

**III. D.**

**Memorandum  
Department of Planning & Public Works**



**To: Planning and Public Works Committee**

**From: Shawn Seymour, AICP  
Senior Planner**

**Date: October 3, 2011**

**RE: T.S.P. 34-2011 AT&T (16141 Swingley Ridge Road): A request to obtain approval for a Telecommunication Facility Siting Permit for a collocation of additional antennas and equipment on an existing high structure in a "C2" Shopping District – zoned property located on the northeast corner of the intersection of Swingley Ridge Road and Nardin Drive (18S230181).**

**Summary**

AT&T, has requested a collocation on at existing telecommunications high structure to allow for the location of an additional three (3) upgraded antennas to facilitate 4G LTE data service. The existing high structure is an office building located on Swingley Ridge Road on the northeast corner of its intersection with Nardin Drive. The existing antennas at this site were approved administratively under the previous City of Chesterfield telecommunications ordinance.

City of Chesterfield Ordinance 2391, which governs telecommunications and facilities siting, requires that the Planning Commission provide a venue for public hearing of requests for Telecommunications Siting Permits. Please note, the Commission does not provide a recommendation to the City Council, but rather generates a list of issues during the hearing. At the public hearing on September 26, 2011, no outstanding issues were identified.

Attached are copies of the site plan, elevations, boundary plat, and propagation study.

Respectfully submitted,

Shawn Seymour, AICP  
Senior Planner

CC: Michael G. Herring, City Administrator  
Rob Heggie, City Attorney  
Michael O. Geisel, Director of Planning & Public Works  
Aimee Nassif, Planning & Development Services Director

Attachments: AT&T 4G LTE Upgrade Packet



June 24, 2011



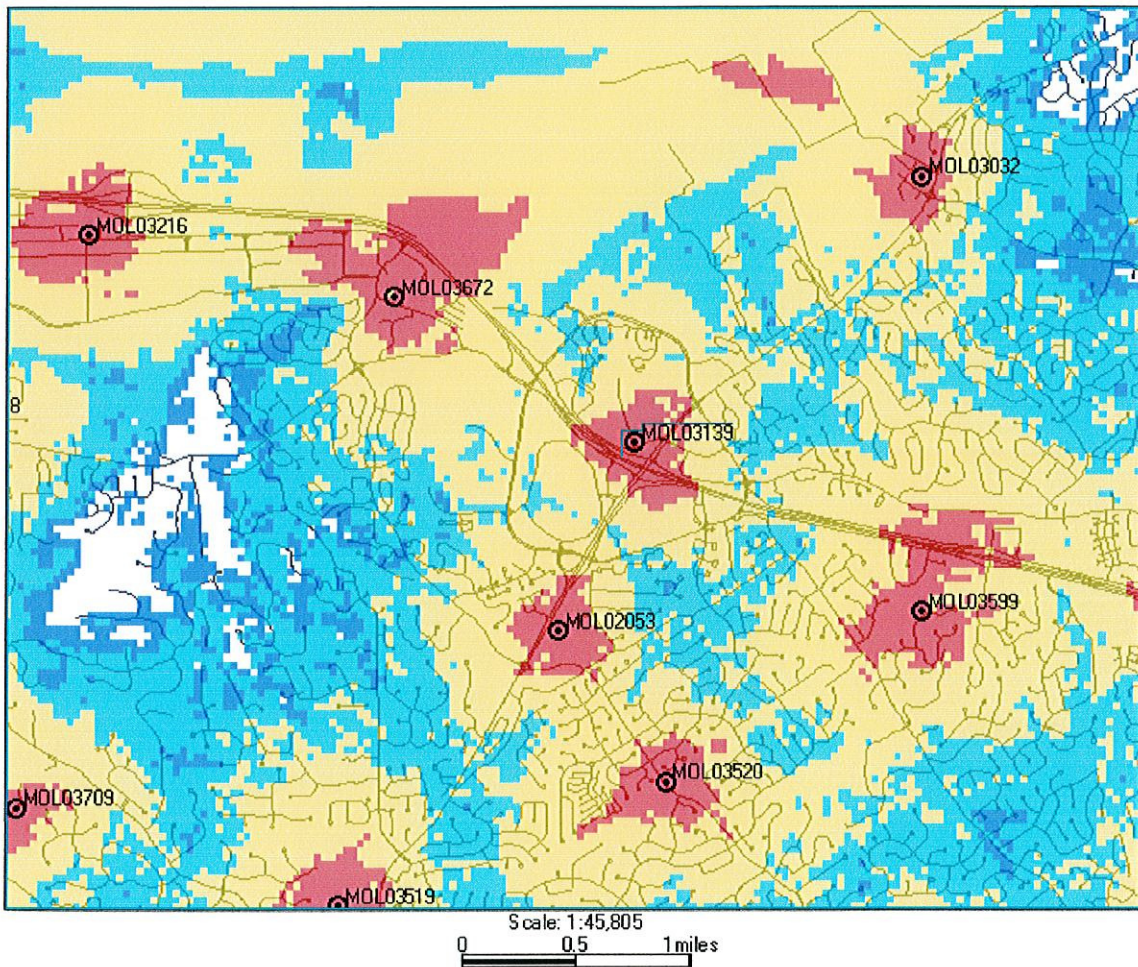
The following is a brief explanation of why AT&T Mobility is proposing to have the current wireless communication facility at 16141 North Outer 40 modified. This facility is labeled as MOL03139 on Map 1. Currently this facility is only capable of broadcasting our older technologies.

