

**WHITLEY COUNTY BOARD OF ZONING APPEALS
STAFF REPORT**

19-W-SE-10 SPECIAL EXCEPTION
New Cingular Wireless PCS, LLC
10800 S. 700 East

NOVEMBER 26, 2019
AGENDA ITEM: 1

SUMMARY OF PROPOSAL

Current zoning: AG, Agricultural
Property area: 38.47 acres

The petitioner, lessee of the subject property, is requesting special exception approval for a communications tower to be constructed on the subject property located on west side of South 700 East, approximately 1,300' north of State Road 114 in Jefferson Township. The property is currently improved with a single-family dwelling and a barn, and is roughly half wooded. The tower would be located about 290' south of the north property line.

The proposal is for a 199' tall monopole tower, inclusive of the lightning rod, within an 80' X 80' leased equipment compound (additional acreage is to be leased for the access drive). The site of the tower and equipment would be 70'x70' and enclosed by an 8' tall chain link and vinyl slats fence topped with barbed wire (9' total height). Evergreens (American Arborvitae) are to be installed on 10' centers around the perimeter of the fence.

A 12' wide gravel access drive located within an access/utility easement would be constructed from 700 East to the tower site.

In the AG, Agricultural District, communication towers require a special exception through the Board of Zoning Appeals, and the requirements of Section 5.16, Telecommunication Facilities Standards, apply.

REVIEW CRITERIA

Indiana Code §36-7-4-918.2 and Section 10.9(A) of the Zoning Code authorize the Board to review special exceptions and state the criteria listed below upon which the Board must base its review. Staff's comments/proposed findings of fact under each criterion.

- 1. The special exception shall not involve any elements or cause any condition that may be dangerous, injurious, or noxious to any other property or persons, and shall comply with the performance standards;**

The proposed monopole tower, in conjunction with the various required setback and development standards, is designed to minimize danger to other property and person by avoiding collapse and mitigating injury if a collapse does occur. More generally, communications towers typically do not include noxious elements and would be expected to comply with the specific performance standards of §5.7, with the following comment:

"B. Electrical Disturbance: No use on a property shall cause electrical disturbance adversely affecting radio, television or other equipment in the vicinity."

Telecommunications towers of all kinds can produce interference to radio, television, and "other equipment" in the area, depending on the frequencies utilized by the equipment. However, the zoning code is specific in stating that no use shall cause "electrical disturbance," which, for example, can occur when using unshielded electric industrial equipment. Resolving radio signal interference

caused by other radio sources should be expected to fall under the authority of the Federal Communications Commission.

- 2. The special exception shall be sited, or oriented and landscaped to produce a harmonious relationship of building and grounds to adjacent buildings and properties;**

The proposed tower appears to comply with the landscaping and siting/setback requirements of the code.

- 3. The special exception shall produce a total visual impression and environment that is consistent with the environment of the neighborhood;**

A telecommunications tower is an obviously different structure than the residences, horse stables, and farm buildings in the immediate neighborhood and would have a different visual impression than those structures. However, given that the need for a telecommunications tower in this vicinity has been shown by the petitioner, the Board may consider whether the proposed monopole design would be more or less visually consistent than other tower designs and heights that may be proposed to fulfill the stated need.

- 4. The special exception shall organize vehicular access and parking to minimize traffic congestion in the neighborhood; and**

The proposed communication tower would likely not create traffic congestion or access problems since there is negligible traffic generated from this use.

- 5. The special exception shall preserve the purpose of this Ordinance as stated in Section 1.4.**

For the Board's reference, the following is Section 1.4 of the Ordinance:

This Ordinance is intended to guide the growth and development of the County in accordance with the Whitley County Comprehensive Plan and for the following purpose [sic].

- A. To secure adequate light, air, and convenience of access; and safety from fire, flood, and other dangers;*
- B. To promote the public health, safety, comfort, convenience, morals and general welfare;*
- C. To plan for the future development of the County to the end;*
 - 1. That the community grows only with adequate public ways, utility, health, educational, and recreational facilities;*
 - 2. That the needs of agriculture, industry, and business be recognized in future growth;*
 - 3. That residential areas provide healthful surroundings for family life;*
 - 4. That the growth of the community is commensurate with and promotes the efficient and economical use of public funds; and*
 - 5. That the community strives for high aesthetic value, quality planning and design.*

The Comprehensive Plan generally does not give recommendations on wireless facilities, but it does give general recommendations in Objectives 4.4 and 4.7 about promoting infrastructure, particularly broadband infrastructure, for economic development. Objective 1.6 discusses protection of "rural character" from suburban or urban development, but telecommunications towers do not obviously fall into those two development types.

For convenience, Staff suggests that the purposes listed in §1.4 might be narrowed down to striving for high aesthetic value and the promotion of public comfort and convenience as the primary

considerations for the Board in this criterion. However, other purposes of course may factor into the Board's decision and findings.

SUGGESTED CONDITIONS

If the Board moves to grant the special exception, the following are suggested conditions of the approval:

1. The Special Exception is granted as presented and per the site plan.

In the case of either an approval or denial, it is suggested that the Board formally move to delegate authority to the Staff and Legal Counsel to cause Findings of Fact to be prepared in support of the Board's decision.

Date report prepared: 10/23/19.

BOARD OF ZONING APPEALS ACTION

Motion:

By:

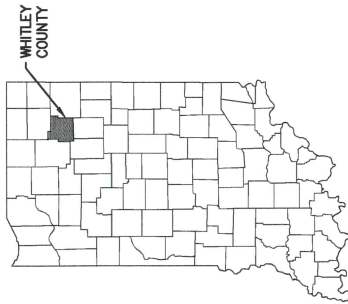
Second by:

<i>Vote:</i>	Deckard	Denihan	Lopez	Wilkinson	Wright
<i>Yes</i>					
<i>No</i>					
<i>Abstain</i>					

STATE MAP



SCALE: NONE



ROANOKE

GRANM1038
SOUTH CR. 700 EAST 92 (WHITELY ADDRESS)
ROANOKE, IN 46783 - WHITLEY COUNTY
RAWLAND - MONOPOLE
CDS PROJECT #18-32-01-30

SITE LOCATION INFORMATION

LATITUDE: N41° 00' 32.78" (41.009106°)
LONGITUDE: W85° 21' 28.08" (-85.3578°)
ELEVATION AT GRADE: 830.9
TOWER TYPE: 195' MONOPOLE

PROJECT TEAM

CUSTOMER:
AT&T MOBILITY
220 N. MERIDIAN ST., RM 1800
INDIANAPOLIS, IN 46204

APPLICANT:
BLACK & VEATCH
3811 ILLINOIS RD., SUITE 100
FORT WAYNE, IN 46804

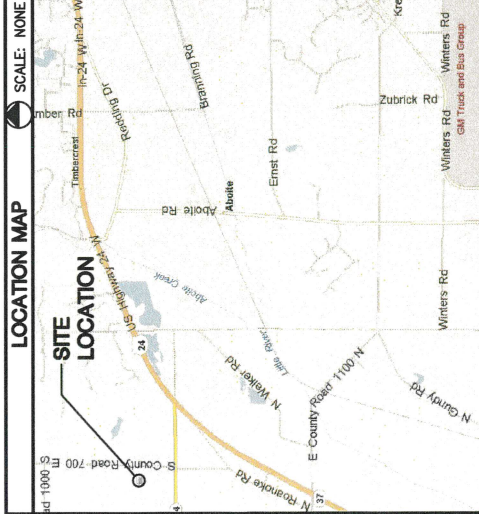
PROPERTY OWNER:
GALE E. & MARTHA A. RUST
10900 SOUTH CR. 700 EAST
ROANOKE, IN 46783
(260) 672-3331

DESIGN FIRM:
PBM WIRELESS SERVICES
3620 DEVELOPERS ROAD
INDIANAPOLIS, IN 46227
BRANDON WRIGHT
(317) 363-7307

SHEET INDEX

SHT. NO.	DESCRIPTION	REV. NO.
T-1	TITLE SHEET	A
N-1	GENERAL NOTES	A
N-2	GENERAL NOTES	A
C-1.0	PARTIAL SITE PLAN	A
C-1.1	COMPOUND PLAN	A
C-1.2	LANDSCAPING PLAN & DETAILS	A
C-2.0	ELEVATION & DETAILS	A
C-3.0	WC CABINET & PLATFORM DETAILS	A
C-3.1	GENERATOR & PLATFORM DETAILS	A
C-4.0	FENCE DETAILS	A
C-4.1	DETAILS	A
C-4.2	DETAILS	A
C-5.0	ANTENNA DETAILS	A
C-6.0	ONE-LINE RISER DIAGRAM	A
C-6.1	ELECTRICAL DETAILS	A
C-7.0	GROUNDING PLAN & DETAILS	A
1 OF 3	TOPOGRAPHIC SURVEY (FOR REF ONLY)	-
2 OF 3	TOPOGRAPHIC SURVEY (FOR REF ONLY)	-
3 OF 3	TOPOGRAPHIC SURVEY (FOR REF ONLY)	-

LOCATION MAP



PROFESSIONAL CERTIFICATION

SCOPE OF WORK

1. PROPOSED AT&T MOBILITY EQUIPMENT CABINET WITHIN PROPOSED LEASE AREA/FENCED COMPOUND.
2. PROPOSED AT&T MOBILITY TOWER EQUIPMENT:
 - (6) ANTENNAS
 - (12) REMOTE RADIO HEADS (RRHs)
 - (2) SQUIDS
 - (4) DC POWER TRUNKS
 - (1) FIBER TRUNKS
3. PROPOSED MONOPOLE.
4. PROPOSED COMPOUND FENCE.
5. PROPOSED GRAVEL DRIVE.
6. PROPOSED MULTI TENANT UTILITY RACK WITHIN THE FENCED COMPOUND.
7. IN ATTACHED PLANS.

NOTE:

1. PROJECT DESCRIPTION DOES NOT INCLUDE ALL EQUIPMENT & MATERIALS FOR A COMPLETE INSTALLATION.
2. DRAWINGS BASED ON AT&T MOBILITY RFDs DATED: 07/09/19 GC TO COORDINATE WITH AT&T/BLACK & VEATCH PM FOR FINAL EQUIPMENT BASED ON MOST RECENT RF INFORMATION.
3. THE FACILITY IS UNMANNED AND NOT FOR HUMAN HABITATION. A TECHNICIAN WILL VISIT THE SITE AS REQUIRED FOR ROUTINE MAINTENANCE. THE PROJECT WILL NOT RESULT IN ANY SIGNIFICANT DISTURBANCE OR EFFECT ON DRAINAGE; NO SANITARY SEWER SERVICE, POTABLE WATER, OR TRASH DISPOSAL IS REQUIRED AND NO COMMERCIAL SIGNAGE IS PROPOSED.

UTILITY INFORMATION

ELECTRICAL UTILITY
NORTHEASTERN REMC
(260) 625-3700

COMMUNICATIONS UTILITY CONTACT:
AT&T
(800) 288-2020

CODE COMPLIANCE

WORK SHALL BE PERFORMED AND MATERIALS INSTALLED IN ACCORDANCE WITH THE CURRENT EDITIONS OF THE FOLLOWING CODES AS ADOPTED BY COUNTY OF WHITLEY / STATE OF INDIANA & OTHER GOVERNING AUTHORITIES. NOTHING IN THESE PLANS IS TO BE CONSTRUED TO PERMIT WORK NOT CONFORMING TO THESE CODES.

INDIANA BUILDING CODE: TIA/EIA-222G OR (2012 IBC w/ 2014 STATE AMENDMENTS) LATEST ADOPTED EDITION

INDIANA MECHANICAL CODE: (2012 IMC w/ 2014 STATE AMENDMENTS)

INDIANA ELECTRICAL CODE: (NFPA 70-2008 w/ 2009 STATE AMENDMENTS)

CONTRACTOR SHALL VERIFY PLANS AND EXISTING DIMENSIONS AND CONDITIONS ON THE JOB SITE AND SHALL IMMEDIATELY NOTIFY THE DESIGN FIRM IN WRITING OF DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME.



1-800-382-5544

AT&T



09/13/19	90% REVIEW CD
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ROANOKE
SOUTH CR. 700 EAST 92
ROANOKE, IN 46783 - WHITLEY COUNTY

PROJ # 18-32-01-30
DWG BY: YYS
CHKD BY: BMW

SHEET TITLE
TITLE SHEET

SHEET NUMBER
T-1

1. WORK UNDER THIS CONTRACT SHALL BE DONE IN STRICT ACCORDANCE WITH ALL APPLICABLE MUNICIPAL, STATE, AND LOCAL ELECTRICAL CODES THAT GOVERN EACH PARTICULAR TRADE AND THE NATIONAL ELECTRICAL CODE (LATEST EDITION).

1. WORK UNDER THIS CONTRACT SHALL BE DONE IN STRICT ACCORDANCE WITH ALL APPLICABLE MUNICIPAL, STATE, AND LOCAL ELECTRICAL CODES THAT GOVERN EACH PARTICULAR TRADE AND THE NATIONAL ELECTRICAL CODE (LATEST EDITION).
2. THE CONTRACTOR SHALL EXAMINE DRAWINGS AND SHALL INSPECT THE EXISTING CONDITIONS OF THE SITE. FAILURE TO COMPLY WITH THIS REQUIREMENT WILL NOT RELIEVE THE CONTRACTOR OF RESPONSIBILITY FOR COMPLYING WITH THE CONTRACT DOCUMENTS.
3. THE DRAWINGS INDICATE THE GENERAL ARRANGEMENT OF THE ELECTRICAL INSTALLATIONS. DETAILS OF PROPOSED DEPARTURES DUE TO ACTUAL FIELD CONDITIONS OR OTHER CAUSES SHALL BE SUBMITTED FOR APPROVAL PRIOR TO INSTALLATION. REMOVAL OF COMPLETED ITEMS DUE TO IMPROPER FIELD COORDINATION SHALL BE AT THE CONTRACTOR'S EXPENSE.
4. PROVIDE SUFFICIENT ACCESS AND CLEARANCE FOR ITEMS OR EQUIPMENT REQUIRING SERVICING AND MAINTENANCE.
5. THE CONTRACTOR SHALL PREPARE THREE (3) COPIES OF A RECORD AND INFORMATION BOOKLET. THE BOOKLET SHALL BE BOUND IN A THREE RING LOOSE-LEAF BINDER AND INCLUDE ITEMS OF ELECTRICAL EQUIPMENT.
6. UPON COMPLETION OF THE ELECTRICAL INSTALLATION, THE CONTRACTOR SHALL PROVIDE A COMPLETE SET OF PRINTS OF THE ELECTRICAL CONTRACT DRAWINGS WHICH SHALL BE LEGIBLY MARKED IN RED TO SHOW CHANGES AND DEPARTURES OF THE INSTALLATIONS COMPARED WITH THE ORIGINAL DESIGN. THEY SHALL BE SUITABLE FOR USE IN PREPARATION OF RECORD DRAWINGS.
7. GUARANTEE: NEW ELECTRICAL INSTALLATIONS SHALL BE GUARANTEED FOR A PERIOD OF ONE (1) YEAR BEGINNING THE DAY OF THE FINAL ACCEPTANCE OF THE WORK OR RETENUAL OCCUPANCY OF THE OWNER, WHICHEVER OCCURS FIRST. THE ABOVE SHALL NOT IN ANY WAY VOID OR IMPEACH EQUIPMENT MANUFACTURER'S GUARANTEE OR WARRANTY. CERTIFICATES OF GUARANTEE SHALL BE DELIVERED TO THE OWNER UPON RECEIPT OF NOTICE FROM THE OWNER OF FAILURE OF ANY PART OF THE ELECTRICAL INSTALLATION DURING THE GUARANTEE PERIOD. NEW REPLACEMENT PARTS SHALL BE FURNISHED AND INSTALLED PROMPTLY AND AT NO COST TO OWNER.
8. ELECTRICAL WORK WHICH WILL INTERFERE WITH THE NORMAL USE OF THE ELECTRICAL SYSTEM IN ANY MANNER SHALL BE DONE AT SUCH TIME OR TIMES AS SHALL BE MUTUALLY AGREED UPON BETWEEN THE CONTRACTOR AND THE CONSTRUCTION MANAGER.
9. MOUNTING AND SUPPORTING OF EQUIPMENT PROVIDED BY THIS CONTRACTOR SHALL BE COORDINATED WITH CONSTRUCTION MANAGER IN THE FIELD.

1. CONDUIT BELOW GRADE SHALL BE SCHEDULED 40 PVC UNLESS NOTED OTHERWISE.

2. BOXES (WHETHER OUTLET, JUNCTION, PULL, OR EQUIPMENT) SHALL BE FURNISHED WITH APPROPRIATE COVERS.
3. NO SECTIONALIZED BOXES SHALL BE USED.
4. EMT CONDUIT FITTINGS SHALL BE COMPRESSION TYPE.
5. FIELD CUTS OR GALVANIZED ITEMS SHALL BE BRUSHED WITH MARINE GRADE GALVANIZING.
6. METALLIC OBJECTS EXPOSED TO WEATHER SHALL BE HOT DIPPED GALVANIZED OR STAINLESS STEEL.

1. GROUND RODS WILL BE 5/8" X 10 FOOT COPPER CLAD NOT LESS THAN 10 FOOT OR MORE THAN 15 FOOT APART AND 6 INCHES BELOW LOCAL FROST DEPTH.
2. CONNECTIONS TO THE GROUND RING, AND PERIPHERAL EQUIPMENT WILL BE MADE VIA EXOTHERMIC PROCESS UNLESS OTHERWISE SPECIFIED.
3. BELOW GRADE GROUND WIRES SHALL BE SOLID TINNED BARE COPPER UNLESS OTHERWISE SPECIFIED.

4. METALLIC COMPONENTS ON THE SITE MUST BE GROUNDED TO THE GROUND RING. THIS INCLUDES STEEL CONDUITS USED TO DELIVER THE TELCO AND POWER UTILITY LINES TO THE SITE OR USED TO PROVIDE ACCESS BY UTILITIES OR CONTRACTORS TO THE VARIOUS CABINETS.
5. WHEN EARTH RESISTANCE TEST INDICATE THAT THE SOIL IS ABOVE MINIMUM ALLOWABLE RESISTANCE, THEN CONTRACTOR SHALL ESTIMATE THE TYPE, NUMBER AND ARRANGEMENT OF EARTH ELECTRODES. CONTRACTOR SHALL ALSO CONSIDER OWNER'S SITE SPECIFIC APPROACHES FOR IMPROVING EARTH RESISTANCE AT THE SITE BY THE METHODS INDICATED BELOW:
 - A. USE MULTIPLE ROOFS.
 - B. LENGTHEN THE EARTH ELECTRODE.
 - C. TREAT THE SOIL.
 - D. USE CHEMICAL ROADS.

1. THE EXISTING TOPOGRAPHY AND VERTICAL GEOMETRY REPRESENTED ON THESE DRAWINGS IS TO BE VERIFIED BY CONTRACTOR. CONTRACTOR SHALL CONTACT UTILITY LOCATE SERVICES A MINIMUM OF 72 HOURS PRIOR TO THE START OF CONSTRUCTION TO IDENTIFY THE EXISTENCE AND LOCATION OF UNDERGROUND AND OVERHEAD UTILITIES AND SERVICES. CONTRACTOR IS TO IMMEDIATELY NOTIFY ENGINEER OF DISCREPANCIES OR INTERFERENCE THAT WILL EFFECT THIS PROJECT. EXISTING UTILITIES SHALL BE PROTECTED AND REPAIRED @ THE CONTRACTORS EXPENSE IF DAMAGED, EXTREME CAUTION SHOULD BE USED BY THE CONTRACTOR WHEN EXCAVATING OR PIER DRILLING AROUND OR NEAR UTILITIES. CONTRACTOR SHALL PROVIDE SAFETY TRAINING FOR THE WORKING CREW.

