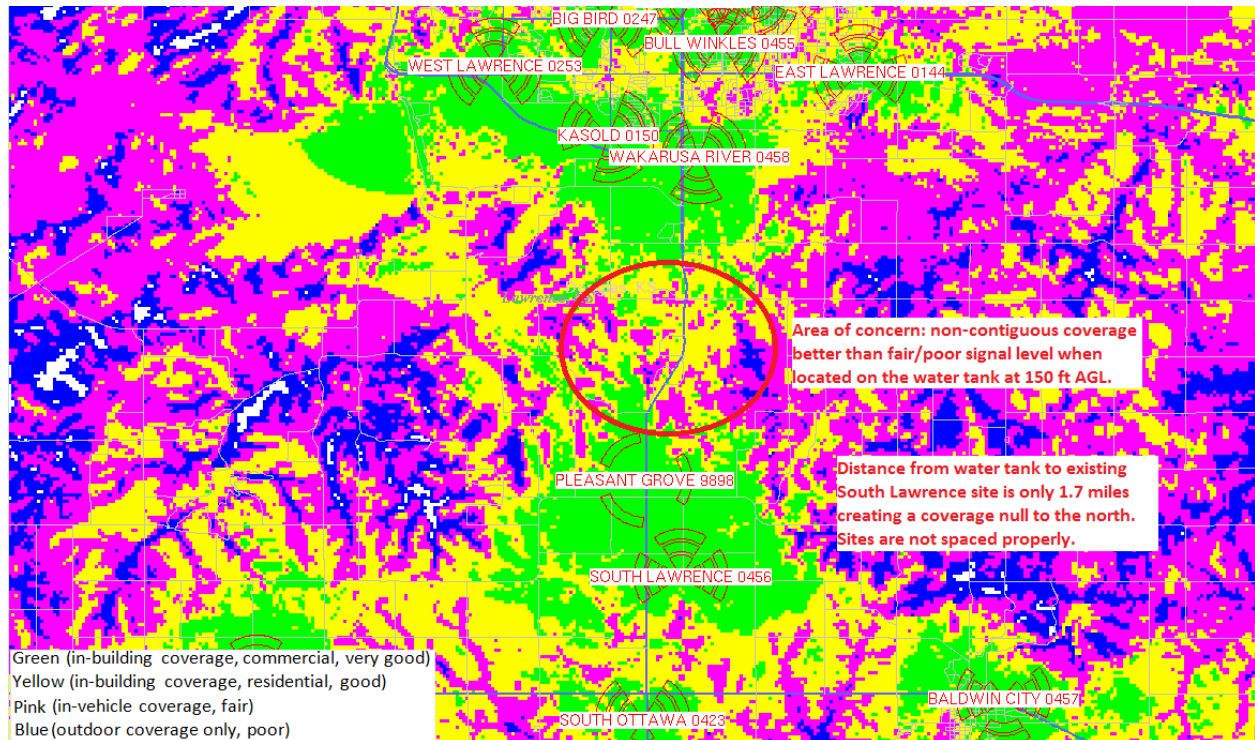


With the new site, the coverage, performance and capacity will improve within about 1.5 mile radius from the new site.

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.