This facility currently is broadcasting our “2G” technology (called GSM) and our “3G” technology (called UMTS). Each technology uses its own antennas and equipment. The modification we are proposing is to add our “4G” technology (called LTE). Perhaps you have seen all the television commercials from various wireless carriers talking about their 4G systems. 4G, short for 4<sup>th</sup> generation of wireless technology, allows wireless carriers to provide much faster data speeds than our current networks. 4G is only for data at this point. All voice calls will still be served on older technologies. Currently AT&T still has the fastest data network. Although as other carriers implement and optimize their 4G networks we expect to lose that advantage and eventually fall behind other carriers unless we also launch our 4G network. The proposed modifications will allow us to implement our 4G technology by using additional antennas and equipment.

Because of national E911 requirements, this site needs to run all technologies. The 4G technology is not capable of handling voice calls at this time and all 911 calls made from a wireless device will be routed through our older technologies. These technologies require that we use a total of 3 antennas for each direction covered. This site, like most of our locations, serves three directions creating a need for 9 antennas. This requires us to add 3 additional antennas for this location.

This plan will have no effect on our coverage for current technologies. Map 1 below shows the proposed coverage for our 4G network in the area. AT&T Mobility has acceptable coverage in most of the surrounding area. Because 4G is a data only service the different signal levels don't indicate whether service exists or not. In general on 4G the stronger the signal (to a point) the faster the data rates will be. It is expected that red, yellow and light blue will have data speeds faster than our 3G technology. The dark blue will likely have data speeds nearly identical to the 3G technology.

Map 1 Proposed AT&T "4G" coverage



Ron Humphrey

Radio Frequency Design Engineer  
AT&T Mobility Division

# MO3139 CHESTERFIELD 2

RECEIVED  
SEP - 8 2011  
DEPT. OF PLANNING  
& PUBLIC WORKS

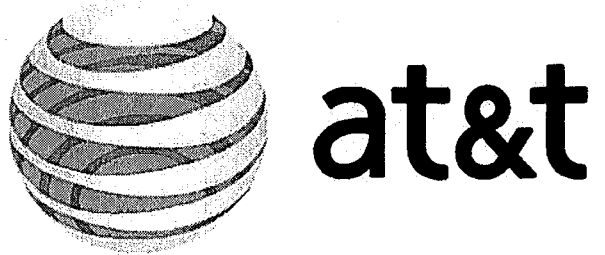


**at&t**  
13075 MANCHESTER RD, SUITE 100  
ST LOUIS, MO 63131

**ENGINEERING**  
2009 INTERNATIONAL BUILDING CODE  
2011 NATIONAL ELECTRIC CODE  
ANSI/TIA-222-G OR LATEST EDITION

**GENERAL NOTES**  
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.


**PROJECT DESCRIPTION**  
THE PROJECT CONSISTS OF THE INSTALLATION AND OPERATION OF ANTENNAS AND ASSOCIATED EQUIPMENT CABINETS FOR AT&T'S CONDUCTORLESS TELECOMMUNICATIONS NETWORK. INSTALLATION OF (3) RRHs, (3) FIBER CABLE, (3) DC POWER CABLES, (3) RAYCAP SURGE PROTECTOR, (1) LTE RACK, (3) PIPE MOUNTED LTE PANEL ANTENNAS INCLUDING (1) LTE GPS ANTENNA ARE PROPOSED.