2. DAMAGE TO THE EXISTING FACILITY SHALL BE REPAIRED OR REPLACED TO MATCH EXISTING ORIGINAL CONDITIONS AT THE CONTRACTOR'S EXPENSE.
3. EXISTING INACTIVE UTILITIES, WHICH PROHIBIT CONSTRUCTION, SHALL BE REMOVED, CAPPED, PLUGGED OR OTHERWISE DISCONTINUED AS REQUIRED TO ALLOW CONSTRUCTION TO CONTINUE. COORDINATE WITH PROJECT MANAGER, OWNER, AND /OR LOCAL UTILITY COMPANIES FOR APPROVAL.
4. CONTRACTOR SHALL NOTIFY THE PROPERTY OWNER OF THE CONSTRUCTION START WELL IN ADVANCE (MIN. 1 WEEK) OF THE CONSTRUCTION DATE.
5. TEMPORARY LABOR, MATERIAL, TOOLS, EQUIPMENT, TRANSPORTATION AND TEMPORARY POWER SERVICES NECESSARY FOR, AND INCIDENTAL TO COMPLETION OF WORK AS INDICATED ON THE DRAWINGS AND/OR AS SPECIFIED HEREIN.
6. THE CONTRACTOR SHALL FURNISH AND INSTALL MATERIALS AS REQUIRED FOR COMPLETE SYSTEMS, INCLUDING PARTS OBVIOUSLY OR REASONABLY INCIDENTAL TO A COMPLETE INSTALLATION, WHETHER SPECIFICATIONALLY IDENTIFIED OR NOT. SYSTEMS SHALL BE COMPLETELY ASSEMBLED, TESTED, ADJUSTED AND DEMONSTRATED TO BE READY FOR OPERATION PRIOR TO OWNER'S ACCEPTANCE.

6. GROUNDING MATERIALS AND INSTALLATION METHODS SHALL BE DONE IN ACCORDANCE WITH OWNER SPECIFICATIONS.

7. THE CONTRACTOR MUST VERIFY THAT NEW GROUNDING SYSTEM RESISTANCE IS EQUAL TO OR LESS THAN THE (5) OHMS PER OWNER SPECIFICATIONS.
8. RUN GROUND WIRES IN AN ORGANIZED MANNER, C-TAPPING PER OWNER SPECIFICATIONS WHERE POSSIBLE TO REDUCE THE NUMBER OF GROUND WIRES. AVOID CROSSING OF WIRES WHEREVER POSSIBLE.
9. INSTALL GROUND WIRES IN A DOWNWARD SLOPE FOR MAXIMUM LIGHTNING PROTECTION.
10. MAINTAIN MINIMUM BENDING RADIi OF THE GROUNDING WIRES.
11. DO NOT REMOVE MORE INSULATION FROM THE GROUND WIRES THAN NECESSARY WHEN EXOTHERMICALLY WELDING OR CRIMPING. IF EXCESS INSULATION IS REMOVED, THE CONNECTION WILL BE CONSIDERED UNACCEPTABLE AND WILL BE CORRECTED PER THE OWNER PROJECT MANAGER'S DIRECTION.

7. THE CONTRACTOR SHALL OBTAIN, PAY FOR AND DELIVER REQUIRED PERMITS, CERTIFICATES OF INSPECTION, INCLUDING UTILITY CONNECTION FEES, ETC. REQUIRED BY THE AUTHORITIES HAVING JURISDICTION. DELIVER CERTIFICATES TO THE OWNER PRIOR TO FINAL ACCEPTANCE OF THE WORK.

8. THE CONTRACTOR SHALL MAINTAIN BENCHMARKS, CONSTRUCTION STAKING, AND OTHER ELEVATION CONTROL POINTS AND SHALL REESTABLISH, IF DISTURBED OR DESTROYED, AT NO ADDITIONAL COST TO THE OWNER.
9. THE CONTRACTOR SHALL BE RESPONSIBLE FOR REPAIR AND OR RESTORATION OF DAMAGE TO THE EXISTING ACCESS ROADWAY AND ADJACENT SITE AREAS AS A RESULT OF USE DURING CONSTRUCTION. DISTURBED AND DAMAGED AREAS SHALL BE RESTORED TO THEIR ORIGINAL CONDITION OR BETTER UPON COMPLETION OF WORK AT THE EXPENSE OF THE CONTRACTOR.
10. THE CONTRACTOR SHALL REMOVE WASTE, DEBRIS AND TRASH FROM SITE AND DISPOSE OF IN A LEGAL MANNER ON A DAILY BASIS.
11. CONTRACTOR SHALL COORDINATE THE CONSTRUCTION STAGING AREA AND PARKING WITH THE PROPERTY OWNER PRIOR TO THE CONSTRUCTION START DATE.
12. THE CONTRACTOR SHALL NOT INTERFERE w/ THE NORMAL OPERATIONS. ACCESS TO THE WORK AREA SHALL BE AS DIRECTED BY THE FACILITY'S OWNER.
13. THE CONTRACTOR SHALL CONFINE THEIR OPERATIONS TO THE DESIGNATED AREAS AND SHALL KEEP THE CONSTRUCTION AREA CLEAN. AISLES AND PATHWAYS SHALL BE KEPT UNOBSTRUCTED.
14. THE CONTRACTOR SHALL COORDINATE THE WORK OF VARIOUS TRADES SO AS TO INSURE PROPER SEQUENCING AND INSTALLATION.

1. PLATFORM DESIGN LOADS
 - a. ASCE 7-10/IBC 2015 100 MPH WIND LOAD, EXPOSURE B.
 - b. MAX AXIAL COMPRESSION PER LEG = 3000 LBS
 - c. MAX UPLIFT PER LEG = 800 PSF APPROX.
 - d. MAX HORIZONTAL SHEAR = 800 PSF.
2. PRESUMPTIVE SOIL PARAMETERS:
 - a. SOIL UNIT WEIGHT, $\gamma = 90$ PCF
 - b. ANGLE OF INTERNAL FRICTION = 30°
3. SEISMIC DESIGN PARAMETERS
 - a. OCCUPANCY CATEGORY II
 - b. SITE CLASS = D
 - c. SEISMIC USE GROUP = SUG II
 - d. SEISMIC DESIGN CATEGORY = D
 - e. MAPPED SPECTRAL RESPONSE ACCELERATION, 0.2 S PERIOD = 0.4
 - f. MAPPED SPECTRAL RESPONSE ACCELERATION, 1.0 S PERIOD = 0.15
4. FABRICATION AND INSTALLATION SHOULD BE DONE BY A CONTRACTOR EXPERIENCED IN SIMILAR WORK.
5. CONTRACTOR SHOULD OBSERVE OSHA AND OTHER APPLICABLE SAFETY GUIDELINES DURING INSTALLATION.
6. FABRICATION AND INSTALLATION PROCEDURE AND SITE SAFETY ARE THE SOLE RESPONSIBILITY OF THE CONTRACTOR.
7. CONTRACTOR SHOULD FIELD VERIFY DIMENSIONS AND FIT BEFORE FABRICATION.
8. THE DRAWINGS DO NOT INCLUDE ALL THE EXISTING FIELD CONDITIONS, SOME OF WHICH MAY INTERFERE WITH THE INSTALLATION. CONTRACTOR SHOULD CONDUCT A FIELD SURVEY TO IDENTIFY POTENTIAL DIFFICULTIES IN THE INSTALLATION BEFORE WORK COMMENCES. CONTACT THE ENGINEER IF THE FIELD CONDITIONS REQUIRE CHANGES IN THE DESIGN.
9. CONTRACTOR IS RESPONSIBLE FOR OBTAINING LICENSES, PERMITS AND OTHER APPROVALS REQUIRED FOR CONSTRUCTION.
10. PAINT THE NEW MEMBERS TO MATCH THE EXISTING STRUCTURE.
11. THE STRUCTURAL STEEL CONTRACTOR SHALL BE RESPONSIBLE FOR VERIFYING THE ANCHOR BOLT LOCATION, ELEVATIONS OF TOP SCREW PIER AND BEARING PLATES, ALIGNMENT ETC. PRIOR TO START OF STEEL ERECTION.
12. THE LATEST EDITION OF THE FOLLOWING SPECIFICATIONS SHALL GOVERN:
 - a. AISC - "ALLOWABLE STRESS DESIGN SPECIFICATION FOR STRUCTURAL STEEL BUILDINGS"
 - b. AISC - CODE OF STANDARD PRACTICE FOR STEEL BUILDINGS AND BRIDGES"
 - c. AWS - "D11.1 STRUCTURAL WELDING CODE - STEEL"
13. MATERIAL UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:
 - a. STRUCTURAL WIDE FLANGE & M SHAPES A992 OR A572, $F_y = 50$ KSI
 - b. OTHER STRUCTURAL SHAPES AND PLATES A36, $F_y = 36$ KSI
 - c. STRUCTURAL TUBING A500, GRADE B, $F_y = 48$ KSI
 - d. HIGH STRENGTH BOLTS A325
 - e. TREADED RODS A307
 - f. ANCHOR BOLTS A307 OR A36
 - g. PIPE (HANDRAIL) SCH 40 PIPE
14. STEEL SHALL BE HOT DIPPED GALVANIZED AS PER ASTM A123 SPECIFICATION.
15. STEEL HARDWARE SHALL BE HOT DIPPED GALVANIZED PER ASTM A153.
16. BOLTS SHALL BE DOMESTIC, NEW $\frac{1}{2}$ INCH DIAMETER HIGH STRENGTH GALVANIZED BOLTS, BEARING TYPE "X". UNLESS NOTED OTHERWISE IN THE DRAWINGS AND SHALL CONFORM TO ASTM A325 SPECIFICATIONS. USE ANCO LOCKNUTS & FLAT WASHERS ON BOLTS.
17. FINISHED BOLT HOLES SHALL NOT BE MORE THAN $\frac{1}{16}$ INCH LARGER THAN THE BOLT DIAMETER UNLESS NOTED OTHERWISE.
18. BOLTS SHALL BE TIGHTENED USING TURN-OFF-THE-NUT METHOD.
19. BOLT HOLES EDGE DISTANCES SHALL BE $1 \frac{1}{2}$ INCH UNLESS OTHERWISE NOTED.
20. WELDING SHALL BE DONE USING E-70 ELECTRODES AND IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY STANDARDS AND SPECIFICATIONS.
21. FIELD CUTS MUST BE THOROUGHLY CLEANED AND DOUBLE COATED w/ RUST PROHIBITIVE PRIMER AND PAINT.
22. DO NOT HEAT STRUCTURAL MATERIAL FOR STRAIGHTENING BENT OR WARPED MEMBERS.
23. CLEAN THE SITE OF DEBRIS UPON COMPLETION OF THE WORK. STORE SURPLUS MATERIALS NEATLY IN AN AREA APPROVED BY THE OWNER.
24. BEFORE FIELD WELDING CLEAN PAINT AND GALVANIZING TO BARE METAL. PREHEATING AND POSTHEATING OF THE BASE METAL SHOULD BE AS PER AWS D11.1 SPECIFICATION AND APPLICABLE CODES REGARDING PREHEATING AND POSTHEATING.
25. CONTRACTOR TO PROVIDE FIRE PROTECTION BEFORE FIELD WELDING.
26. HOLES IN STEEL SHALL BE DRILLED OR PUNCHED. SLOTTED HOLES SHALL BE PROVIDED WITH SMOOTH EDGES. BURNING OF HOLES AND TORCH CUTTING AT THE SITE IS NOT PERMITTED. HOLES IN BEARING PLATES SHALL BE DRILLED.
27. EPOXY ANCHORS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

13. MATERIAL UNLESS OTHERWISE NOTED, SHALL CONFORM TO THE FOLLOWING ASTM SPECIFICATIONS:
 - a. STRUCTURAL WIDE FLANGE & M SHAPES A992 OR A572, Fy = 50KSI
 - b. OTHER STRUCTURAL SHAPES AND PLATES A36, Fy = 36KSI
 - c. STRUCTURAL TUBING A500, GRADE B, Fy = 48KSI
 - d. HIGH STRENGTH BOLTS A325
 - e. TREADED RODS A307
 - f. ANCHOR BOLTS A307 OR A36
 - g. PIPE (HANDRAIL) SCH 40 PIPE
14. STEEL SHALL BE HOT DIPPED GALVANIZED AS PER ASTM A123 SPECIFICATION.
15. STEEL HARDWARE SHALL BE HOT DIPPED GALVANIZED PER ASTM A153.
16. BOLTS SHALL BE DOMESTIC, NEW 1/4 INCH DIAMETER HIGH STRENGTH GALVANIZED BOLTS, BEARING TYPE "X", UNLESS NOTED OTHERWISE IN THE DRAWINGS AND SHALL CONFORM TO ASTM A325 SPECIFICATIONS. USE ANCO LOCKNUTS & FLAT WASHERS ON BOLTS.
17. FINISHED BOLT HOLES SHALL NOT BE MORE THAN 1/16 INCH LARGER THAN THE BOLT DIAMETER UNLESS NOTED OTHERWISE.
18. BOLTS SHALL BE TIGHTENED USING TURN-OF-THE-NUT METHOD.
19. BOLT HOLES EDGE DISTANCES SHALL BE 1 1/2 INCH UNLESS OTHERWISE NOTED.
20. WELDING SHALL BE DONE USING E-70 ELECTRODES AND IN ACCORDANCE WITH THE AMERICAN WELDING SOCIETY STANDARDS AND SPECIFICATIONS.
21. FIELD CUTS MUST BE THOROUGHLY CLEANED AND DOUBLE COATED w/ RUST PROHIBITIVE PRIMER AND PAINT.
22. DO NOT HEAT STRUCTURAL MATERIAL FOR STRAIGHTENING BENT OR WARPED MEMBERS.
23. CLEAN THE SITE OF DEBRIS UPON COMPLETION OF THE WORK. STORE SURPLUS MATERIALS NEATLY IN AN AREA APPROVED BY THE OWNER.
24. BEFORE FIELD WELDING CLEAN PAINT AND GALVANIZING TO BARE METAL. PREHEATING AND POSTWELTING OF THE BASE METAL SHOULD BE AS PER AWS D1.1 SPECIFICATION AND APPLICABLE CODES REGARDING PREHEATING AND POSTHEATING.
25. CONTRACTOR TO PROVIDE FIRE PROTECTION BEFORE FIELD WELDING.
26. HOLES IN STEEL SHALL BE DRILLED OR PUNCHED. SLOTTED HOLES SHALL BE PROVIDED WITH SMOOTH EDGES. BURNING OF HOLES AND TORCH CUTTING AT THE SITE IS NOT PERMITTED. HOLES IN BEARING PLATES SHALL BE DRILLED.
27. EPOXY ANCHORS TO BE INSTALLED PER MANUFACTURER'S SPECIFICATIONS.

ROANOKE
 SOUTH C.R. 700 EAST 92
 GRANVILLE 038
 MONOPOLE

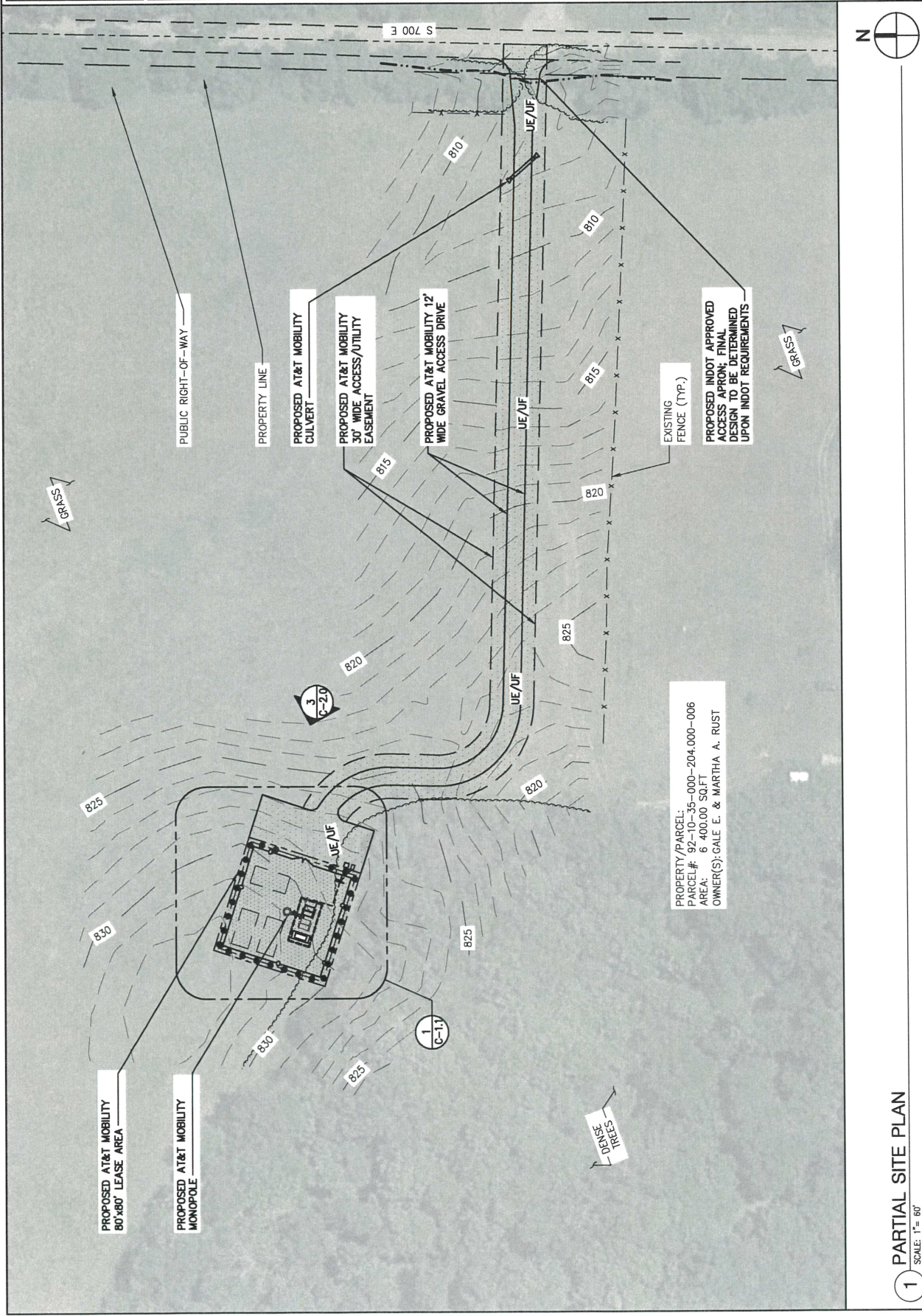
PROJ # 18-32-01-30

DWG BY: YYS CHKD BY: BMW

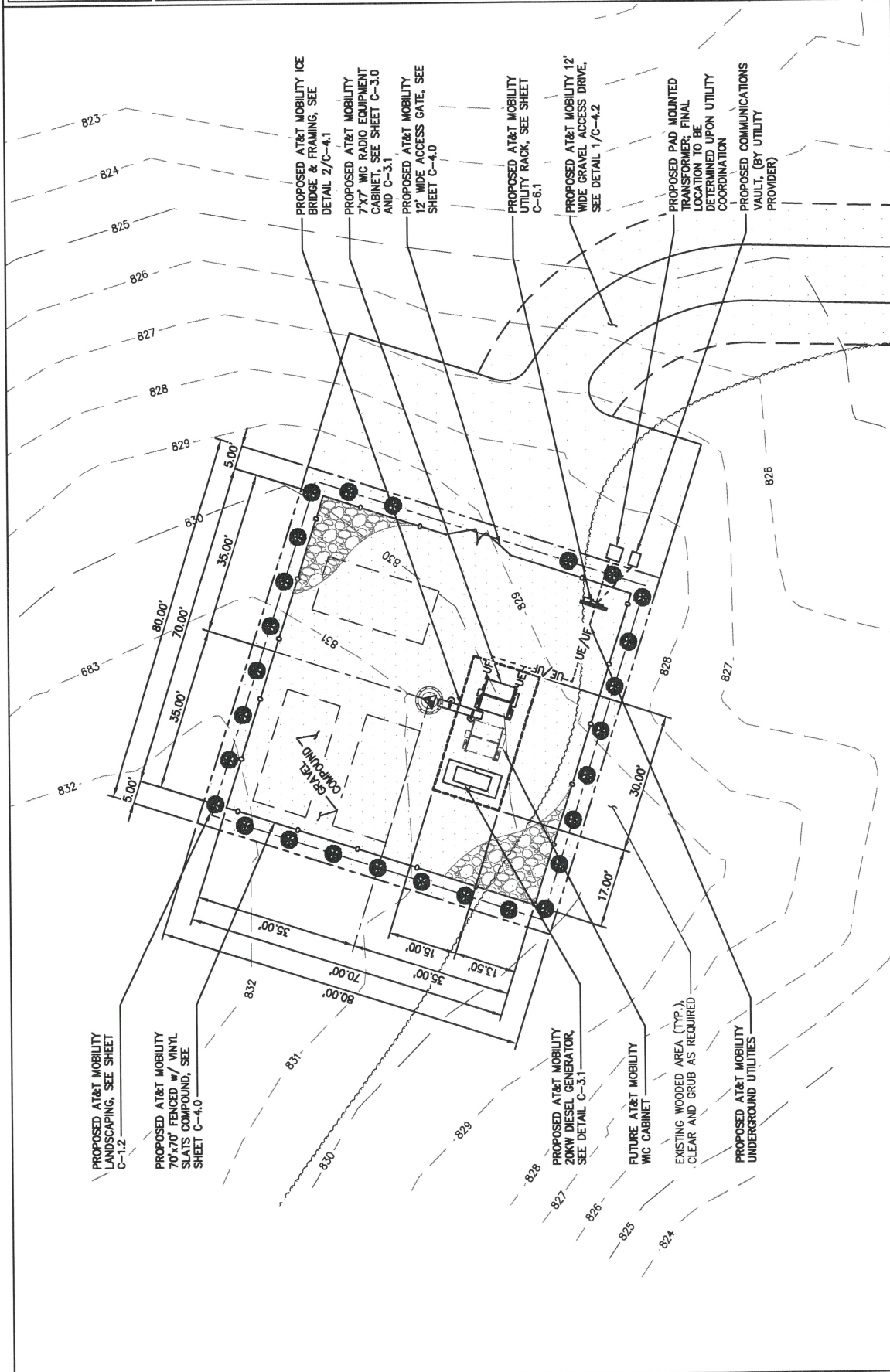
A	09/13/19 90% REVIEW CD
---	------------------------