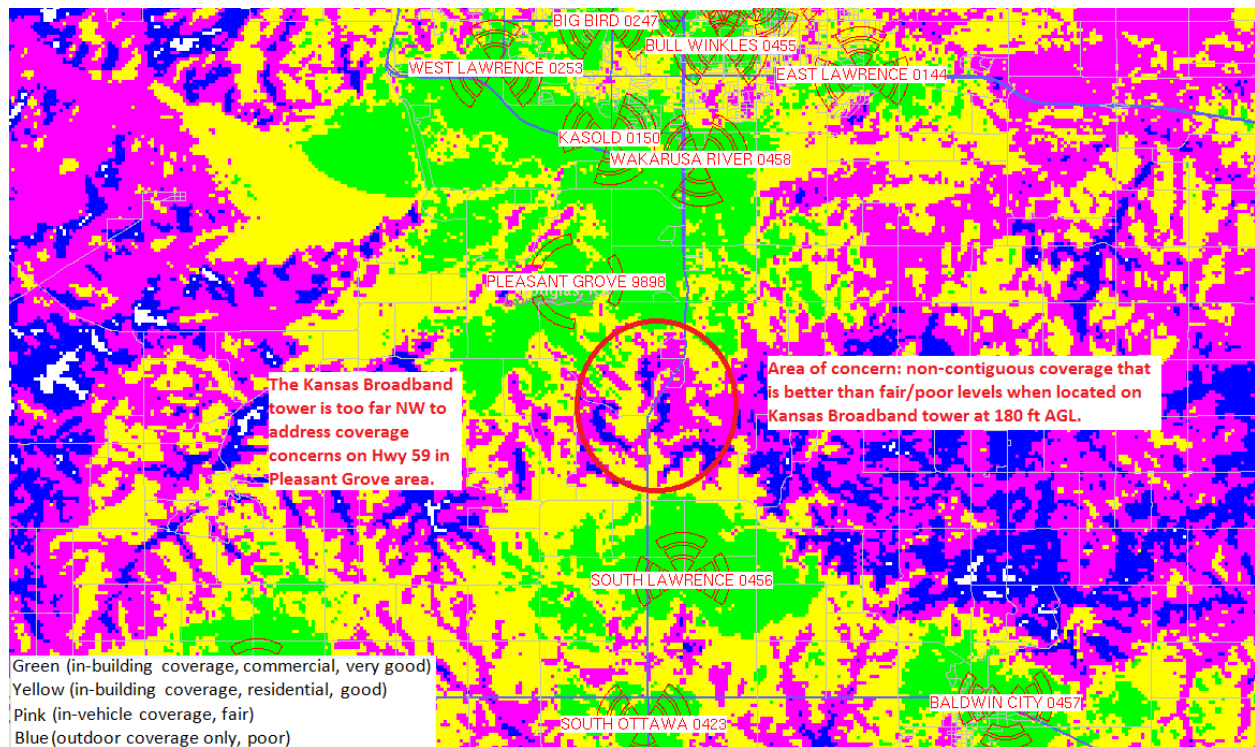
Map 3 – Coverage with the new site on water tank



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.