## LTE ROOFTOP

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

AT&T RF: \_\_\_\_\_ DATE: \_\_\_\_\_  
AT&T OPERATIONS: \_\_\_\_\_ DATE: \_\_\_\_\_  
AT&T SITE AQ: \_\_\_\_\_ DATE: \_\_\_\_\_  
OCI: \_\_\_\_\_ DATE: \_\_\_\_\_  
PROPERTY OWNER: \_\_\_\_\_ DATE: \_\_\_\_\_  
MUNICIPAL: \_\_\_\_\_ DATE: \_\_\_\_\_

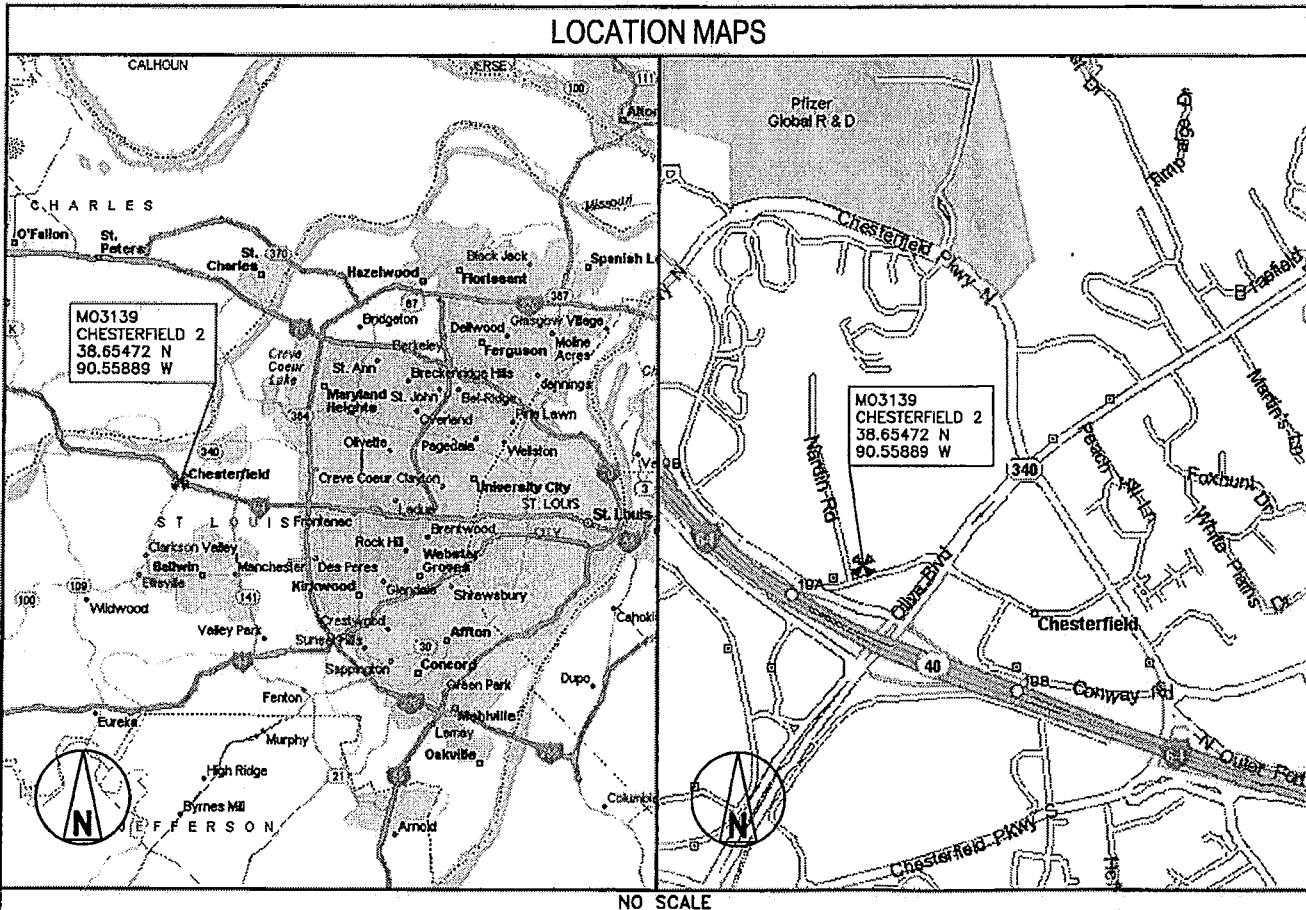


**BLACK & VEATCH**  
10950 GRANDVIEW DRIVE  
OVERLAND PARK, KANSAS 66210  
(913) 458-2000  
BLACK & VEATCH PROFESSIONAL ENGINEERING CORPORATION  
MISSOURI STATE CERTIFICATE OF AUTHORITY # 001648