SHEET TITLE
 PARTIAL
 SITE PLAN

SHEET NUMBER
C-10



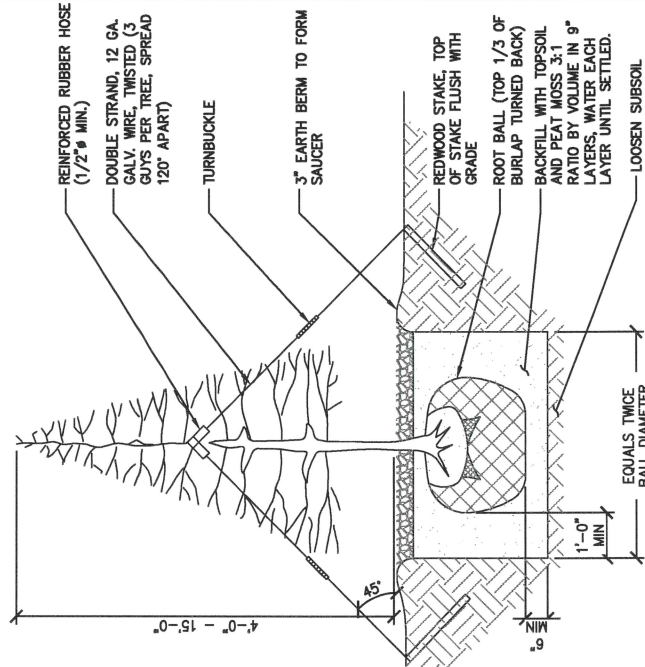
1 PARTIAL SITE PLAN
 SCALE: 1" = 60'



LANDSCAPE SCHEDULE				
DESCRIPTION: COMMON NAME	BOTANICAL NAME	MATURE SPREAD	MATURE HEIGHT	QTY.
AMERICAN ARBORVITAE	THUJA OCCIDENTALIS HYBRIDS	N/A	4' - 15'	27

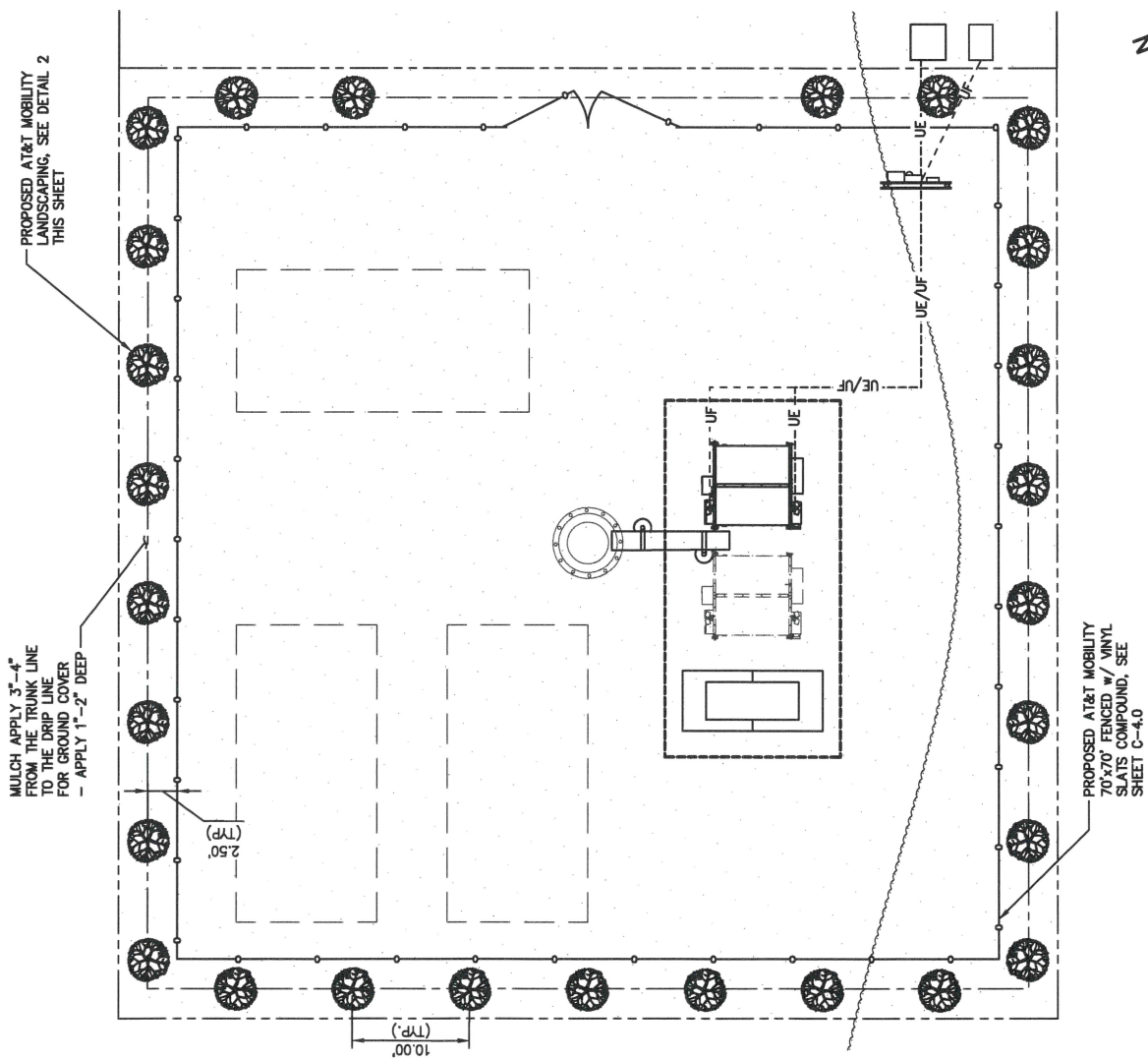
LANDSCAPING NOTES:

1. TOPSOIL TO BE PROVIDED BY SITE CONTRACTOR IN ROUGH GRADE TO WITHIN 1" OF FINISHED GRADE.
2. EACH PLANT TO BE IN THE TOP OF ITS CLASS AFTER SHEARING AND PRUNING
3. EACH PLANT TO BE FREE FROM DISEASE, INSECT INFESTATION, MECHANICAL INJURIES, AND IN RESPECTS BE SUITABLE FOR FIELD PLANTING
4. PLANTS TO BE FULLY GUARANTEED (LABOR AND MATERIALS) FOR A PERIOD OF NOT LESS THAN ONE (1) YEAR FROM DATE OF INSTALLATION.
5. PLANTS SHALL CONFORM TO THE AMERICAN STANDARD FOR NURSERY STOCK, ANSI Z60.1-1973, IN REGARD TO SIZING, GROWING AND B&B SPECIFICATIONS.
6. THE CONTRACTOR SHALL PROTECT ALL EXISTING TREES AND SHRUBS WITHIN THE CONSTRUCTION AREA IDENTIFIED AS "TO REMAIN" FROM DAMAGE BY EQUIPMENT AND CONSTRUCTION ACTIVITIES



2 PLANTING DETAIL

SCALE: 3/8" = 1'-0"

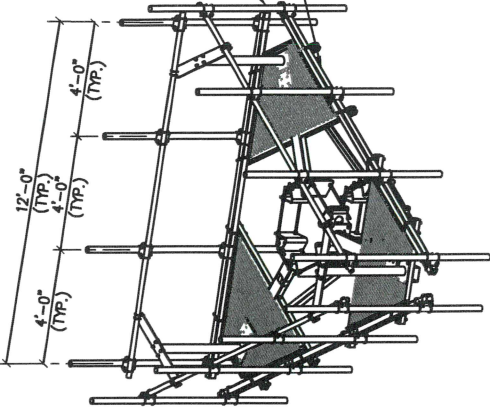


1 COMPOUND PLAN

SCALE: 1" = 20'

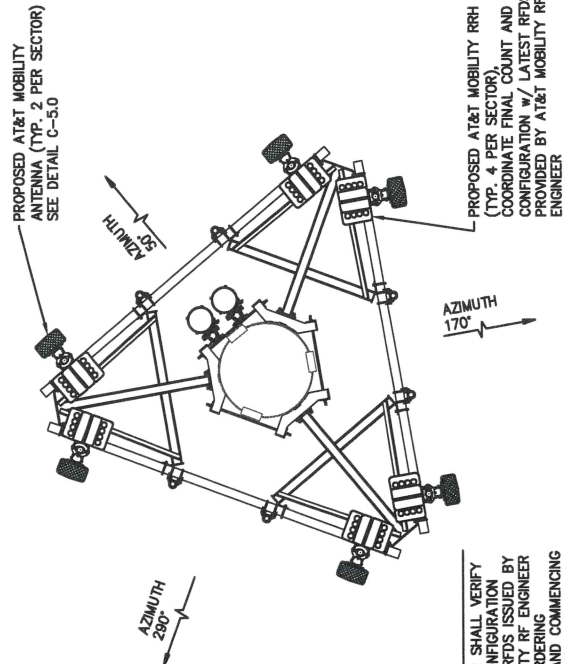
NOTE:

1. DETAIL BASED ON A TYPICAL SABRE SHEDDY DUTY MONOPOLE PLATFORM MOUNT.
2. CONTRACTOR SHALL COORDINATE ANTENNA MOUNTING W/ TOWER MANUFACTURER OR STRUCTURAL REPORT.



1 TYPICAL ANTENNA MOUNTING PLATFORM

SCALE: NONE



NOTES:

1. CONTRACTOR SHALL VERIFY FINAL RF CONFIGURATION WITH FINAL RFDS ISSUED BY AT&T MOBILITY RF ENGINEER PRIOR TO ORDERING MATERIALS AND COMMENCING CONSTRUCTION

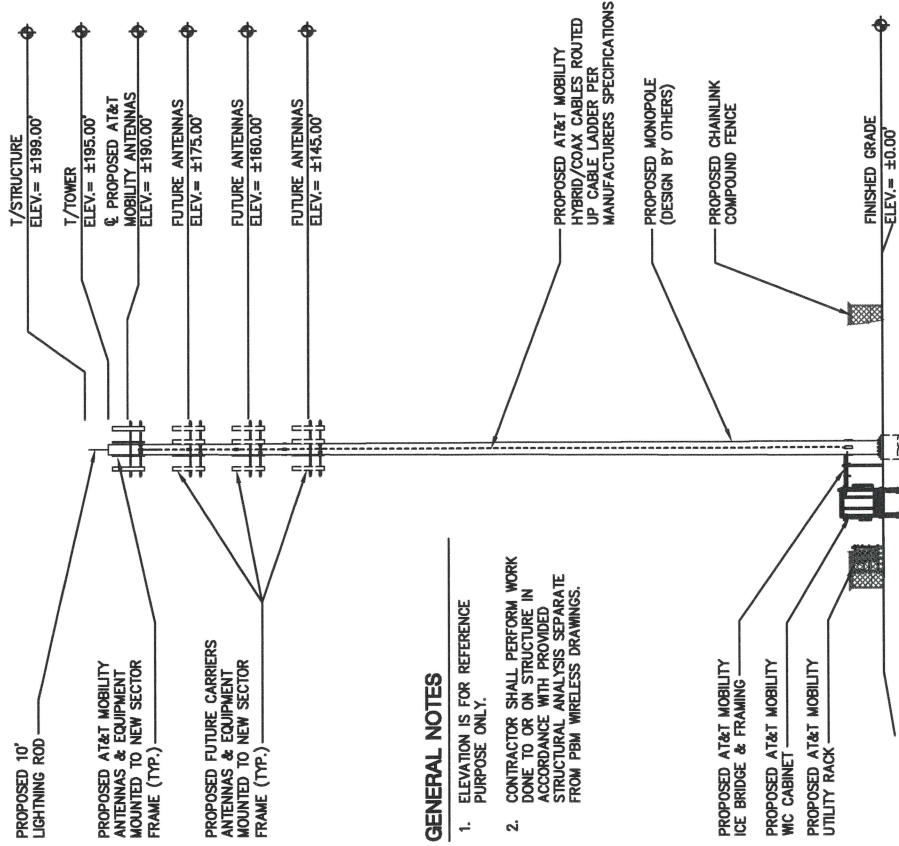
2 ANTENNA ORIENTATION TOP VIEW

SCALE: 1/4" = 1'-0"



3 ELEVATION

SCALE: 1" = 30'



GENERAL NOTES

1. ELEVATION IS FOR REFERENCE PURPOSE ONLY.
2. CONTRACTOR SHALL PERFORM WORK DONE TO OR ON STRUCTURE IN ACCORDANCE WITH PROVIDED STRUCTURAL ANALYSIS SEPARATE FROM PBM WIRELESS DRAWINGS.



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ROANOKE GRANITE 03B
SOUTH C.R. 700 EAST 92
ROANOKE, IN 46783 - WHITLEY COUNTY
CHKD BY: BMM
DWG BY: YYS
PROJ # 18-32-01-30

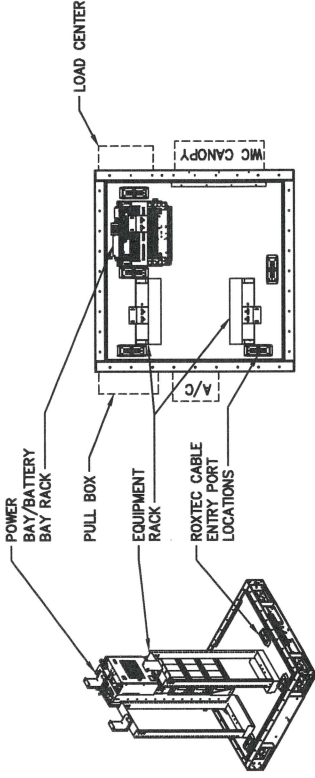
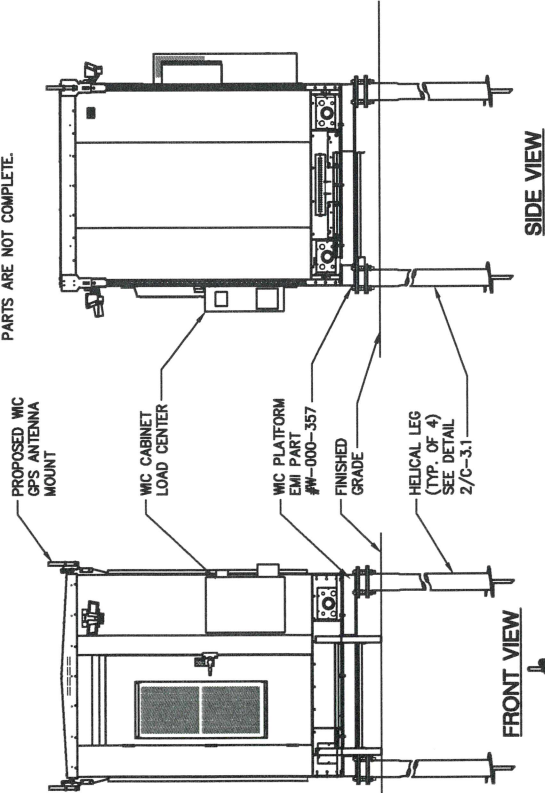
SHEET TITLE
ELEVATION & DETAILS

SHEET NUMBER
C-20

THIS DRAWING IS A SCHEMATIC REPRESENTATION OF THE CABINET'S EQUIPMENT LAYOUT INITIAL DESIGN. THE FINAL CONFIGURATION IS DEPENDANT ON THE OWNERS ACTUAL FINAL RF EQUIPMENT SELECTION. THE CONTRACTOR SHALL PROVIDE THE ACTUAL EQUIPMENT LAYOUT DRAWINGS TO THE APPROPRIATE BUILDING DEPARTMENT BEFORE START OF CONSTRUCTION

NOTES:

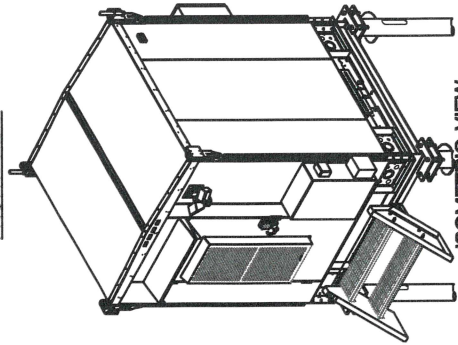
- CONTRACTOR SHALL FIELD VERIFY DIMENSIONS.
- CONTRACTOR SHALL MAINTAIN A 10'-0" MINIMUM SEPARATION BETWEEN THE PROPOSED GPS ANTENNA AND TRANSMITTING ANTENNAS.
- CONTRACTOR SHALL INSTALL WIC PARTS IN ACCORDANCE WITH WIC MANUFACTURER DRAWINGS.
- BUILDING SHIPPED WITH INTERIOR COMPLETE, FIELD VERIFY UPON DELIVERY TO SITE AND CONTACT CONSTRUCTION MANAGER IF PARTS ARE NOT COMPLETE.