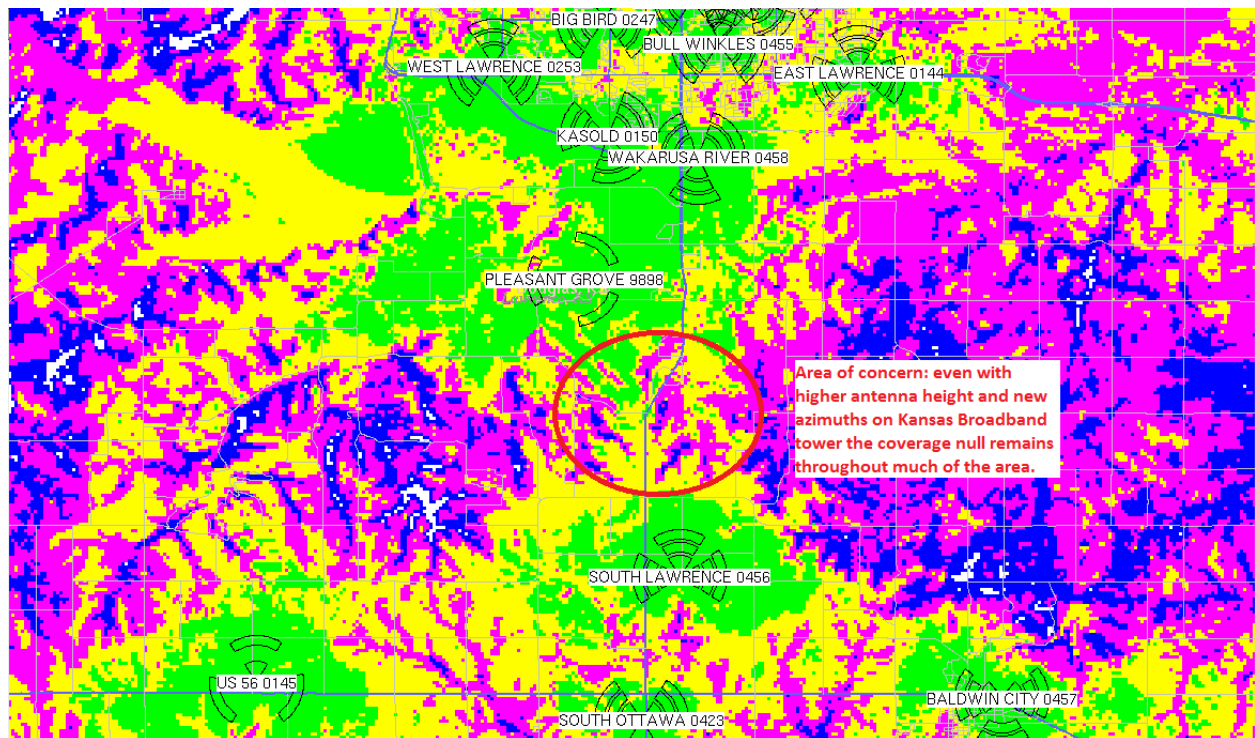
Below is map 4 showing coverage if the proposed site was located on the Kansas Broadband tower located at latitude: 38-53-23.0 N and longitude: 95-17-17.9 W.

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



DISCLAIMER NOTICE

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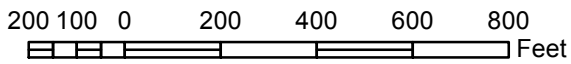
The map is provided "as is" without warranty or any representation of accuracy, timeliness or completeness. The burden for determining accuracy, completeness, timeliness, merchantability and fitness for or the appropriateness for use rests solely on the requester. The City of Lawrence makes no warranties, express or implied, as to the use of the map. There are no implied warranties of merchantability or fitness for a particular purpose. The requester acknowledges and accepts the limitations of the map, including the fact that the map is dynamic and is in a constant state of maintenance, correction and update.

Legend

Towers		Zoning, County	
TYPE		ZONECLASS	
COMMUNICATION		A-1	B-3
TV		B-1	I-1
WATER		B-2	I-2
		A	I-3
			I-4
			R-1
			VC

Map Features:

- Parcels:** Shaded in light blue.
- 1 mile buffer:** Red circle.
- 1/2 mile buffer:** Red circle.
- 59th Highway:** Red line.
- 1045th Avenue:** Blue line.
- North Arrow:** Black arrow pointing up.
- Scale Bar:** 0 to 1 mile.