PROJECT NO: 168986  
DRAWN BY: RCC  
CHECKED BY: GPX

**SITE INFORMATION**

PROPERTY OWNER: THE EMERALD GROUP INC  
ADDRESS:  
TOWER OWNER: NA  
SITE NAME: CHESTERFIELD 2  
SITE NUMBER: MO3139  
SITE CONTACT: NA  
SITE ADDRESS: 16141 NORTH OUTER 40  
CHESTERFIELD, MO 63017  
COUNTY: ST LOUIS  
LATITUDE (NAD 83): 38° 39' 16.99" N  
38.65472  
LONGITUDE (NAD 83): 90° 33' 32.00" W  
-90.55889  
GROUND ELEVATION: 647' AMSL  
RAD CENTER: 50' AGL  
ZONING JURISDICTION: CITY OF CHESTERFIELD, MO  
ZONING DISTRICT: C-2  
PARCEL #: 18S230181  
OCCUPANCY GROUP: U  
CONSTRUCTION TYPE: V-B  
POWER COMPANY: AMEREN MO  
TELEPHONE COMPANY: AT&T  
SITE ACQUISITION CONTACT: DOUG KONRATH  
(314) 605-7542  
RF ENGINEER: RON HUMPHREY  
CONSTRUCTION MANAGER: KEN SHAW  
(314) 210-8629  
IF USING 11"X17" PLOT, DRAWINGS  
WILL BE HALF SCALE



**DRAWING INDEX**

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
Z-1	SITE SURVEY (BY OTHERS)
Z-2	OVERALL SITE PLAN
Z-3	SITE PLAN
Z-4	SITE DETAILS
Z-5	SITE ELEVATION

REV	DATE	DESCRIPTION
0	08/09/11	ISSUED FOR ZONING

STATE OF MISSOURI  
SOON-LEE  
THO  
NUMBER  
E-28100  
9/9/11  
REGISTERED PROFESSIONAL ENGINEER  
IT IS A VIOLATION OF LAW FOR ANY PERSON, UNLESS THEY ARE ACTING UNDER THE DIRECTION OF A LICENSED PROFESSIONAL ENGINEER, TO ALTER THIS DOCUMENT.

**CONTACT INFORMATION**

ENGINEER: 15450 S OUTER FORTY DR, SUITE 200  
CHESTERFIELD, MO 63017  
CONTACT: GEORGE P. XENOS  
PHONE: (913) 687-9233

**DRIVING DIRECTIONS**

DIRECTIONS FROM NEAREST AT&T OFFICE:  
GO NORTH ON I-270 TO I-64/US-40 HWY (2.4 MI.) THEN WEST ON I-64/US-40 HWY TO SR-340/OLIVE BLVD (6 MI.)  
GO NORTH ON OLIVE BLVD TO N OUTER FORTY DR/SWINGLEY RIDGE RD (0.5 MI.)  
GO STRAIGHT ON SWINGLEY RIDGE RD TO LOCAL RD (170 YDS) THEN NORTH TO SITE

**DO NOT SCALE DRAWINGS**

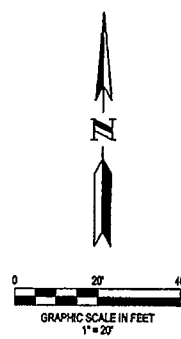
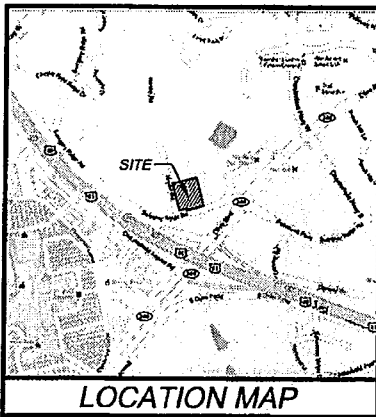
SUBCONTRACTOR SHALL VERIFY ALL PLANS & EXISTING DIMENSIONS & CONDITIONS ON THE JOB SITE & SHALL IMMEDIATELY NOTIFY THE ENGINEER IN WRITING OF ANY DISCREPANCIES BEFORE PROCEEDING WITH THE WORK OR BE RESPONSIBLE FOR SAME