2 WALK-IN-CABINET EQUIPMENT LAYOUT

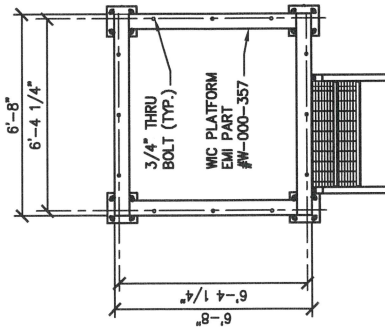
SCALE: 1/4"=1'-0"

REFERENCE ONLY

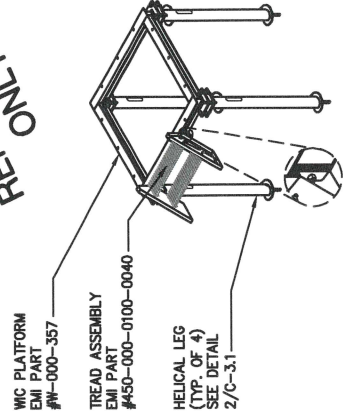


1 WALK-IN-CABINET DETAILS

SCALE: 1/4"=1'-0"



ISOMETRIC OF WIC SHELTER PLATFORM



3 ELEVATED WIC PLATFORM DETAILS

SCALE: 1/4"=1'-0"



09/13/19	90% REVIEW CD

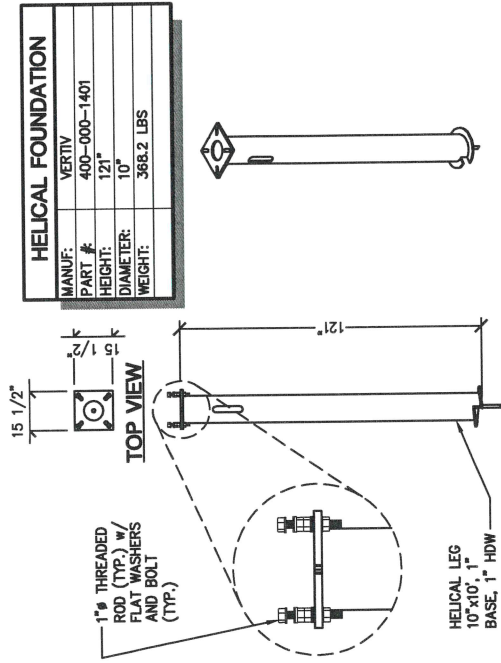
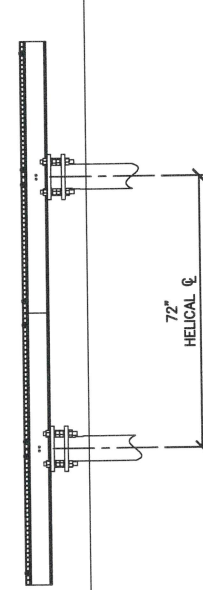
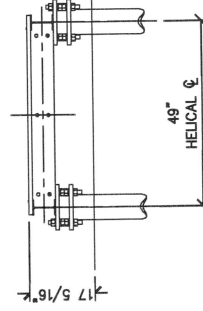
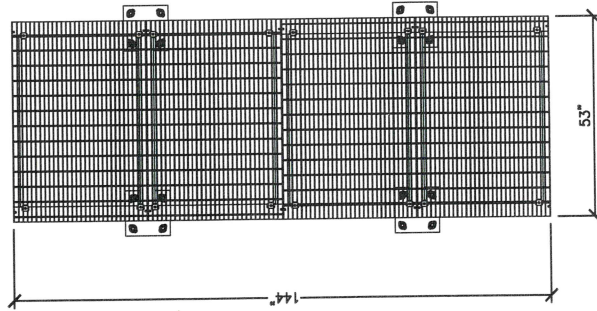
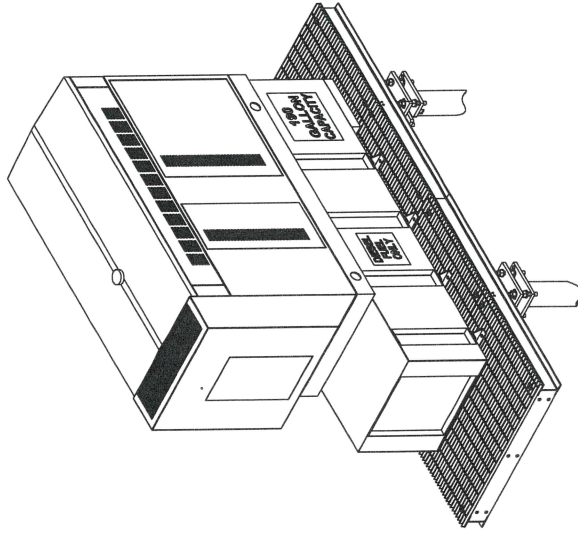
ROANOKE
GRANM11038
SOUTH C.R. 700 EAST 92
ROANOKE, IN 46783 - WHITLEY COUNTY
MONOPOLE
DWG BY: YYS
CHKD BY: BMW

SHEET TITLE
WIC CABINET & PLATFORM DETAILS

SHEET NUMBER
C-30

THIS DRAWING IS A SCHEMATIC REPRESENTATION OF THE GENERATOR LAYOUT INITIAL DESIGN. THE FINAL CONFIGURATION IS DEPENDANT ON THE OWNER. THE CONTRACTOR SHALL PROVIDE THE ACTUAL EQUIPMENT LAYOUT DRAWINGS TO THE APPROPRIATE BUILDING DEPARTMENT BEFORE START OF CONSTRUCTION

FOR
REFERENCE
ONLY



HELICAL FOUNDATION	
MANUF:	VERTIV
PART #	400-000-1401
HEIGHT:	121"
DIAMETER:	10"
WEIGHT:	368.2 LBS

ISOMETRIC VIEW

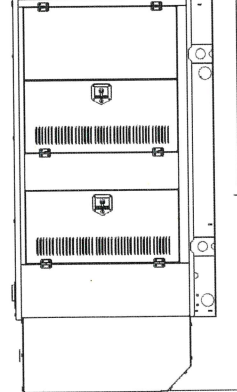
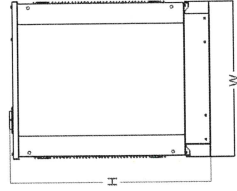
SECTION VIEW

2 HELICAL FOUNDATION KIT

SCALE: NONE

SD020 | 2.2L | 20 KW
INDUSTRIAL DIESEL GENERATOR SET
EPA Certified Stationary Emergency

GENERAC INDUSTRIAL



WEATHER PROTECTED ENCLOSURE

Run Time - Hours	Usable Capacity - Gal (L)	L x W x H - in (mm)	Weight - lbs (kg)	
			Steel	Aluminum
No Tank	-	94.8 (2,409) x 38.0 (965) x 49.5 (1,258)	1,916 (870)	1,785 (811)
32	54 (204)	94.8 (2,409) x 38.0 (965) x 62.5 (1,588)	1,350 (1,088)	1,291 (1,029)
78	132 (501)	94.8 (2,409) x 38.0 (965) x 74.5 (1,893)	2,626 (1,192)	2,495 (1,133)
113	190 (719)	106.0 (2,692) x 38.0 (965) x 78.5 (1,994)	2,840 (1,290)	2,709 (1,231)
125	211 (799)	94.8 (2,409) x 38.0 (965) x 86.5 (2,198)	2,835 (1,287)	2,704 (1,228)
178	300 (1,136)	94.8 (2,409) x 38.0 (965) x 90.0 (2,287)	2,898 (1,315)	2,767 (1,256)

1 DIESEL GENERATOR PLATFORM

SCALE: NONE

3 DIESEL GENERATOR

SCALE: NONE

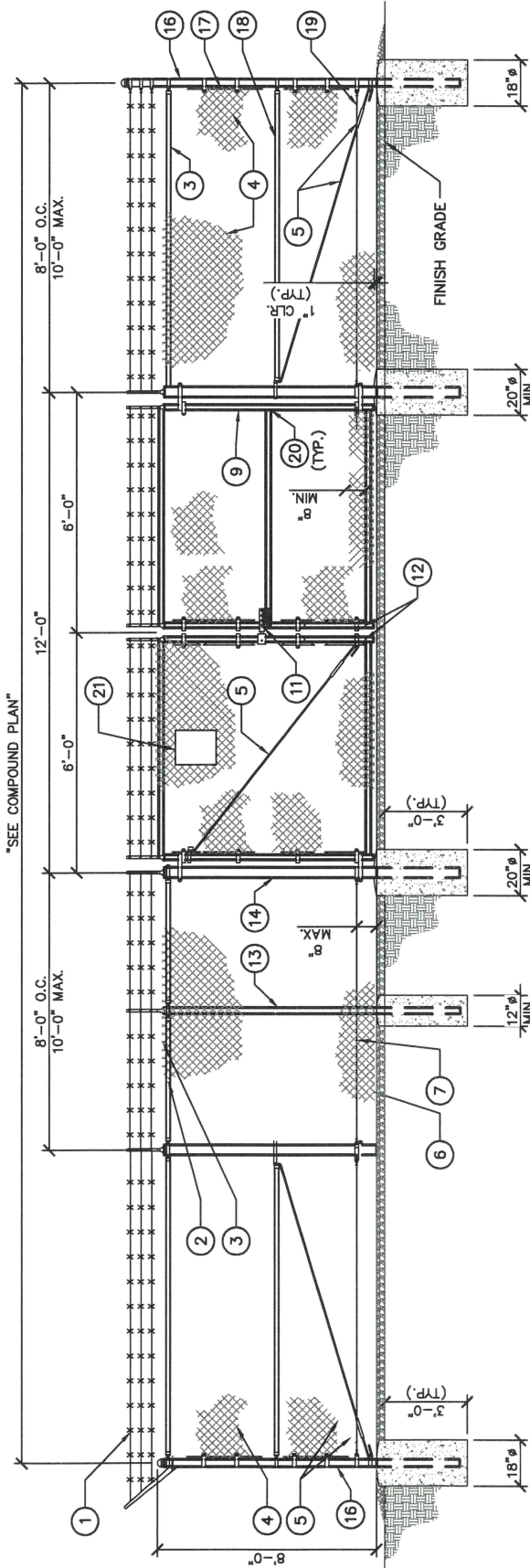


09/13/19	90% REVIEW CD

ROANOKE
GRAMM1038
SOUTH C.R. 700 EAST 92
ROANOKE, IN 46783 - WHITLEY COUNTY
MONOPOLE
CHKD BY: BMW
DWG BY: YYS

SHEET TITLE
GENERATOR &
PLATFORM DETAILS

SHEET NUMBER
C-31

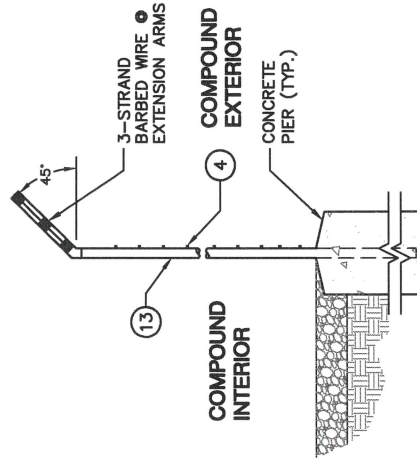


KEY NOTES:

- ① 3 STRANDS OF DOUBLE STRAND 12-1/2" O.D. TWISTED WIRE TO MATCH FABRIC 14 GA., 4 POINT BARBS ON APPROXIMATELY 5" CENTERS (TYP.)
 - ② 9 GA. ALUMINUM FABRIC TIES EVERY 24 INCHES ON TOP RAIL AND EVERY 14 INCHES ON LINE POSTS
 - ③ CHAIN LINK FABRIC TOP SELVAE TWISTED
 - ④ 9 GA 2"x2" FENCE FABRIC (TYP.)
 - ⑤ 3/8" STL. TRUSS ROD w/ TURNBUCKLES ● CORNERS (TYP.)
 - ⑥ BOTTOM SELVAE KNUCKLE
 - ⑦ HOG RING
 - ⑧ SCH. 40 GATE POST (TYP.) 4'-6" OPENING WIDTH 3-1/2" O.D.
 - ⑨ SCH. 40 GATE FRAME (TYP.) 1-5/8" O.D.
 - ⑩ SCH. 40 TOP RAIL (TYP.) 1-5/8" O.D.
 - ⑪ STYME LOCK OR APPROVED EQUIVALENT.
 - ⑫ GATE STOP, SEE DETAIL 2/C-4.2
 - ⑬ SCH. 40 LINE POST (TYP.) 2-7/8" O.D.
 - ⑭ SCH. 40 GATE POST (TYP.) 6'-12" OPENING WIDTH 4" O.D.
12'-18" OPENING WIDTH 6-5/8" O.D.
18'-24" OPENING WIDTH 8-5/8" O.D.
 - ⑮ UNUSED
 - ⑯ SCH. 40 CORNER, END, AND PULL POST (TYP.) 3-1/2" O.D.
 - ⑰ TENSION BAR
 - ⑱ SCH. 40 MID RAIL ● CORNERS ONLY (TYP.) U.N.O., 1-5/8" O.D.
 - ⑲ TENSION WIRE 7 GA MINIMUM TIE WIRE: MINIMUM 11 GA GALVANIZED STEEL AT POSTS AND RAILS. A SINGLE WRAP OF FABRIC TIE. AT TENSION WIRE: HOG RINGS SPACED AT 24" INTERVALS MAX.

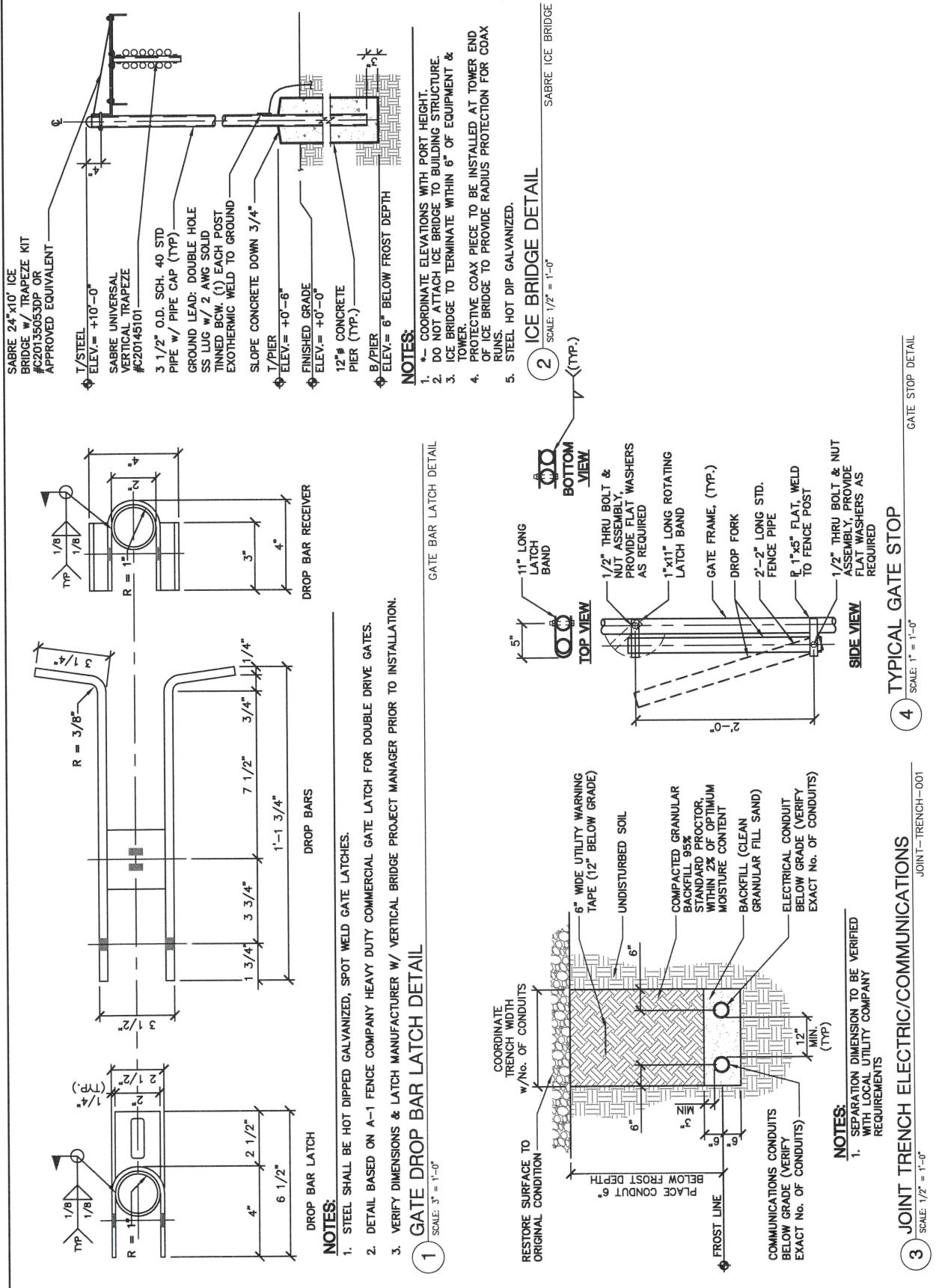
CHAIN LINK FENCE ELEVATION

SCALE: $1/4'' = 1'-0''$



FENCE/BARBED WIRE ARM DETAIL

8 FOOT HIGH CHAIN LINK FENCE BARBED WIRE



AT&T

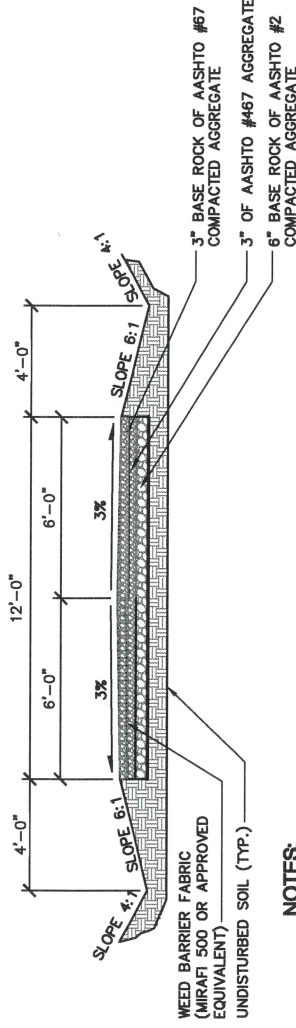


09/13/19	90% REVIEW	CD

ROANOKE
GRAMM1038
SOUTH C.R. 700 EAST 92
ROANOKE, IN 46783 - WHITLEY COUNTY
MONROE
DWG. BY: YYS
CHKD BY: BMW

SHEET TITLE
DETAILS

SHEET NUMBER
C-4.2



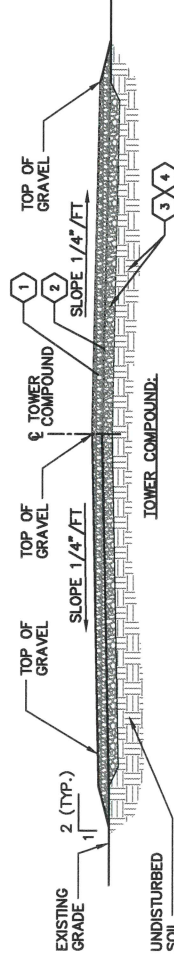
NOTES:

1. BASE ROCK TO BE INSTALLED FOR CONSTRUCTION TRAFFIC, FINISH STONE APPLIED FOR FINAL GRADE AND TRAFFIC.
2. ROAD SHALL BE CLEARED OF ORGANIC MATERIAL OR UNSUITABLE MATERIAL SUBGRADE MUST BE COMPACTED TO 90% OF STANDARD PROCTOR DENSITY AND VERIFIED BY PROOF-ROLL OR GEOTECH RECOMMENDATIONS.
3. USE TENCATE OR APPROVED EQUIVALENT WHEN WATER IS PREVALENT NEAR SURFACE.

1 TYPICAL GRAVEL ROAD SECTION

SCALE: 1/4" = 1'-0"

GRAVEL ROAD SECTION

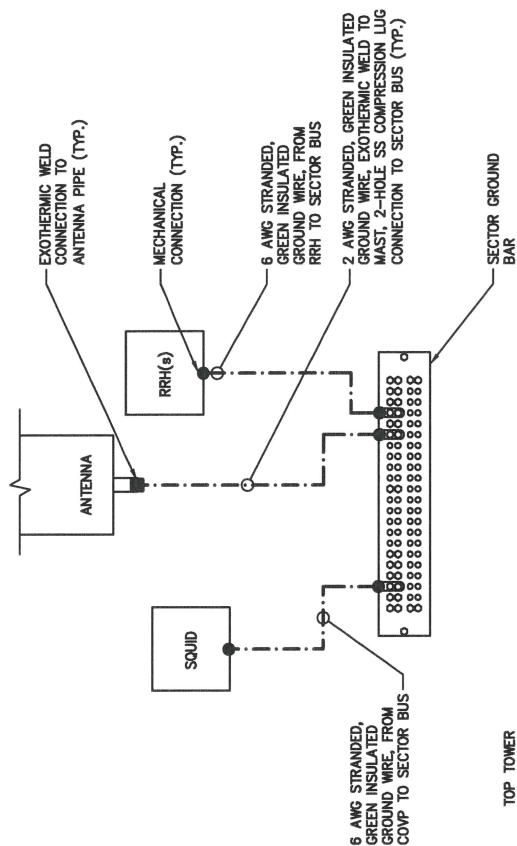


1. 3" OF 3/4"-1" MINUS (CHURCHER RUN, FINE) ROCK.
2. WEED CONTROL FABRIC - MIRAFI 500X, OR APPROVED EQUIVALENT (WHEN SPECIFIED BY PROJECT MANAGER)
3. 5" BASE ROCK OF 3" DIA. ROCK (ROAD BASE), PROOF-ROLL PRIOR TO INSTALLATION OF FINISHED GRAVEL.
4. SITE SHALL BE CLEARED OF ORGANIC MATERIAL OR UNSUITABLE MATERIAL SUBGRADE MUST BE COMPACTED TO 90% OF STANDARD PROCTOR DENSITY AND VERIFIED BY PROOF-ROLL OR GEOTECHNICAL RECOMMENDATIONS.
5. SITES WITH NO FENCE SHALL HAVE AN AREA COVERED WITH WEED BARRIER THAT IS A MINIMUM OF 5 FT WIDE AROUND THE SHELTER AND TOWER AREAS; THIS AREA SHALL BE USABLE AS PARKING SPACE OR FOR STORAGE OF A PORTABLE GENERATOR. LOCAL FIRE CODES MIGHT DICTATE MORE STRINGENT REQUIREMENTS.
6. THE FINISHED GRADE SHALL DIRECT WATER AWAY FROM THE SHELTER &/OR TOWER.