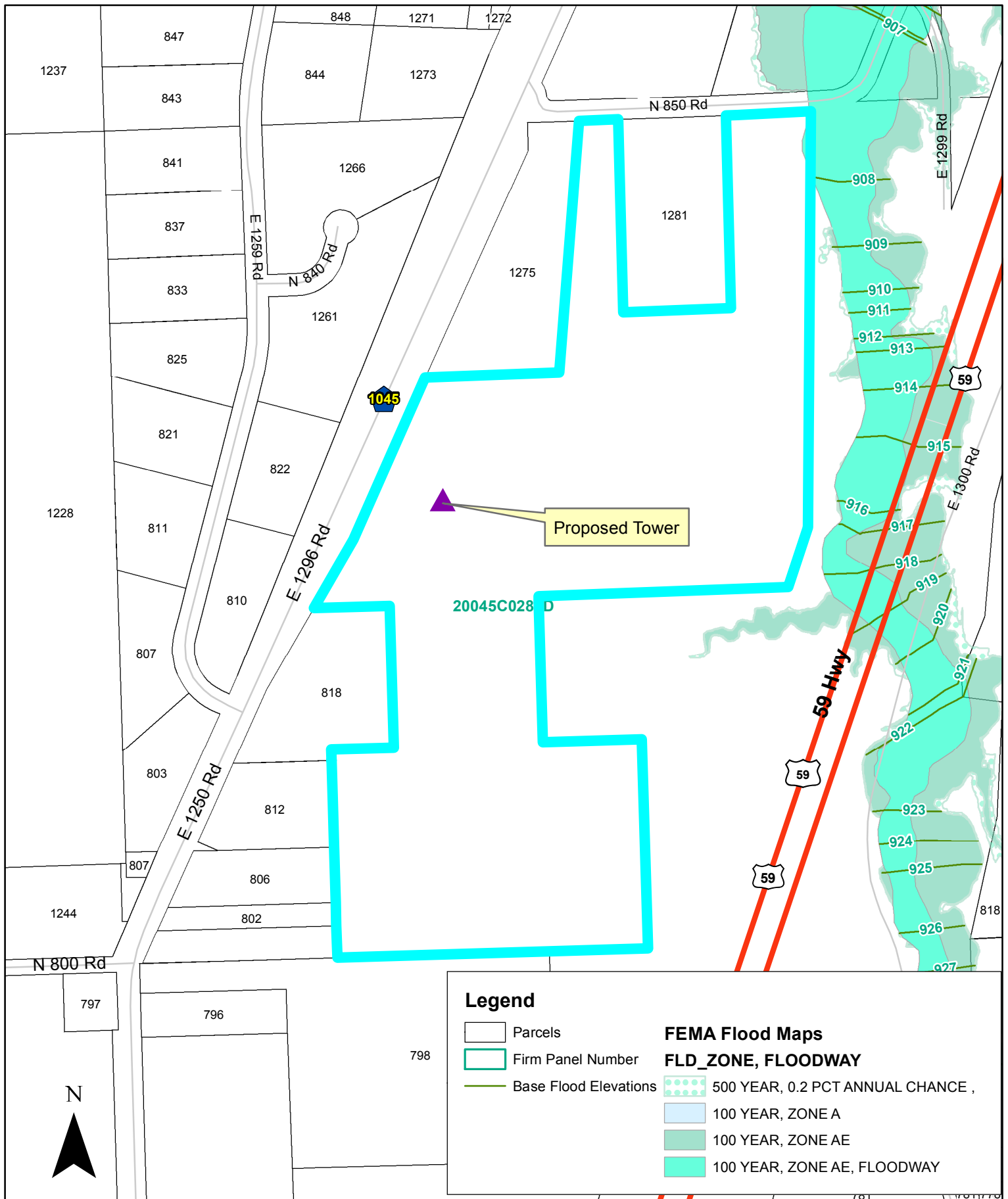
1 inch = 400 feet

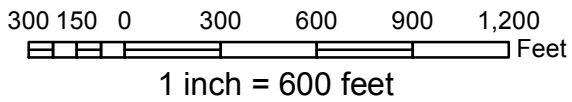
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Date: 12/2/2014