TO OBTAIN LOCATION OF PARTICIPANTS UNDERGROUND FACILITIES BEFORE YOU DIG IN MISSOURI, CALL MISSOURI ONE CALL  
TOLL FREE: 1-800-344-7483 OR  
www.mo1call.com  
MISSOURI STATUTE REQUIRES MIN OF 2 WORKING DAYS NOTICE BEFORE YOU EXCAVATE

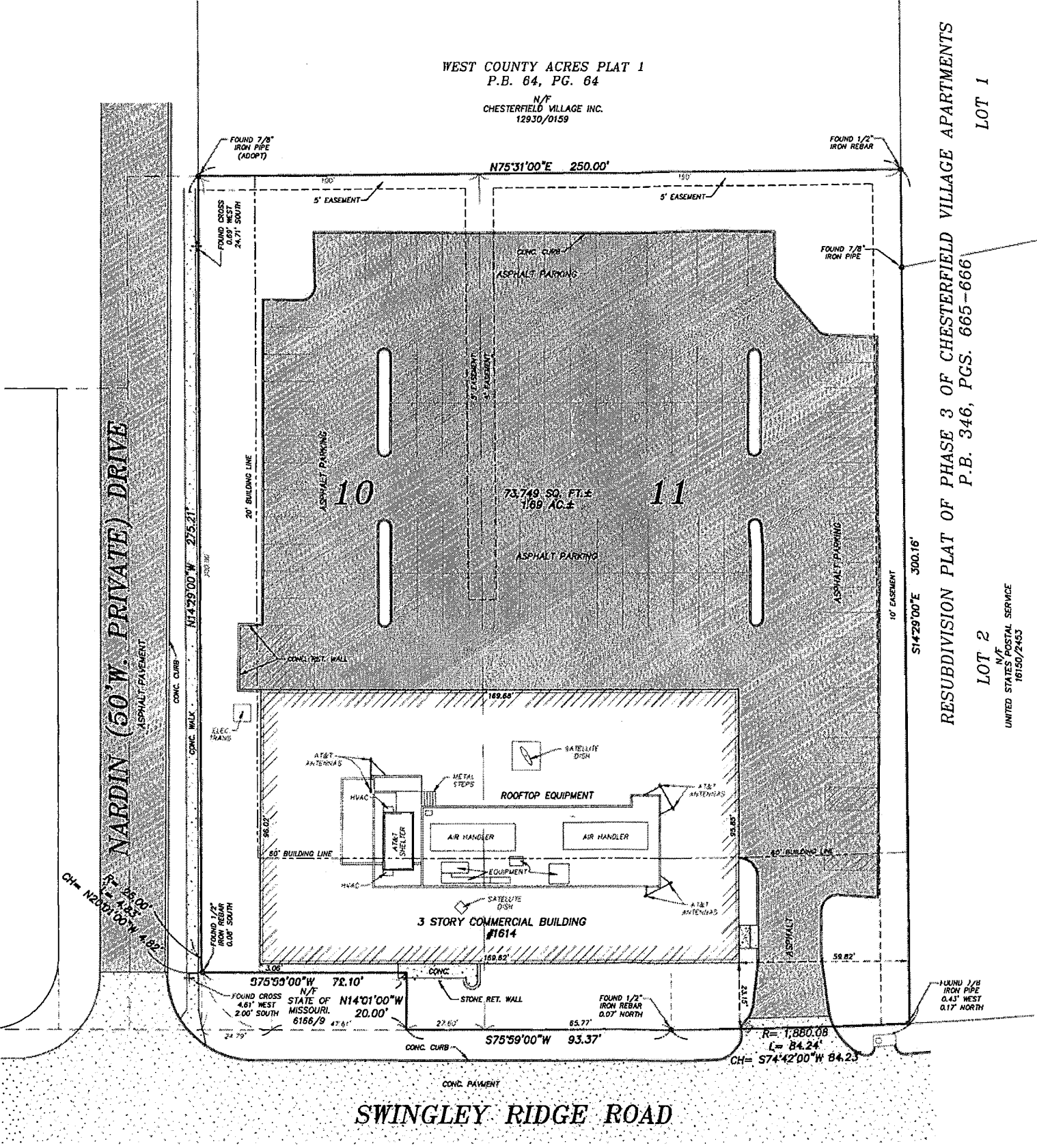
MO3139  
CHESTERFIELD 2  
16141 NORTH OUTER 40  
CHESTERFIELD, MO 63017  
LTE - ROOFTOP