2 TYPICAL COMPOUND SECTION

SCALE: NONE

TYPICAL - COMPOUND - SECTION



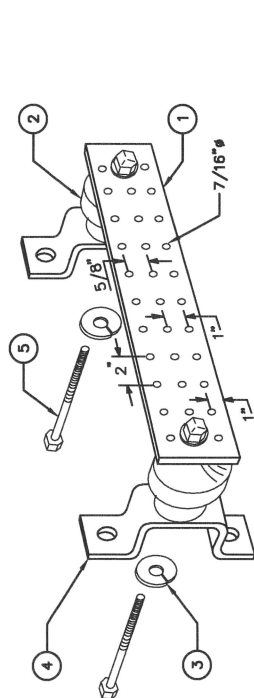
TOP TOWER

NOTES:

1. TYPICAL EACH SECTOR. SECTORS TIE DIRECTLY TO NEW MAIN TOWER TOP GROUND BAR, BEAM CLAMPED TO PLATFORM STEEL.

SECTOR GROUNDING DIAGRAM (TYP.)

SCALE: NONE



LEGEND

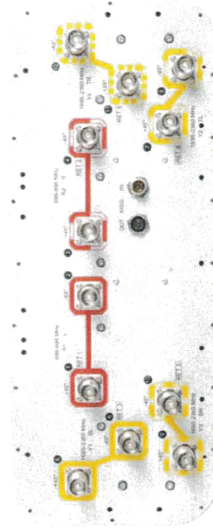
- 1 TINNED COPPER GROUND BAR, 1/4" x 4" x 20", HOLE CENTERS
- 2 INSULATORS
- 3 3/8" LOCKWASHERS
- 4 WALL MOUNTING BRACKET
- 5 3/8-11 X 2" H.H.C.S.BOLTS

GROUND BAR DETAIL

SCALE: NONE

SO-GROUND-BAR-20-HOLE

MECHANICAL CHARACTERISTICS	
DIMENSIONS (HEIGHT x WIDTH x DIAMETER)	96" x 19.6" x 7.6"
WEIGHT w/o MOUNT BRACKET	103.2 lbs
SURVIVAL WIND SPEED	> 150 mph
RF CONNECTOR INTERFACE	4.3-10 FEMALE
RF CONNECTOR LOCATION	BOTTOM

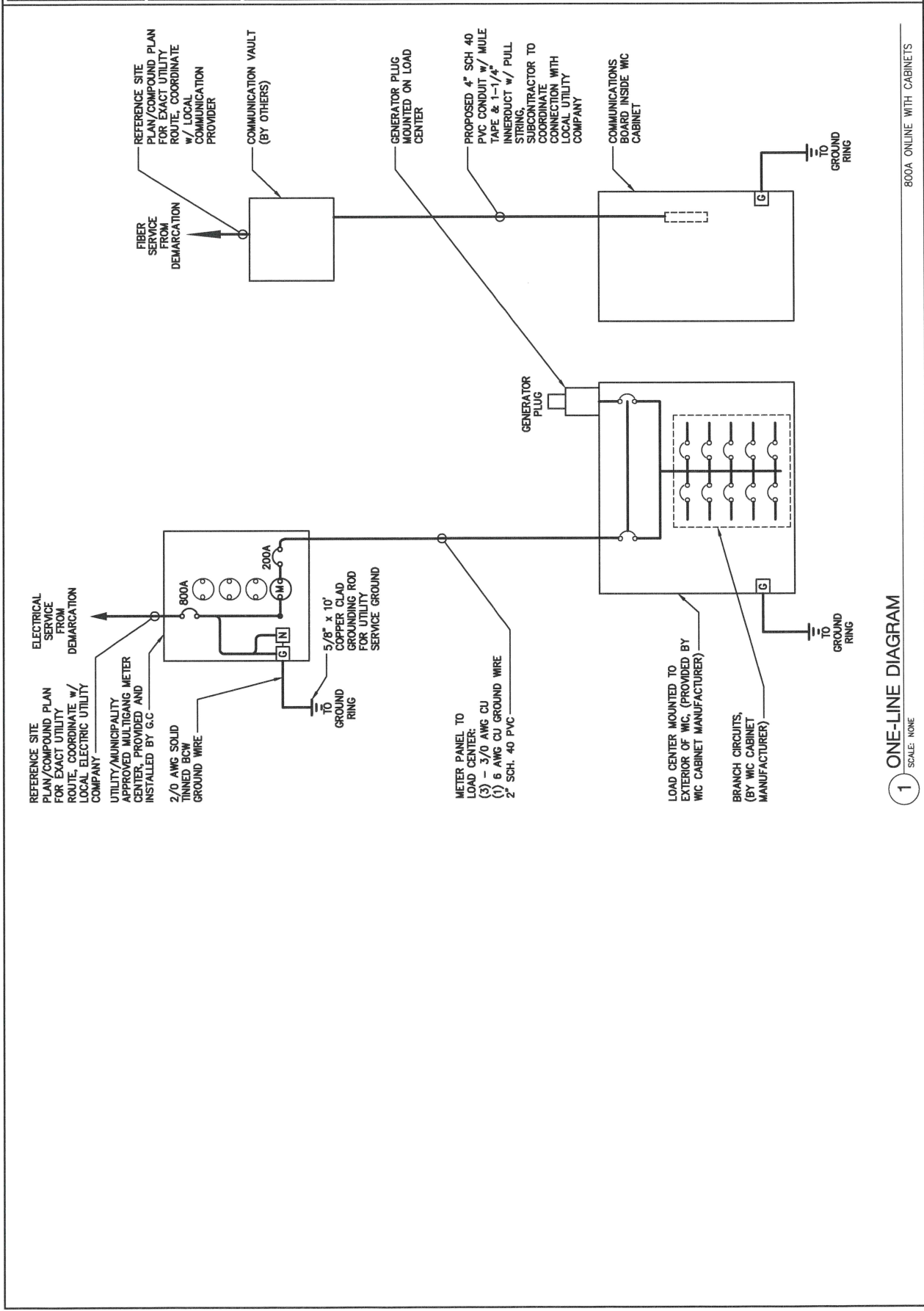


BOTTOM VIEW OF ANTENNA

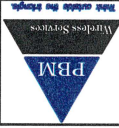
ANTENNA DETAILS

SCALE: NONE

COMMSCOPE - NNH4-65C-R6



ONE-LINE DIAGRAM



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ROANOKE
GRAMM11038
SOUTH C.R. 700 EAST 92
ROANOKE, IN 46783 - WHITLEY COUNTY
MONOPOLE
DWG BY: YYS
CHKD BY: BMW

SHEET TITLE
ELECTRICAL
DETAILS
C-6.1
SHEET NUMBER

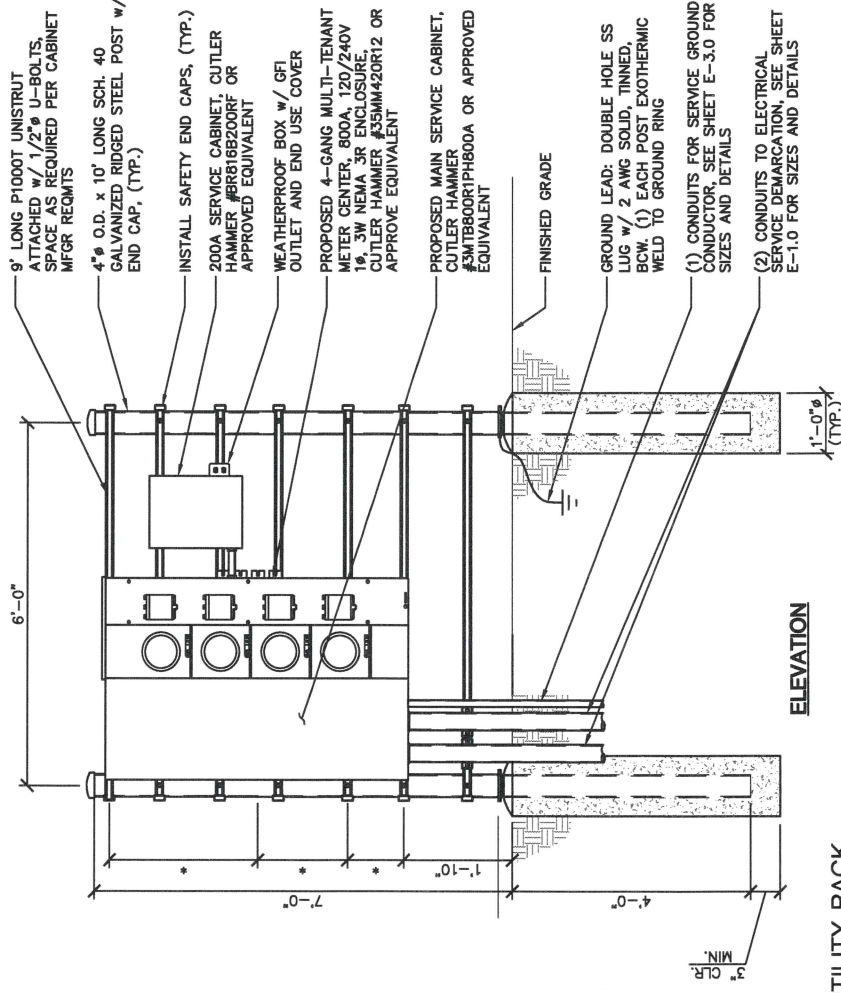
NOTES:

- *- COORDINATE ELEVATIONS WITH EQUIPMENT/MOUNTING HEIGHT.
- STEEL SHALL BE HOT DIP GALVANIZED.
- CABINETS SHALL BE MOUNTED WITH STAINLESS STEEL BOLTS.
- METAL POSTS ARE NOT ALLOWED TO SERVE AS EQUIPMENT GROUNDING CONDUCTOR.
- UNISTRUT SHALL NOT EXTEND BEYOND POST & MUST HAVE SAFETY END CAPS FOR SAFETY REASONS.
- METALLIC PARTS SHALL BE BONDED ACCORDING TO THE NEC.
- GROUNDING SHALL CONFORM TO NEC AND SECTION 436-439.
- ELECTRICAL EQUIPMENT SHALL BE INSTALLED IN CONFORMANCE WITH NFPA 70 (LATEST REVISION). THE RESPECTIVE EQUIPMENT MANUFACTURER'S DIRECTION AND OTHER APPLICABLE LOCAL CODES, LAWS, ORDINANCES AND REQUIREMENTS IN FORCE. ANY INSTALLATION WHICH WOULD VOID THE U.L. LISTING (OR OTHER THIRD PARTY LISTING) AND/OR THE MANUFACTURER'S WARRANTY OF A DEVICE SHALL NOT BE PERMITTED.
- COORDINATE ELECTRIC SERVICE WITH LOCAL POWER UTILITY COMPANY. COORDINATE WITH UTILITY FOR METER TYPE AND CONNECTION.
- CONDUIT SHALL BE SEALED WATERTIGHT UNTIL FINAL TERMINATIONS ARE MADE.
- PROVIDE PULL CORD IN CONDUITS. SECURE AT EACH END.
- ADJUST DEPTH OF CONDUITS TO PASS ABOVE GROUNDING SYSTEM.
- PROVIDE 18 INCH (MIN.) RADIUS ELBOWS FOR BENDS.
- PROVIDE PHENOLIC ENGRAVED NAMEPLATES AT THE SERVICE DISCONNECT LABELED: "SERVICE DISCONNECT" & "NOTE ENGINE GENERATOR NEUTRAL IS ALSO BONDED TO GROUND AT THE SERVICE DISCONNECT." PROVIDE ADDITIONAL NAMEPLATES NOTING TYPE AND LOCATION OF STANDBY POWER SOURCE.



PLAN

METAL UTILITY RACK

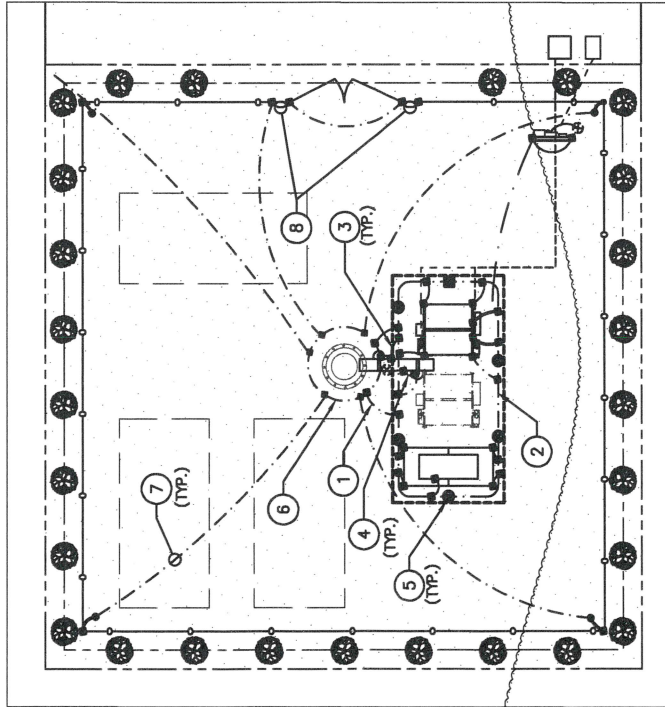


ELEVATION

1 UTILITY RACK
SCALE: 1/2" = 1'-0"

KEY NOTES:

- 1 2 AWG SOLID TINNED BARE COPPER WIRE (TO NEW GROUND RING, TYP. 2 CONNECTIONS ARE REQUIRED.)
- 2 2 AWG SOLID TINNED BARE COPPER WIRE EQUIPMENT GROUND RING BURIED TO A DEPTH OF 6" BELOW FROST LINE.
- 3 GENERAL CONTRACTOR SHALL GROUND ICE BRIDGE POSTS TO GROUND RING.
- 4 GENERAL CONTRACTOR SHALL GROUND ICE BRIDGE POSTS TO ICE BRIDGE SECTIONS.
- 5 COPPER CLAD STEEL GROUND ROD
- 6 SOLID TINNED BARE COPPER WIRE, TOWER GROUND RING, INSTALL 6" BELOW FROST DEPTH, MIN. SEE NOTE 2.
- 7 2 AWG STRANDED INSULATED GREEN CU GROUND WIRE, ROUTED IN 3/4" PVC CONDUIT
- 8 FENCE GATE GROUNDING, SEE DETAIL 2 THIS SHEET



GROUNDING NOTES:

1. GROUND WIRES ARE 2 AWG SOLID TINNED BCW U.N.O.
2. GROUND RING/RODS SHALL BE 6" BELOW FROST DEPTH, DEPTH MAY VARY.
3. METALS WITHIN 6' OF THE GROUND RING SHALL BE BONDED TO THE GROUND RING.
4. EXOTHERMIC WELD, (3) 2 AWG SOLID TINNED BCW, @ TOWER BASE PLATE. CONNECT TO TOWER GROUND RING w/ EXOTHERMIC WELD (TYP. 3 PLACES.)

GROUNDING PLAN

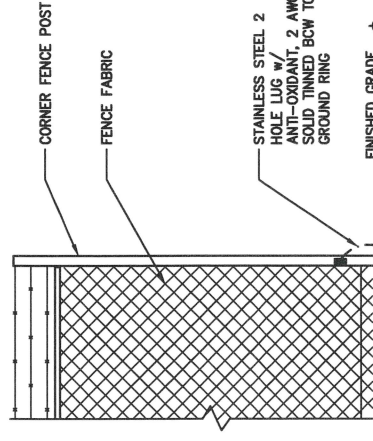
SCALE: 1" = 20'

NOTES:

1. THE 2 INSULATED STRANDED COPPER FROM THE RING GROUND SHALL BE EXOTHERMIC WELDED TO THE POST ABOVE.
2. BOND EACH HORIZONTAL POLE/BRAVE TO EACH OTHER AND TO EACH VERTICAL POLE BONDED TO THE EXTERIOR GROUND RING.
3. GATE JUMPER SHALL BE 2 AWG STRANDED INSULATED GREEN CU WITH SLEEVES ON EACH END DESIGNED FOR EXOTHERMIC WELDING.
4. GATE JUMPER SHALL BE INSTALLED SO THAT IT WILL NOT BE SUBJECTED TO DAMAGING STRAIN WHEN GATE IS FULLY OPEN IN EITHER DIRECTION.

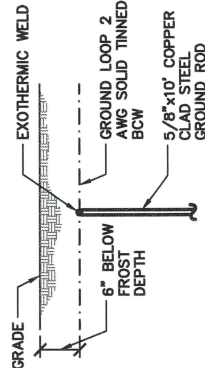
GATE GROUNDING ELEVATION

SCALE: NONE



FENCE POST GROUNDING

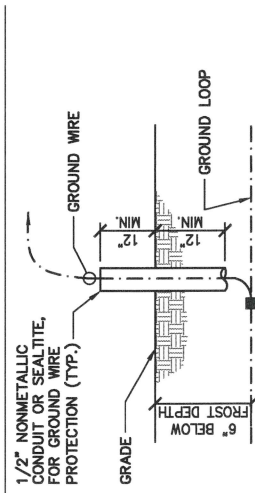
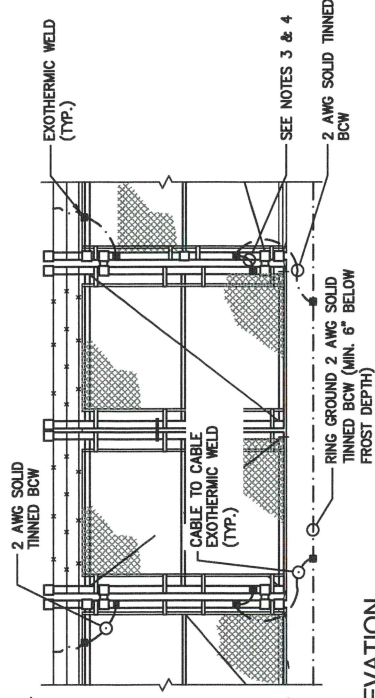
SCALE: NONE



GROUND ROD

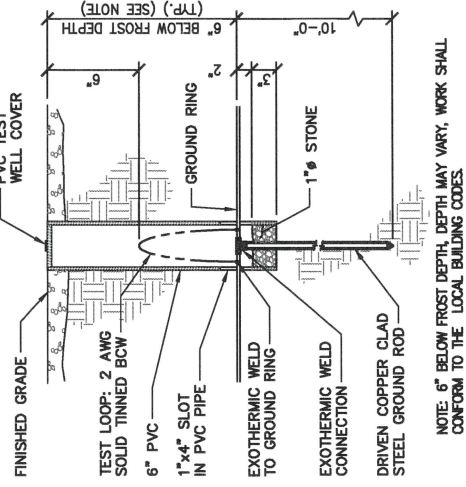
SCALE: NONE

GROUND ROD



GROUND WIRE PROTECTION

SCALE: NONE



NOTE: 6" BELOW FROST DEPTH MAY VARY, WORK SHALL CONFORM TO THE LOCAL BUILDING CODES.