Floodplain

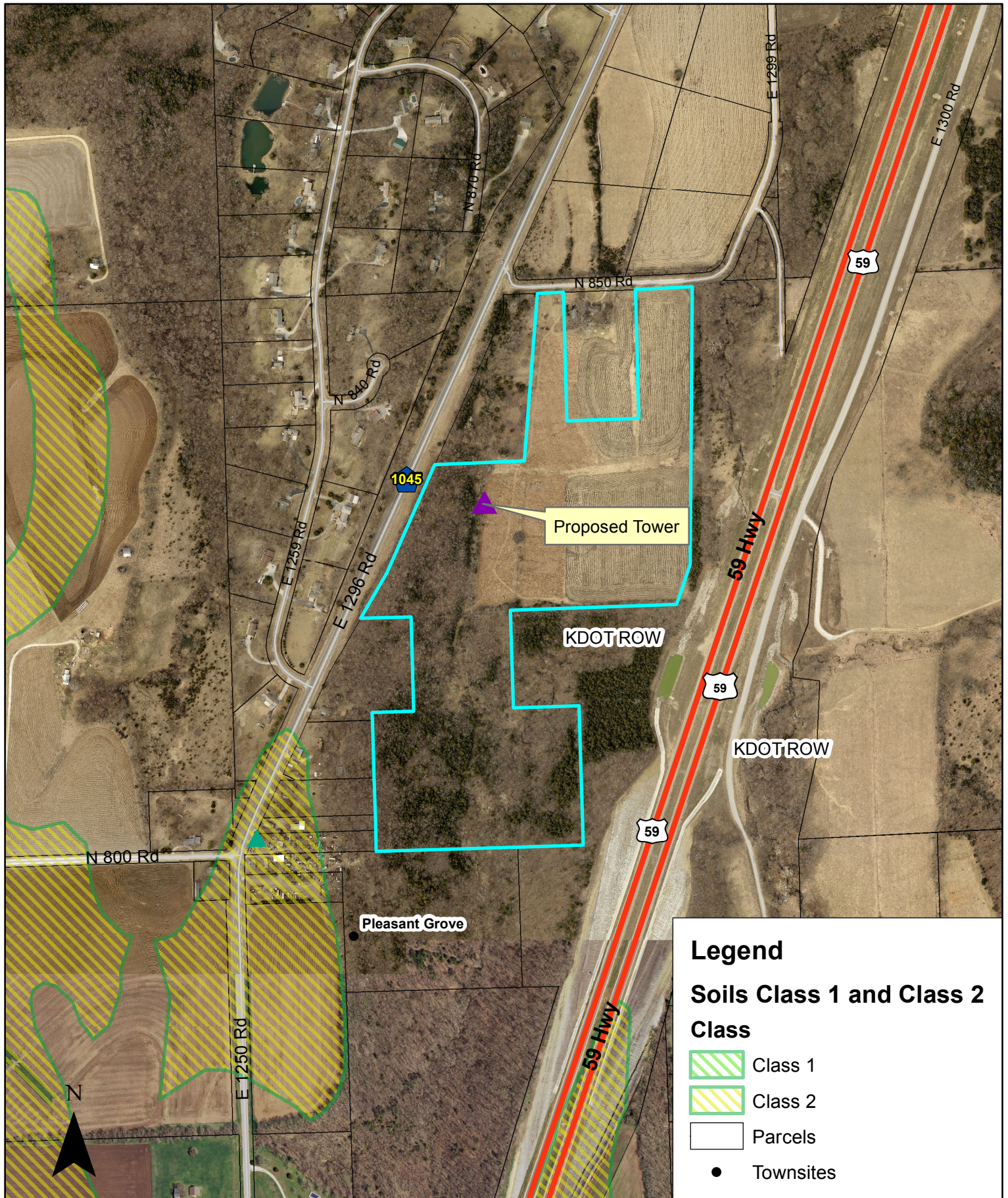


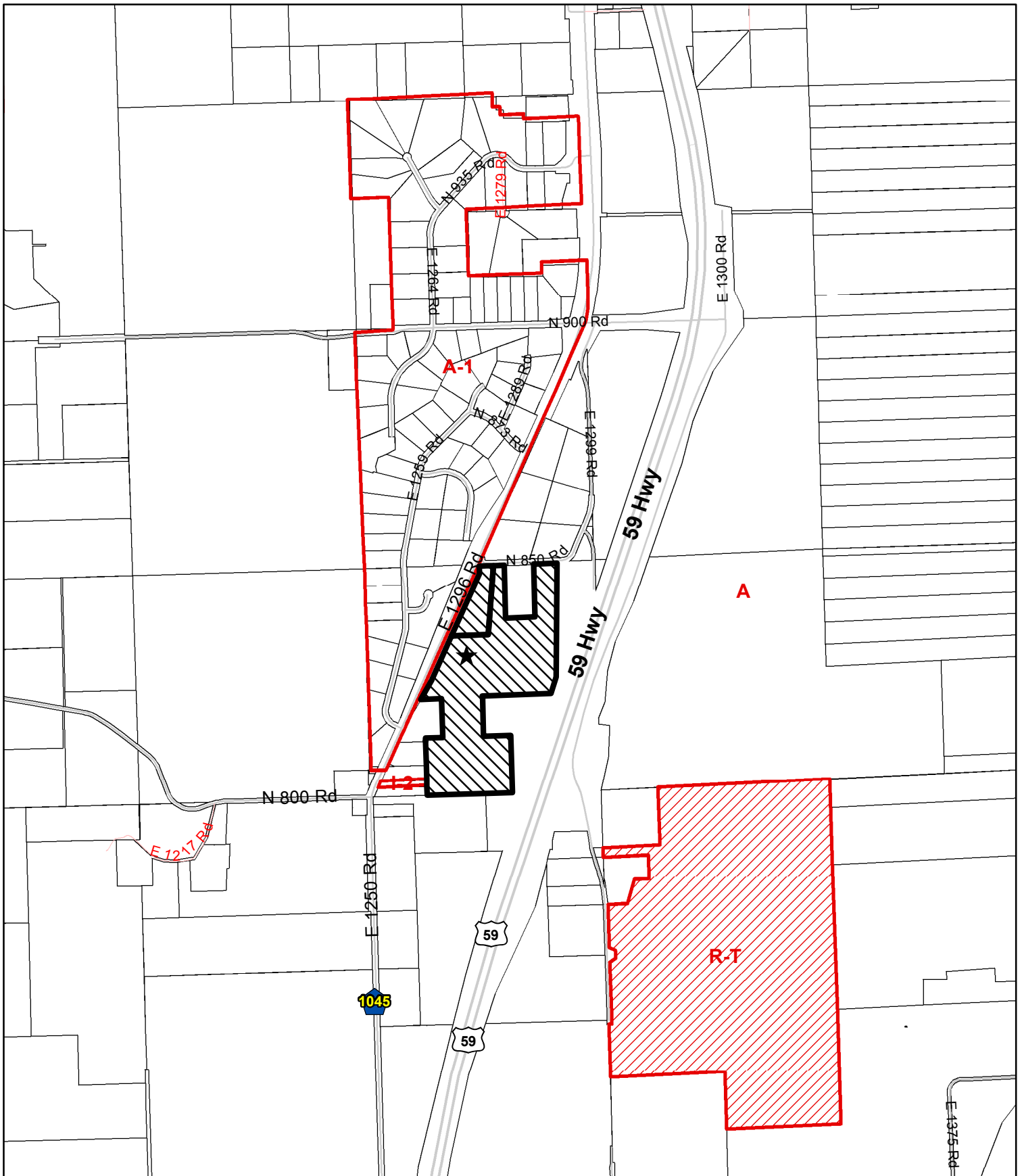


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Date: 12/2/2014

Soils





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



From: [Buntemeyer, Loren J.](#)
To: [Sandra Day](#)
Cc: [Buntemeyer, Loren J.](#)
Subject: Verizon tower request
Date: Tuesday, November 04, 2014 9:37:21 AM

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

From: Marilyn Lynch [<mailto:marilynlynch14@gmail.com>]
Sent: Thursday, December 04, 2014 7:12 AM
To: Sandra Day
Subject: communication tower in Pleasant Grove

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 1296Rd 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