INSPECTION WELL DETAIL

SCALE: NONE

GROUND INSPECTION WELL

AT&T



BLACK & VEATCH
4100 WEST STREET
DALLAS, TEXAS 75219



PBM
Professional Building Maintenance
10000 West Loop South, Suite 1000
Houston, Texas 77042

09/13/19	90% REVIEW CD

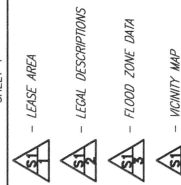
ROANOKE
GRANITE 038
SOUTH C.R. 700 EAST 92
ROANOKE, IN 46783 - WHITLEY COUNTY
MONROE

DWG BY: YYS
CHKD BY: BMW

PROJ # 18-32-01-30

SHEET TITLE
GROUNDING
PLAN

SHEET NUMBER
C-7.0



Land Surveyors
1012 S 4th Street, Suite 101
Louisville, Ky 40203
Phone: (502) 636-5111
Fax: (502) 636-5253

NATHAN R. GRIMES
RENAISSANCE DESIGN
BUILD, INC
117 S. INDIANA AVE
SELLERSBURG, IN 47172
PHONE (812) 246-5887
FAX (812) 248-4320
WWW.DRUMSTICKARTISTS.COM/NRGRIMES

TE NUMBER: CRANM103R

TE NAME: DOANKE

TELEPHONE ADDRESS:

LEASE AREA:

PROPERTY OWNER.

10900 S 700 E-92
ROANOKE, IN 46783

92-10-35-000-204.000-006

SOURCE OF INFO:

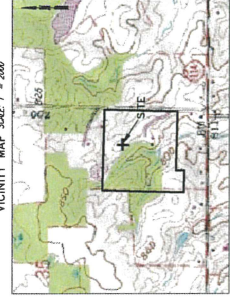
DATE:	CHKD BY:	DATE:
8-10-80	UDC	8-10-80

STAN PROJECT NO.: 19-10487

SHEET 1 OF 3

REVISIONS:

DIST. TO P.L. - 8.19.19

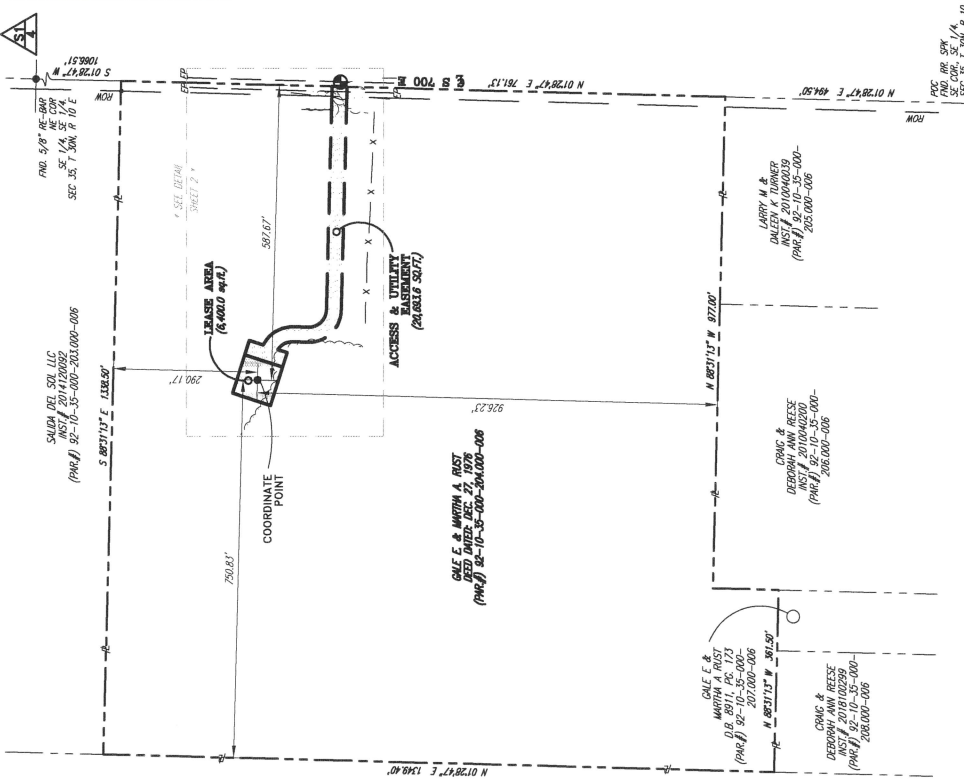


LOCATION DESCRIPTION
LOCATED ON THE SOUTHEAST QUARTER
OF SECTION 35, TOWNSHIP 30 NORTH,
RANGE 10 EAST, WHITLEY COUNTY,
KENTUCKY

The horizontal datum (geoid/level) is referenced to the North American Datum 1983 (NAD 83) and is expressed in terms of Latitude and Longitude in degrees, minutes, seconds, and decimal parts thereof, and is accurate to within 15 feet horizontally. The site vertical datum (elevation and benchmark) is in terms of the North American Vertical Datum of 1988 (NAVD 88) and is accurate to within $\pm 1/2$ - 3 feet vertically.

NOTES

NOT REPRESENT A BOUNDARY SURVEY.



THE AMOUNT IS DESCRIBED IN A
WIRELESS SERVICE, IIC. THE AMOUNT IS DESCRIBED IN A
FINDINGS OF FACTS:
DUE TO INCONSISTENCIES IN LINES OF OCCUPATION:

[illegible]

2) SOURCE OF MATERIAL based on the east line of the Southeast Quarter of Section 35 which has the bearing of N 07°02'00" E per Instrument 904149993 and most recent related location of H 11°02'27"

IN LINES OF OCCUPATION:
NAME, ADDRESS (SUNSET CLASSIFICATION)
As a result of the above observations, it is my opinion that the
unrealities in the locations of lines and corners established on this
survey are as follows:
DUE TO VARIANCES IN REFERENCE MONUMENTS:
Notice: To the subject land owner, the adjoining land owner may have
£.
movement, 20°15'00"00", and the easement hereby, if it is 20°15'

SY INFORMATION: The work provided to us along with writer rights associated with these uncertainties. Variances from monuments were found to be up to 2.10 feet +/- and unwritten rights to the land outside of any fences or occupation lines that you may or may not be occupying before removing any fences or improvements. I recommend that you consult with an attorney. Contact is shown on the survey plat.

None found.

- LEASE AREA
- LEGAL DESCRIPTIONS
- FLOOD ZONE DATA
- VICINITY MAP

● COORDINATE POINT LOCATION

NAD 1983
LATITUDE: 41° 00' 32.777" N
LONGITUDE: 85° 21' 28.08" W
NAD 1988
ELEVATION: 830.9'
EAST STATE PLANE COORDINATE
(BLUE MARBLE GEOGRAPHIC
CALCULATOR VERSION 3.0)
NORTHING: 2098470.27
EASTING: 413326.30

PROJECT BENCHMARK

NORTH: 2098.303.55
EAST: 4139.18.91
ELEVATION: 810.37'
LOCATION: BRING A SET MAG NAIL ON
THE EAST EDGE OF S 700 E
570' SOUTHEAST OF THE
SOUTHEAST CORNER OF THE
1 EAST AREA



**Know what's below.
Call before you dig.**

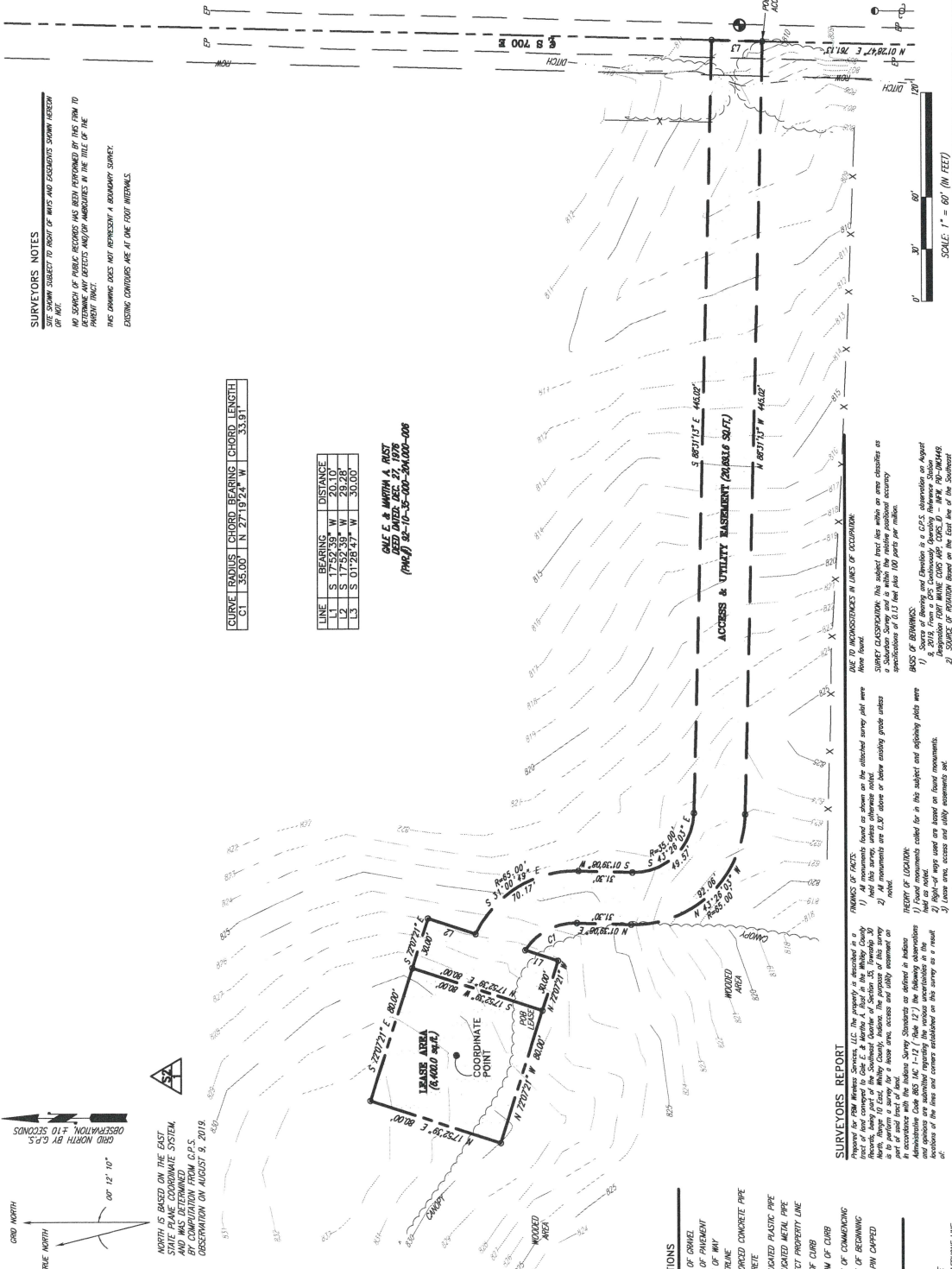
SYMBOL LEGEND

- [illegible]

NEW LEGEND

- | | |
|---------------------|------------------------------------|
| —E—E—E—E—E—E— | OVERHEAD ELECTRIC |
| —G—G—G—G—G—G— | UNDERGROUND GAS LINE |
| —W—W—W—W—W—W— | UNDERGROUND WATER LINE |
| —E/—E/—E/—E/—E/—E/— | OVERHEAD ELECTRIC & TELEPHONE LINE |
| —T—T—T—T—T—T— | OVERHEAD TELEPHONE LINE |
| —D—D—D—D—D—D— | DRAINAGE/SEWERS SHOWER LINE |
| —X—X—X—X—X—X— | EXISTING FENCE |
| —XX—XX—XX—XX—XX—XX— | PROPOSED FENCE |
| — | 6 DITCH / SWALE |

RIGHT OF WAY CENTERLINE
NOTE: SYMBOLS, ABBREVIATIONS, OR LIFESTYLES DO NOT NECESSARILY
APPEAR ON DRAWING(S) UNLESS INDICATED AS APPLICABLE



"WIPEI ESS COMMUNICATION SITE SURVEY"

DATE:

DATE	DATE
1/1/19	1/1/19

VAL: _____ DATE: _____

I HAVE REVIEWED THE FLOOD INSURANCE RATE MAPS (FIRM)

MAP NO. 18183C0290C DATED 05-04-2015 AND THE LEASE
AREA DOES NOT APPEAR TO BE IN A FLOOD PRONE

AREA DOES NOT APPEAR TO BE IN A FLOOD PRONE AREA. THE LEASE AREA IS LOCATED IN ZONE X.

This is a description for AT&T, of a lease area to be located on the property of the Gale E. & Martha A. Rust, and being a part of the Southeast Quarter of Section 35, Township 30 North, Range 10 East, Whitley County, Indiana which is further described as follows:



Being a part of the Southeast Quarter of the Southeast Quarter of Section 35, Township 30 North, Range 10 East, Whitley County, Indiana which is further described as follows:

Whitley County, Indiana which is further described as follows:

Commencing at a railroad spike found at the Southeast corner of said Southeast Quarter of Section 35; thence with the East line of Quarter Section N 128°47' E - 494.30' to the Southeast corner of the property conveyed to Gile E. and Martha A. Rust in the Whitley County Recorder's Office; thence continuing with the said East line of said Quarter Section with the East line of said property N 128°47' E - 761.13' to a set Mag Nail and being the Southeast corner of the Access & Utility Easement; thence with the perimeter of said Access & Utility Easement for the next 31.13' (1' - 44.50' to a set 5/8" re-bar with said property line and traversing said East property N 89°31' (1' - 44.50') to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence (2), with a curve to the right with a radius of 65.00' and a chord of N 139°108' E - 31.30' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence (3) N 172°39' W - 92.06' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence (4) along a curve to the left with a radius of 35.00' and a chord of N 27°19'24" W - 33.91' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence (5) S 175°52'39" W - 20.10' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence (6) N 72°07'21" W - 30.00' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; and being the True Point of Beginning of the Lease Area; thence leaving said Access & Utility Easement N 72°07'21" W - 80.00' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence (7) S 175°39' W - 40.00' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence (8) N 72°07'21" E - 80.00' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence (9) S 175°39' W - 60.00' to the point of beginning, containing 6,400.00 square feet as per survey by Nathan R. Grimes dated August 19, 2019.



Being a part of the Southeast Quarter of Section 35, Township 30 North, Range 10 East, Whitley County, Indiana which is further described as follows:

the East line of Quarter Section 1229417* E – 494.50' to the Southeast corner of said Southeast Quarter of Section 35; thence with said East line of Quarter Section 1229417* E – 494.50' to the Southeast corner of the property conveyed to Cole & Martha A. Rust in the Whitley County Recorder's Office; thence continuing with the said East line of said Quarter Section with the East line of said Rust property N 1284747* E – 761.13' to a set May Nail, and being the True Point of Beginning of the Access & Utility Easement; thence leaving said Quarter Section line and said property line of said Rust property N 8837131* W – 445.02' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence with a curve to the right with a radius of 63.00' and a chord of N 1320678* E – 31.30' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence along a curve to the left with a radius of 35.00' and a chord of N 2719124* W – 33.91' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence along a curve to the left with a radius of 35.00' and a chord of N 2719124* W – 33.91' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence N 1759239* W – 30.00' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; and being the Southeast corner of the Lease Area; thence with the East line of said Lease Area N 1759239* E – 80.00' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence leaving said Lease Area S 2720721* E – 30.00' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence leaving said Lease Area S 2720721* E – 30.00' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence along a curve to the right with the radius of 65.00' and a chord of S 1320678* E – 31.30' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence along a curve to the left with a radius of 35.00' and a chord of S 1320678* E – 49.57' to a set 5/8" re-bar with a cap stamped "N GRIMES LS 21000194"; thence N 8837131* E – 445.02' to a set May Nail on said East line of said quarter section and said Rust property; thence with said East line S 1284747* W – 30.00' to the point of beginning, containing 20,633.6 square feet as per survey by Nathan R. Grimes dated August 15, 2019.

[illegible][illegible]

NATHAN R. GRIMES, P.L.S. LS-21000194

VACANT LAND

VACANT LAND

TO: Whitley County Boards of Zoning Appeals
FROM: Mark Cullnane
SUBJECT: Comment RE: 19-W-SE-10

To whom it may concern,

I received a telephone call from Robert Fahl, 10460 S. 700 E-92, Roanoke, IN 46783, at 11:00 A.M. on Monday, September 23, 2019 regarding potential special exception 19-W-SE-10. Mr. Fahl expressed multiple concerns pertaining to a special exception to permit a wireless telecommunication facility at 10900 S. 700 East-92, Roanoke, IN 46873.



Mark Cullnane
Planner I
Columbia City/Whitley County Joint Planning & Building Department

Mark Cullnane

From: Robert Fahl <robertfahl48@gmail.com>
Sent: Tuesday, October 15, 2019 1:10 PM
To: Mark Cullnane
Subject: Docket...19-W-SE-10

To All Whom It May Concern:

My name is Robert S. Fahl. My wife and I own our residential property at 10460 S700E-92. We also own agricultural property located at 10382 S700E and at 10196 S700E.

I am sending this E-mail in reference to the request for a "cell phone" tower construction site at 10900 S700E-92. The distance from the tower site to our home is approximately 1,500 ft.

It is important to note and to take into serious consideration before approval, that there are six residential properties with appraised tax values in excess of \$400,000 and at least 3 more properties that are between the \$200,000 to \$300,000 value within this 1,500 ft. proximity. One of the \$400,00 plus homes is the upscale horse and equestrian complex known as The Salida del Sol located at 10680 S700E. The residence is approximately 250 ft. from the tower site and the building for the horses is within 450 ft. of the tower.

The duration of this land lease for the tower is upwards of 100 years. There would be one family benefiting financially from the erection of this 200 ft. tower. Several families in the close proximity of this tower site address also received registered information from a law firm in Indianapolis concerning the contract by AT&T and the financial terms. My wife and I read the information several times before agreeing that we could not, in good conscience, be responsible for blighting this area with such an eye sore for the next three generations to come.

Therefore, we sincerely ask that you deny the request for this tower construction site on the basis of location near so many residences and wondering..."surely there must be other sites available which are not in such close proximity to houses and families".

Thank you for reading and considering our thoughts.

Submitted by neighbor,
Robert S. Fahl

Mark Cullnane

From: Nathan Bilger
Sent: Friday, October 4, 2019 2:13 PM
To: Mark Cullnane
Subject: FW: 19-W-SE-10 (Les & Marti McFarren)

From: Marti McFarren [mailto:martimcfarren@live.com]
Sent: Friday, October 4, 2019 2:08 PM
To: Nathan Bilger <wcplanning@whitleygov.com>
Subject: 19-W-SE-10 (Les & Marti McFarren)

*Les & Marti McFarren
10383 S 700 E -92 Roanoke, IN 46783
martimcfarren@live.com / 260-760-0206
Docket number: 19-W-SE-10
Cellular tower exemption*

*Hello Mr. Cullnane~
I am sending this email in regards to Singular's request to put in a 199 ft cell tower. We are opposing their request. This is a residential area. The request would be out of place. It could hinder my neighbors values that are directly in contact with or across the road from this location and possibly ours as well. It will be an eye sore near the road. We request that you deny this request.*

Thank you,

Les & Marti McFarren

Marti McFarren, REALTOR
RE/MAX Results
7806 A W Jefferson Blvd
Fort Wayne, IN 46806
martimcfarren@live.com
cell: 260-760-0206

Total Control Panel

[Login](#)

To: wcplanning@whitleygov.com

From: martimcfarren@live.com

You received this message because the domain live.com is on the enterprise allow list. Please contact your administrator to block messages from the domain live.com

Mark Cullnane

From: Diana Creative <designbyd@yahoo.com>
Sent: Friday, October 11, 2019 3:13 PM
To: Mark Cullnane
Subject: docket number: 19-W-SE-10

Dear Mr. Cullnane;

I am attaching my letter for you to review. I hope you understand my concerns and will stop the cell tower.

October 11, 2019

Subject: Docket Number: 19-W-SE-10

Dear Mr. McCullnane:

I am writing about the cell tower that the company is trying to get a special exemption in order to place the tower in residential area. This should say it all, but I will state my case. Needing an exemption is the first problem, it is going to ruin what we call a "peaceful" residential area. The sound that the facility will make will be annoying and may be heard from our property.

This brings me to my second point: The tower will be too close to houses. If you do your research, you will see that cell towers are placed in industrial areas or in areas that are not near houses. This tower will be too close to my house along with the other houses in the area. I should not have to give up my right to a peaceful existence for someone's profit. What next!!! A gas station in my back yard??? We live in the country for a reason. We have a horse farm. We are peaceful people that keep to ourselves and we protect our horses. If this tower is built and cause problems for my family or my horses, you can believe I would seek a legal remedy. If one of my riders were to get hurt because of the tower spooking the horse, this would be because the exemption was granted. You never can know when a horse will spook, even with a good rider. The key is to keep things the same and peaceful, so no one gets hurt. The tower will be seen by all my horses and the noise could very well cause problems along with the sight of it.

My next point is this. This company sent letters to anyone with property in the area. The neighbors that I have talked to and myself have no desire to allow a cell tower on our property. This company wants to profit from using our peaceful land for their gain without any respect for our land values or concern with animals and children. This is why the tower should be placed in a properly zoned area which will minimally effect the neighboring residents.

Children are a big issue also. Children will be able to access this tower and play near it. This is another reason why these towers are NOT near houses, so our children are not exposed to an element that has potential harm. Whether or not this is true, this certainly is

the perception of many people in our society. What about Climbing the tower!!!? I would like to think parents watch their children, but teenagers can be very intent on doing what they want. This danger, near our houses, should not be allowed?

I am also concerned about land values. Well established research and public opinion have shown that a cell tower lowers property values. The company that owns the tower profits, but we lose??? We are residents that have paid our taxes for years and should have the right to stop this. Would you want your house and children next to the tower?

STOP this tower. We abide by all laws; you need to respect the rights and wishes of your taxpayers. STOP the tower.

Diana Vandeman

10680 S. 700 E.-92

Roanoke, Indiana 46814

260-312-3410

P.S. I will be at the meeting to oppose the exemption.....

TO: Whitley County Boards of Zoning Appeals
FROM: Mark Cullnane
SUBJECT: Comment RE: 19-W-SE-10

To whom it may concern,

I received a telephone call from Fred Vandeman, 5928 N. Bridge Road, Fort Wayne, IN 46814, at 10:50 A.M. on Thursday, September 26, 2019 regarding the potential special exception 19-W-SE-10. Mr. Vandeman is an owner of 10680 S. 700 East-92, Roanoke, IN 46783, adjacent to the property upon which the telecommunication facility associated with 19-W-SE-10 is planned. Mr. Vandeman expressed his opposition to a special exception to permit a wireless telecommunication facility at 10900 S. 700 East-92, Roanoke, IN 46783.



Mark Cullnane
Planner I

Columbia City/Whitley County Joint Planning & Building Department

Oct 11, 2019

Fred N Vandeman
10680 S700E-92
Roanoke, IN
260-438-8219
fvandeman@comcast.net

Topic: Cellular tower exemption
Docket number: 19-W-SE-10

Dear Mr. Mark Cullhane wcplanning2@whitleygov.com

My name is Fred Vandeman and I live next-door to the proposed site for a new cell tower. My address is 10680 S700E, Roanoke, IN.

I purchased my property in Whitley County in 2006. I had dreams of owning a beautiful site for our house and horses. I found that beautiful country place. I purchased this property based on a number of important factors which include the tranquil country setting, beautiful surroundings and the peacefulness and quiet nature setting.

Recently some of my neighbors and myself received a proposal from a wireless cellular company wanting to lease space for a cell tower to be placed on our property. All of my neighbors, except one, have refused this proposal. I strongly feel that this will negatively impact our community and property values. There is more than ample documentation for this happening in communities throughout this region of the country. I have no argument that the community needs wireless cellular coverage but I feel strongly that this should not negatively impact homeowners in a residential/agricultural area where such tower placement is restricted by zoning. I will outline some of my reasons for this below.

Home and property investment as one of the largest single investments that family's make. This is why a great deal of care and planning goes into such a important decision. We naturally do everything we can to protect our investment. There is considerable documentation that establishes the solid connection between a reduction in property values and placement of cell towers. This is estimated to be 2-20%. I feel that this will negatively affect my property and potentially the property value.

My neighbor is now planning to allow a cellular tower (199+/- ft) to be placed within about 300 feet of my house and barn. This structure will project 34 degrees into the sky as viewed from my house and barn/arenas. This will absolutely ruin the visual landscape and pollute the tranquil soundscape with the never ending electrical hum produced by these sites.

Our horse farms viability also depend on a pleasant, safe and attractive environment for the horses and riders. This cell tower could potentially limit our ability to retain and attract clients. The public's perception (right or wrong) is that cellular radiation present health risks. As we know, for many people - "perception is reality". This "reality" could impact our ability the retain and attract new borders for the farm and renters for the house. Especially parents of children riders or renters with children. Not to mention the potential difficulty securing interest in a potential buyer, should I decide to sell the property some day.

The proposed site for the tower is zoned Agricultural, and this prohibits construction of this cell tower without an exemption. I feel strongly that any request for an exemption to the zoning should be denied. There are many, more acceptable, sites for this cell tower in this part of the county without damaging the local environment. The cell tower should be placed in a location which is zoned for such a structure/construction or granting an exemption will not cause substantial environmental damage and financial hardship to neighboring property owners.

Thank you for listening and respectfully representing my interests in this matter. I do not support granting the zoning exemption to build a wireless cell tower on the proposed site.

Thank you,



Fred N Vandeman

Oct 17, 2019

Fred N Vandeman
10680 S700E-92
Roanoke, IN
260-438-8219
fvandeman@comcast.net

Topic: Cellular tower exemption
Docket number: 19-W-SE-10

Dear Mr. Mark Cullnane wcplanning2@whitleygov.com

This represents an additional letter to supplement the previous response to docket number 19-W-SE-10. I am writing this to add references and bibliography to justify comments made in my original letter.

I would like to also include for your review, some small excerpts from these articles. This research is easily referenced online based on the individual URL provided. This sampling only includes a small portion of well-documented research on these topics. These references examine potential health and cancer risks, Decrease in property values near cell towers and aesthetics.

<https://scientists4wiredtech.com/what-are-4g-5g/cell-tower-installation-plans-lower-property-values/>

<https://www.nar.realtor/cell-phone-towers#section-165807>

<http://www.emfsa.co.za/news/property-values-desirability-cell-towers/>

<https://uhs.berkeley.edu/sites/default/files/cellphonescelltowerswirelessafety.pdf>

<https://www.vox.com/2018/7/16/17067214/cellphone-cancer-5g-evidence-studies>

<http://greenwoodmeadows.org/cell-towers-and-property-values/>

<http://greenwoodmeadows.org/cell-towers-and-property-values/>

I can provide many additional references if needed.

Thank you for listening and respectfully representing my interests in this matter. I do not support granting the zoning exemption to build a wireless cell tower on the proposed site.

Thank you,

A handwritten signature in black ink that reads "Fred N Vandeman, MD". The signature is stylized with a large, looping "F" and "V".

Fred N Vandeman

wireless antennas placed on top of or on the side of a building, would impact a home buyer's or renter's interest in a real estate property.

The overwhelming majority of respondents (94%) reported that cell towers and antennas in a neighborhood or on a building would impact interest in a property and the price they would be willing to pay for it. And 79% said under no circumstances would they ever purchase or rent a property within a few blocks of a cell tower or antenna.

Study Results

- 94% said a nearby cell tower or group of antennas would negatively impact interest in a property or the price they would be willing to pay for it.
- 94% said a cell tower or group of antennas on top of, or attached to, an apartment building would negatively impact interest in the apartment building or the price they would be willing to pay for it.
- 95% said they would opt to buy or rent a property that had zero antennas on the building over a comparable property that had several antennas on the building.
- 79% said under no circumstances would they ever purchase or rent a property within a few blocks of a cell tower or antennas.
- 88% said that under no circumstances would they ever purchase or rent a property with a cell tower or group of antennas on top of, or attached to, the apartment building.
- 89% said they were generally concerned about the increasing number of cell towers and antennas in their residential neighborhood.
- 57% had previously experienced cognitive effects from radiation emitted by

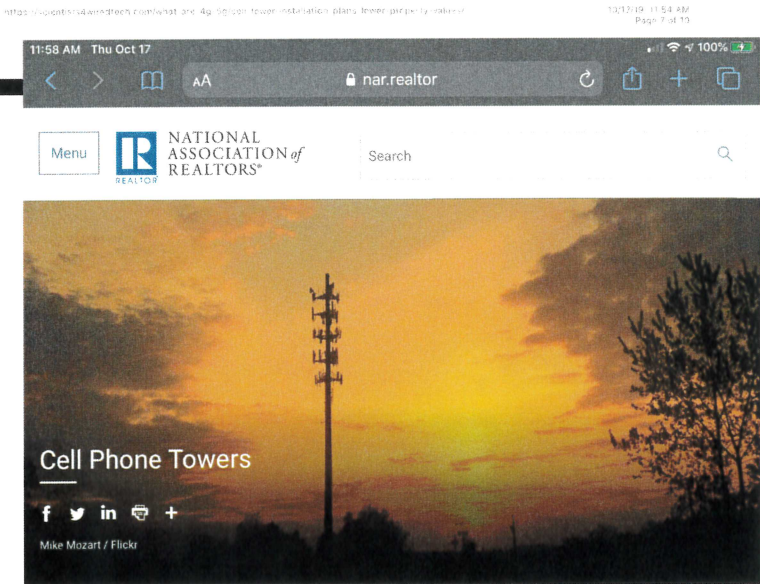
a cell phone, wireless router, portable phone, utility smart meter, or neighborhood antenna or cell tower

The National Institute for Science, Law and Public Policy (NISLAPP) was curious if respondents had previous experience with physical or cognitive effects of wireless radiation, or if their concern about neighborhood antennas was unrelated to personal experience with the radiation. Of the 1,000 respondents, 57% had previously experienced cognitive effects from radiation emitted by a cell phone, wireless router, portable phone, utility smart meter, or neighborhood antenna or cell tower, and 43% had not experienced cognitive effects. 63% of respondents had previously experienced physical effects from these devices or neighborhood towers and antennas and 37% had not experienced physical effects.

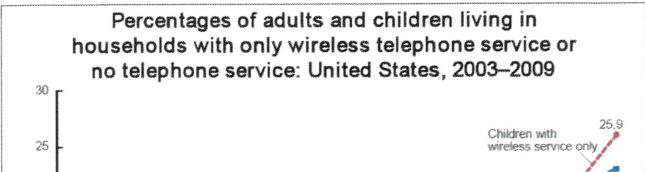
The majority of respondents provided contact information indicating they would like to receive the results of this survey or news related to the possible connection between neighborhood cell towers and antennas and real estate decisions.

Comments from real estate brokers who completed the NISLAPP survey:

- "I am a real estate broker in NYC. I sold a townhouse that had a cell tower attached. Many potential buyers chose to avoid purchasing the property because of it. There was a long lease."
- "I own several properties in Santa Fe, NM and believe me, I have taken care not to buy near cell towers. Most of these are rental properties and I think I would have a harder time renting those units... were a cell tower or antenna nearby. Though I have not noticed any negative health effects myself. I know many people are affected. And in addition, these antennas and towers are often extremely ugly- despite the attempt in our town of hiding them as chimneys or fake trees."
- "We are home owners and real estate investors in Marin County and have been for the last 25 years. We own homes and apartment building here in Marin. We would not think of investing in real estate that would harm our tenants. All our properties are free of smart meters. Thank you for all of your work."



Cell phone towers may bring extra tax revenue, greater reception, and security to a city or town. Despite these benefits, many remain skeptical of towers due to potential health risks, environmental aesthetics, and the impact on property values.



We are guinea pigs in a massive technological experiment that threatens our health. Our government needs to determine what constitutes a safe level of long-term exposure to wireless radiation and strengthen the FCC's radio frequency exposure guidelines. In the meantime, the government should impose a moratorium on technologies that increase our exposure to wireless radiation, especially new forms of wireless radiation like 5G cellphone radiation.

[NTP Cell Phone Radiation Study: Final Reports](#)

References

References for this presentation
are available at:

<http://www.saferemr.com/2016/08/key-cell-phone-radiation-research.html>

12:28 PM Thu Oct 17
ncbi.nlm.nih.gov

NCBI Resources How To Sign in to NCBI

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US National Library of Medicine
National Institutes of Health

Format: Abstract
Send to

Neurol. Sci. 2017 May;38(5):797-810. doi: 10.1007/s10072-017-2850-8. Epub 2017 Feb 17

Mobile phone use and risk of brain tumours: a systematic review of association between study quality, source of funding, and research outcomes.

Prasad M¹, Kathuria P², Nair P², Kumar A², Prasad K².

Author information

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Abstract

Mobile phones emit electromagnetic radiations that are classified as possibly carcinogenic to humans. Evidence for increased risk for brain tumours accumulated in parallel by epidemiologic investigations remains controversial. This paper aims to investigate whether methodological quality of studies and source of funding can explain the variation in results. PubMed and Cochrane CENTRAL searches were conducted from 1966 to December 2016, which was supplemented with relevant articles identified in the references. Twenty-two case control studies were included for systematic review. Meta-analysis of 14 case-control studies showed practically no increase in risk of brain tumour [OR 1.03 (95% CI 0.92-1.14)]. However, for mobile phone use of 10 years or longer (or >1640 h), the overall result of the meta-analysis showed a significant 1.33 times increase in risk. The summary estimate of government funded as well as phone industry funded studies showed 1.07 times increase in odds which was not significant, while mixed funded studies showed no increase in risk of brain tumour. Metaregression analysis indicated that the association was significantly associated with methodological study quality ($p < 0.019$, 95% CI 0.009-0.09). Relationship between source of funding and log OR for each study was not statistically significant ($p < 0.32$, 95% CI 0.036-0.010). We found evidence linking mobile phone use and risk of brain tumours especially in long-term users (≥ 10 years). Studies with higher quality showed a trend towards high risk of brain tumour, while lower quality showed a trend towards lower risk/protection.

KEYWORDS: Brain tumour; Meta-analysis; Metaregression; Mobile phones; Risk

Comment in

Use of cell phones and brain tumors: a true association? [Neurol Sci. 2017]

PMID: 28213724 DOI: 10.1007/s10072-017-2850-8 [Indexed for MEDLINE]

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- Mobile phones, cordless phones and the risk for brain tumours [Int J Oncol. 2009]
- Review Mobile phone use and glioma risk: A systematic review [PLoS One. 2017]
- Review Mobile phone use and risk for intracranial [Int J Occup Med Environ Health. 2019]

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- Evaluation of the Validity of a Nonlinear J-Shaped Dose-Response [J Biomed Phys Eng. 2019]
- Health effects of Radiofrequency Electromagnetic Fields [Int J Health. 2019]

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Mark Cullnane

From: Katy Harris <katy@twoees.com>
Sent: Monday, October 14, 2019 1:20 PM
To: Mark Cullnane
Subject: 19-W-SE-10 - Katy Scheer

To Whom it May Concern,

I am writing in regards to the building of a cell tower at 10900 S700 E-92, docket number 19-W-SE-10.

I am extremely concerned about the radiation emitted from these towers. While studies and information out there regarding these towers seems to be conflicting and uncertain, everyone seems to agree that there is radiation put off from these towers and can sometimes cause adverse health affects.

This tower would be within close proximity to where I board my horse at 10680 S 700 E-92, directly next door, and placed within 200 feet of the barn and house on the property. I would certainly be concerned for the well being of my horse, but also for my own, anyone else who came to the property and the people who reside in the home on the property, which includes an infant.

Additionally, I am concerned for the owner of the property and her business, as anyone could surmise this would affect her ability to conduct business. I have kept my horse with Diana Vandeman at Salida del Sol for six years with no intention of leaving, however, this would certainly give me concern enough to do so.

Not only would this affect Mrs. Vandeman's ability to conduct business, I can safely assume this would dramatically reduce the value of her property that she has kept immaculate and invested a tremendous amount of money into.

Permitting this tower would be reckless on behalf of Whitley County in regards to the safety of the citizens who would reside near this tower, and on behalf of a business owner of this County. I strongly recommend that an ordinance not be granted for this tower.

Thank you.

Katy Scheer
526 Commercial St.
Roanoke, IN 46783

katy@twoees.com/404-955-9816

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KATY SCHEER

Head of Tasting Room Operations

Two-EE's Winery

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Mark Cullnane

From: Nathan Bilger
Sent: Tuesday, October 22, 2019 8:09 AM
To: Mark Cullnane
Subject: FW: Petition # 19-W-SE-10 - Chapter 3 zoning exception request

Another remonstrance letter.

Nathan Bilger, AICP
Executive Director
Columbia City/Whitley County Joint Planning & Building Dept
220 W Van Buren Street, Ste 204
Columbia City, IN 46725
(260) 248-3112

From: mike alteryourhealth.net [mailto:mike@alteryourhealth.net]
Sent: Tuesday, October 22, 2019 12:08 AM
To: Nathan Bilger <wcplanning@whitleygov.com>
Cc: Alysia Alter <alysia.alter@gmail.com>
Subject: Petition # 19-W-SE-10 - Chapter 3 zoning exception request

To Whom It May Concern,

We are writing to express staunch opposition to a zoning special exception that would allow the construction of a 199 foot tall cellular communications tower on property very near to our residence. Included below is our concerns and documentation to support the position. Please take the time to read this message in it's entirety.

The opposition is based primarily on 4 points.

1. **Health:** There are well documented health issues connected with exposure to cellular tower emissions. Rapid advancement in microwave communication technology has admittedly limited the number of legitimate long-term exposure studies however, there is still a great deal of well researched scientific evidence indicating that there are documented and significant health concerns associated with exposure to cell tower emissions. Below the signature line are some of the referenced studies.

We will not allow our children or ourselves to be put at risk for damage caused by radiation from the proximity of this Cell Tower. Our residence includes sleeping quarters significantly elevated from ground level, further increasing direct line of site exposure to Cell Tower radiation. Studies indicated that, in similar situations, there are significant increases in cancer rates, cognitive decline, sleep disruption and chromosomal damage that have been documented, to name a few. If constructed, since the associated health risks are legitimately documented, we will encourage anyone in proximity to this Cell Tower who develops any potentially related health issue to pursue legal action against those associated with the Cell Tower installation, operation, maintenance or land leasing. We feel they should be held financially liable for all related medical and legal costs incurred.

2. **Safety:**

Collapse: Cell Towers may be built to be economically sensible rather than being built to be as safe as possible. Moreover, the rapid pace of Cell Tower installations across the country makes "quality control" over the manufacturing and installation processes very suspect.

As such, they present a very real danger of collapse, and the potential to cause harm such as property damage, and personal injury or death to anyone who might be unlucky enough to be near a 19 to 20 story Cell Tower when it fails. Cell Towers are constructed of multiple individual components, the failure of one or more of which can cause a complete structural failure, and concomitant collapse. Some of the most common areas and elements of failure which result in the collapse of Cell Towers are baseplates, flanges, joints, bolts and guy wires.

In some cases, Cell Towers have caught fire. With a simple visit to YouTube, you can watch multiple videos of a Cell Tower burning as it collapsed to the ground. Even their foundations have the capacity to fail.

In this area, where sudden, violent storms with high winds, including wind bursts and tornadoes do occur, placing this structure so near many residences would be reckless.

Lightning Strike: This area is already highly active for seasonal lightning storms. Placing a 200 foot tall lightning rod in close proximity to several residences increases the risk of property damage, fire, injury and even death.

Is the following an unlikely scenario? A tower is constructed and shortly thereafter damage begins to occur to equipment on nearby private property. The property owner suspects that it might have something to do with that recently erected tower. The property owner contacts the tower owner that unequivocally states that it cannot be their tower that is the problem, and the tower owners have the money and lawyers to wear down any private property owner to eventually try to find alternate solutions for themselves. The private property owner then has to deal with repetitive damage during lightning season from a tower owner that denies that they are the instigator of the trouble.

So what can a responsible tower owner do to reduce the lightning induced damage that his tower is causing to the nearby private property owners? The tower owner must demand that the tower grounding system be designed to properly dissipate lightning strike energy. Ten radials connected to a ground ring bonded to a tower, will divide lightning current up into ten smaller segments. This will help ensure that the lightning will more likely follow the designated paths for dissipation into the earth and lower the resulting damage to the adjacent private property. The maximum length of these ten radials is approximately 25 m (80 feet). In very limited spaces, the recommended minimum grounding system is at least 60 m (200 feet) of buried bare ground conducting wire composed of five radials, each 12 m (40 feet) in length.

Nothing like this is indicated on the construction plans which gives the impression that this Cell Tower's primary concern has little to do with safety or the well being of those in close proximity.

3. **Property values:** Having a 199 foot tower near a property is not going to increase or enhance its value. There are a number of impact studies available from various real estate and government sources. For example:

The Bond and Hue - Proximate Impact Study

The Bond and Hue study conducted in 2004 involved the analysis of 9,514 residential home sales in 10 suburbs. The study reflected that close proximity to a Cell Tower reduced price by 15% on average.

The Bond and Wang - Transaction Based Market Study

The Bond and Wang study involved the analysis of 4,283 residential home sales in 4 suburbs between 1984 and 2002. The study reflected that close proximity to a Cell Tower reduced the price between 20.7% and 21%.

The Bond and Beamish - Opinion Survey Study

The Bond and Beamish study involved surveying whether people who lived within 100' of a tower would

have to reduce the sales price of their home. 38% said they would reduce the price by more than 20%, 38% said they would reduce the price by only 1%-9%, and 24% said they would reduce their sale price by 10%-19%.

The United States Court of Appeals for the 11th Circuit upheld a denial of a Cell Tower application based upon testimony of residents and the following testimony of a real estate broker, that the Cellular Tower would reduce the values of property which were in close proximity to the Cellular Tower. Lawrence Oxman, Licensed Real Estate Broker testified: "As a licensed real estate broker with over 30 years of experience, it is my professional opinion that the installation of a Cellular Tower can significantly reduce the value of neighboring residential properties."

4. **Aesthetics:** Not only is there quite a bit of property value impact analysis available, common sense dictates that no one (other than the person renting the land) wants this monstrosity visible from where they live.

Thank you for your time and consideration on this matter and please support denial of the proposed rezoning of this property for construction of a 199 foot Cellular Tower.

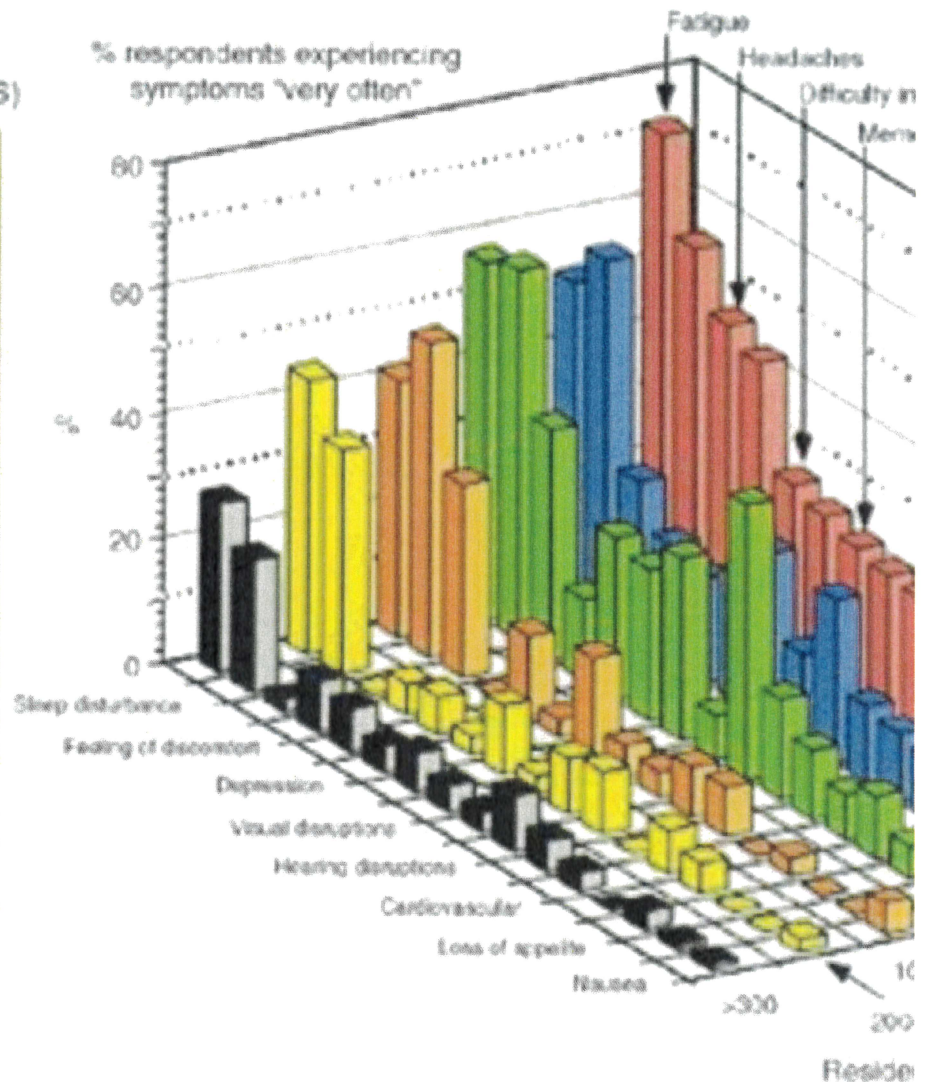
Dr. Michael and Alysia Alter

Health Studies:

Neurobehavioral Symptoms near

Rapid aging syndrome (RAS)
Electro-Hyper-Sensitivity (EHS)

1. Fatigue
2. Sleep disturbance
3. Headaches
4. Feeling of discomfort
5. Difficulty concentrating
6. Depression
7. Memory loss
8. Visual disruptions
9. Irritability
10. Hearing disruptions
11. Skin problems
12. Cardiovascular
13. Dizziness
14. Loss of appetite
15. Movement difficulties
16. Nausea



Work of Santini et al (France): Pathol Biol. 200

Blood Cell Abnormalities Found

Zothansiana 2017 – In a recent study from India by Zothansiana et al (2017), researchers examined abnormalities in blood samples in people living at different distances from cell towers. They identified a significant increase blood cell damage in those living within 80 meters of a cell tower versus those living greater than 300 meters from a cell tower. They found 1) A significant increase in micronuclei, which are small remnants of DNA nuclear material appearing within blood cells and a sensitive indicator of genotoxicity and chromosomal abnormalities 2) An increase in lipid peroxidation indicating free radical formation and cell membrane damage 3) A reduction in levels of internally produced antioxidant capacity (glutathione, catalase and superoxide dismutase).

The author concluded “**The present study demonstrated that staying near the mobile base stations and continuous use of mobile phones damage the DNA, and it may have an adverse effect in the long run. The persistence of DNA unrepaired damage leads to genomic instability which may lead to several health disorders including the induction of cancer.**” As more base stations are deployed with higher density and with ubiquitous wireless devices at home it will be difficult to find control groups that have not been significantly exposed. The *Antenna Search* website allows people to identify registered cell towers in their area.

School Cell Tower Study in 2018 Study Shows Cognitive Decline in Students

Meo 2018 – A recent case controlled 2 year scientific study examining the neurologic effects of children, aged 13-16, in schools with nearby cell towers revealed significant decline in cognitive scores when the radiation from the cell tower was higher but still at non-thermal levels. Students in School 1 (124 students) were exposed to cell tower radiation at $2.010 \mu\text{W}/\text{cm}^2$ at a frequency of 925 MHz for 6 hr a day, 5 days a week. Students at School 2 were exposed to cell tower radiation at $10.021 \mu\text{W}/\text{cm}^2$ at a frequency of 925 MHz for 6 hr a day, 5 days a week. Both groups had exposure for 2 years. Cognitive functions tasks were measured by the Cambridge Neuropsychological Test Automated Battery (CANTAB). Participants were excluded who had any confounding factors, i.e. those with any pre existing illness, on any medications, with history of anxiety or attention problems, frequent use of cordless or cell phones, use of Wi-Fi routers in their bedrooms, or those who lived near high transmission lines or cell towers.

The researchers used the Cambridge Neuropsychological Test Automated Battery (CANTAB) to measure cognitive functions tasks. They found “a significant impairment in Motor Screening Task (MOT; $p = .03$) and Spatial Working Memory (SWM) task ($p = .04$) was identified among the group of students who were exposed to high RF-EMF produced by MPBSTs. High exposure to RF-EMF produced by MPBSTs was associated with delayed fine and gross motor skills, spatial working memory, and attention in school adolescents compared to students who were exposed to low RF-EMF. Most notable is that the current FCC safety “guidelines” for 30 minute exposure are $1000 \mu\text{W}/\text{cm}^2$. This FCC limit is 100 times more RF than the students experienced in the highest exposure group that showed cognitive decline and with non-thermal effects.

Study here-“**Mobile Phone Base Station Tower Settings Adjacent to School Buildings: Impact on Students’ Cognitive Health.** Mao SA et al. American Journal of Men’s Health. December 7, 2018. <https://journals.sagepub.com/doi/10.1177/1557988318816914>

Cancer and Cell Towers

Wolf and Wolf 2004 investigated the rates of cancer versus distance from cell towers in small towns in Israel. He found the rate of cancer incidence was 129 cases per 10,000 persons per year in those living within 350 meters of a cell tower versus a rate of 16-31/10,000 in those living greater than 350 meters from the cell tower. **Eger (2004)** also found an increase in the development of new cancer cases within a 10 year period if residents lived within 400 meters of a cell tower. Their results revealed that within 5 years of operation of a transmitting station the relative risk of cancer development tripled in residents near the cell towers compared to residents outside the area.

Dode 2011 performed a 10 year study (1996-2006) examining the distance from cell towers and cancer clusters. He and his colleagues found a highly significant increase in cancers in those living within 500 meters of the cell tower. They noted “The largest density power was $40.78 \mu\text{W}/\text{cm}^2$, and the smallest was $0.04 \mu\text{W}/\text{cm}^2$.” The current guidelines are about $1000 \mu\text{W}/\text{cm}^2$. The authors conclude “*Measured values stay below Brazilian Federal Law limits that are the same of ICNIRP. The human exposure pattern guidelines are inadequate. More restrictive limits must be adopted urgently.*”

Ghandi in 2015 used comet assays to determine genetic damage in those living in the vicinity of mobile base stations. He found that genetic damage was elevated in the sample group. He concluded, “*analysis further revealed daily mobile phone usage, location of residence and power density as significant predictors of genetic damage... which...may lead to cancer.*”

Cell Towers and Metabolic Disorders

Meo (2015) Several studies on cell towers show metabolic changes and dysfunction in persons exposed to cell tower radiation. **Meo (2015)** looked at the association of exposure to radio frequency radiation from mobile phone base stations with glycated hemoglobin (HbA1c) and occurrence of type 2 diabetes mellitus in 2 different schools. The cell towers were about 200 feet

from each school. One school had about 10 times higher radiation levels. They found a significant increase in elevated levels of HbA1c and risk of type 2 diabetes mellitus in the school with higher RF levels.

[Eskander \(2012\)](#) looked at long term exposure to RF from cell towers over a 6 year period. They showed a reduction in volunteers' plasma ACTH, serum cortisol levels and a decrease in the release of the thyroid hormones especially T3. In addition prolactin in young females (14–22 years), and testosterone levels [in males] significantly dropped.

Biological Effects from Exposure to Electromagnetic Radiation From Cell Towers

Blake Levitt, an award-winning medical and science journalist and former *New York Times* contributor is author of **Cell Towers-Wireless Convenience? or Environmental Hazard? (2000)** The book lists different chapters from different authors who contributed to a “Cell Towers Forum: State of the Science/State of the law” environmental conference December 2, 2000. Her book has valuable information on FCC safety guidelines, legal aspects of the Telecommunications Act, cell tower sitings and case law. She also co-authored **Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays.** (2010) *Environmental Reviews*, 2010, 18(NA): 369-395. [Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays](#)

Conclusions From Research Health Effects of Cell Towers

A brief review of some of the research listed is below. **Wildlife is effected by cell towers.**

[Santini 2002](#), in a French study, reported an increase in fatigue at 300 meters from the cell towers and remaining symptoms at 200 meters. A follow up [study](#) by Santini in 2003 revealed that older subjects reported more symptoms and were more sensitive. Duration of exposure of 1 to 5 years did not have an effect on frequency of symptoms but after 5 years there was a significant increase in irritability reported.

[Navarro \(2003\)](#) indicates much lower levels of exposure cause adverse health symptoms. The Navarro (2003) [study](#) on cell towers and “Microwave Syndrome” in Spain found that in those living near cell towers symptoms occurred at low power. He looked at distance from the towers and electromagnetic field exposures and concluded, “Based on the data of this study the [advice](#) would be to **strive for levels not higher than 0.02 V/m** for the sum total, which is equal to **a power density of 0.0001 $\mu\text{W}/\text{cm}^2$ or 1 $\mu\text{W}/\text{m}^2$** , which is the indoor exposure value for GSM base stations proposed on empirical evidence by the Public Health Office of the Government of Salzburg in 2002.”

[Hutter \(2006\)](#), in an Austrian study, looked at cognitive performance, insomnia and well being in relation to power density of radiofrequency radiation versus reported symptoms in those in rural vs urban settings for more than a year. His study showed an increase in health effects with higher radiofrequency exposure. Important conclusions were that these complaints were independent of patients concern over health effects and that at levels well below current safety standards.

[Abdel-Rassoul \(2006\)](#) Researchers looked at neurologic effects of inhabitants living under or across from cell tower base stations versus those far away. They found “The prevalence of neuropsychiatric symptoms such as headache (23.5%), memory changes (28.2%), dizziness (18.8%), tremors (9.4%), depressive symptoms (21.7%), and sleep disturbance (23.5%) were significantly higher among exposed inhabitants than controls: (10%), (5%), (5%), (0%), (8.8%) and (10%).” In addition, “the exposed inhabitants exhibited a significantly lower performance than controls in one of the tests of attention and short-term auditory memory” also, “the inhabitants opposite the station exhibited a lower performance in the problem solving test (block design) than those under the station.” All readings were within the standard guidelines. They recommend revision of standard guidelines for public exposure to RER from mobile phone base station antennas.

Sivan and Sudarsanam 2012 Review of Literature- The Inter-Ministerial Committee (IMC) covered scientists to review the literature of the effects of RF-EMF radiations on wildlife, humans and the biosphere. In their 2010 MOEF Report they found that out of the 919 research papers collected on birds, bees, plants, other animals, and humans, 593 showed impacts, 180 showed no impacts, and 196 were inconclusive studies

They concluded, “Based on current available literature, it is justified to conclude that RF-EMF radiation exposure can change neurotransmitter functions, blood-brain barrier, morphology, electrophysiology, cellular metabolism, calcium efflux, and gene and protein expression in certain types of cells even at lower intensities. They noted as well that, “Identification of the frequency, intensity, and duration of non-ionizing electromagnetic fields causing damage to the biosystem and ecosystem would evolve strategies for mitigation and would enable the proper use of wireless technologies to enjoy its immense benefits, while ensuring one’s health and that of the environment.”

Percentage of studies that reported harmful effect of EMR in various groups in MOEF Report

Human Effects– 62% showed effects, 13% no effect and 25% inconclusive

Plant Effects– 87% showed effects and 13% were inconclusive

Wildlife Effects- 62% showed effects, 4% no effect and 36% inconclusive

Bee Effects—85% showed effects and 15% no effect

Bird Effects- 77% showed effects, 10% no effect and 13% inconclusive

[Shinjo and Shinjo 2014](#) in an independent cell tower study from Japan, looked at health effects of residents living in a condominium complex from 1998-2009, noting health symptoms before placement of cell towers, during cell tower functioning and after removal of different antennas on the rooftops. They found a significant development of symptoms with placement of the cell towers and a significant reduction in symptoms after removal. The most frequent symptoms were fatigue, loss of motivation, headaches, eye pain, deteriorated eyesight, sleep disturbances, dizziness, jitteriness, rapid heart rate, muscle aches and nasal bleeding.

Newest Articles

- **Analysis of mobile tower radiation and its health effects in Champhai District of Mizoram Lallawmzuala L et al. (2019)** “Analysis of mobile tower radiation and its health effects in Champhai District of Mizoram. 2019 URSI Asia-Pacific Radio Science Conference (AP-RASC), New Delhi, India, 2019, pp. 1-1. <http://ieeexplore.ieee.org/stamp/stamp.jsp?tp=&arnumber=8738408&isnumber=8738126>
- **Mobile Phone Base Station Tower Settings Adjacent to School Buildings: Impact on Students’ Cognitive Health.** Mao SA et al. American Journal of Men’s Health. December 7, 2018. <https://journals.sagepub.com/doi/10.1177/1557988318816914>

Published Literature

- **Mobile phone use, school electromagnetic field levels and related symptoms: a cross-sectional survey among 2150 high school students in Izmir. (2017)** Durusoy R et al. Environmental Health. Vol 16, Article 51. June 2, 2017. <https://ehjournal.biomedcentral.com/articles/10.1186/s12940-017-0257-x>
- **Impact of radiofrequency radiation on DNA damage and antioxidants in peripheral blood lymphocytes of humans residing in the vicinity of mobile phone base stations. (2017)** Zothansiam et al. Electromagn Biol Med. 2017;36(3):295-305. <https://www.ncbi.nlm.nih.gov/pubmed/28777669>
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- **Survey of People Living at the Vicinity of Cellular Base Transmitting Stations in an Urban and Rural Locality. (2016)** Sivani Saravanamuttu. [International Journal of Current Research](#) react-text: 55 8(3):28186-28193. March

https://www.researchgate.net/publication/301677652_SURVEY_OF_PEOPLE_LIVING_AT_THE_VICINITY_OF_CELLULAR_BASE_TRANSMITTING_STATIONS_IN_AN_URBAN_AND_A_RURAL_LOCALITY

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- **Biological effects from exposure to electromagnetic radiation emitted by cell tower base stations and other antenna arrays. (2010)** Page 374- Biological Effects at Low intensity) Blake Levitt, Henry Lai. *Environmental Reviews*, 2010, 18(NA): 369-395. <http://www.nrcresearchpress.com/doi/full/10.1139/A10-018#.WYU1OHeZN04>
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Mark Cullnane

From: Kelsey Schwartz <schwartzke@gmail.com>
Sent: Tuesday, October 22, 2019 3:56 PM
To: Mark Cullnane
Subject: Docket number 19-W-SE-10: Kelsey Schwartz
Attachments: image2.jpeg; ATT00001.txt; image1.jpeg

To Whom it may concern,

I am writing in regards to the proposed cell tower at 10900 S 700 E - 92, docket number 19-W-SE-10.

My name is Kelsey Schwartz and I currently live and manage the barn/property at 10680 S 700 E-92. The house I reside at is approximately 100-150 yards from my back door and I will have an unimpeded view of the tower from my family room window. Below is a picture of the current view from my house. If the tower is built on the proposed sight, this view will be marred by the cell tower which will be placed in the center of what is now an open field. This is demonstrated by the second picture which shows where surveyors have staked out the location of the proposed cell tower (stakes are circled in red).

I am also concerned about the constant noise which will accompany any cell tower built so close to the house with nothing to act as a buffer. Because of the location of the property, noise from traffic and neighbors is almost nonexistent. The lack of noise will only make any noise coming from the proposed cell tower more evident.

My third concern is in regards to negative health risks that may arise due to my close proximity to the proposed cell tower. Because I live and work on the property adjacent to the proposed cell tower, I will spend most of, if not all 24 hours/day within 200 yards of this tower. Studies have been conducted and while some state there are no negative health risks associated with cell towers others say there are health risks associated with cell towers. Simply put, at this time, there is no definitive proof either way of long term health risks, but there IS evidence that my health may be at risk especially considering the amount of time I will be in close proximity to the tower.

My last concern relates to the boarding stable I manage. Boarders pay upwards of \$600 a month to board their horse here. The location of the property and the setting is very appealing to prospective boarders and a cell tower in direct line of sight to both the barn and pastures may have a negative effect on people choosing to board their horses here. The association the public has with cell towers and health risks will undoubtedly make people reconsider boarding their horse here.

In light of the previous three considerations, I implore that the exemption for a cell tower located at 10900 S 700 E-92 not be granted. Thank you four time and consideration in this matter.

Kelsey Schwartz
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Docket Number 19-W-SE-10
Cellular tower exemption