SHEET TITLE  
TITLE SHEET

SHEET NUMBER  
T-1



WEST COUNTY ACRES PLAT 1  
P.B. 64, PG. 64  
N/F  
CHESTERFIELD VILLAGE INC.  
12930/0159



RESUBDIVISION PLAT OF PHASE 3 OF CHESTERFIELD VILLAGE APARTMENTS  
P.B. 346, PGS. 665-666  
LOT 1  
LOT 2  
N/F  
UNITED STATES POSTAL SERVICE  
16150/2453

SURVEYOR'S NOTES:

A current Title Commitment has not been made available for our use. It is possible there are easements and other instruments of record that affect the subject tract that would be exposed in the Title Commitment Report and are unknown to this office at the time the Survey was executed and therefore not plotted hereon. This Survey does not constitute a Title Search by the Surveyor.  
FLOODPLAIN INFORMATION: The tract of land described hereon is within the limits of Zone 'X', areas determined to be outside the 500 year floodplain, as shown on FEMA Flood Insurance Rate Map Number 29185C0145H, dated 8/2/1995.

This is to certify that at the request of Block and Veatch, we have during the month of July, 2011 executed a Property Boundary Survey in accordance with the current Standards for Property Boundary Surveys as established by the Missouri Board for Architects, Professional Engineers, and Professional Land Surveyors and the Missouri Department of Natural Resources, Division of Geology and Land Survey and in a manner consistent with the degree of care and skill ordinarily exercised by members of the land surveying profession currently practicing and in similar circumstances, on a tract of land being Lot 11 and part of Lot 10 of Pickwick Shopping Center in U.S. Survey 415, Township 45 North, Range 4 East according to the plat thereof recorded in Plat Book 64, Page 30 of the St. Louis County Records as shown hereon and that the results of said survey are represented upon this plat. This survey meets the accuracy standards for an URBAN property as defined in said Standards. The bearing reference system and easements unless referenced are taken from the record plat.

Gateway Land Services, Inc. (Agent)  
By *Lee C. Ferrenbach III*  
(Agent) Lee C. Ferrenbach III PLS - 2310  
Vice President

PARENT TRACT DESCRIPTION PER DEED BOOK 17755, PAGE 524

A TRACT OF LAND BEING Lot 11 and part of Lot 10 of Pickwick Shopping Center according to the plat thereof recorded in Plat Book 64, Page 30 of the St. Louis County Records in U.S. Survey 415, Township 45 North, Range 4 East, St. Louis County, Missouri, and being more particularly described as follows:  
Beginning at the northeast corner of said Lot 11; thence along the eastern line of said Lot 11; South 14°29'00" East, 305.18 feet to a point in the northern line of Swingley Ridge Road; thence along said northern line the following courses; along a curve to the right having a radius of 1850.08 feet and an arc length of 84.24 feet, the chord of which bears South 74 degrees 42 minutes 00 seconds West, a chord distance of 84.23 feet to a point of tangency; thence South 75 degrees 59 minutes 00" West, 93.37 feet to the southeastern corner of property now or formerly of the State of Missouri as recorded in Book 6168, page 8 of the St. Louis County Missouri Records; thence along the eastern line of said State of Missouri property, North 14 degrees 01 minute 00 seconds West, 20.00 feet to the northeast corner thereof; thence along the northern line of said State of Missouri property, South 75 degrees 59 minutes 00 seconds West, 72.10 feet to the eastern line of Nardin (50 foot wide) Drive; thence leaving said northern line and along the eastern line of Nardin Drive, the following courses; along a curve to the right having a radius of 25.00 feet, and an arc length of 4.83 feet, the chord of which bears North 20 degrees 01 minute 00 seconds West, a chord distance of 4.82 feet to a point of tangency; thence North 14 degrees 28 minutes 00 seconds West, 275.21 feet to the northwest corner of the aforementioned Lot 10; thence leaving said eastern line and along the northern line of said Lot 10 and also along the northern line of said Lot 11, North 75 degrees 31 minutes 00 seconds East 250.00 feet to the POINT OF BEGINNING and containing 73,749 square feet or 1.68 acres more or less.



PROJECT REVISION:

NO.	DATE	DESCRIPTION

PROPERTY BOUNDARY SURVEY  
LOT 11 AND PART OF LOT 10 OF PICKWICK SHOPPING CENTER  
PLAT BOOK 64, PAGE 30  
ST. LOUIS COUNTY, MISSOURI  
CITY OF CHESTERFIELD

DATE: 7/7/11  
DRAFTED BY: JNW  
APPRVD. BY: LCF  
FILE NAME: 11-099

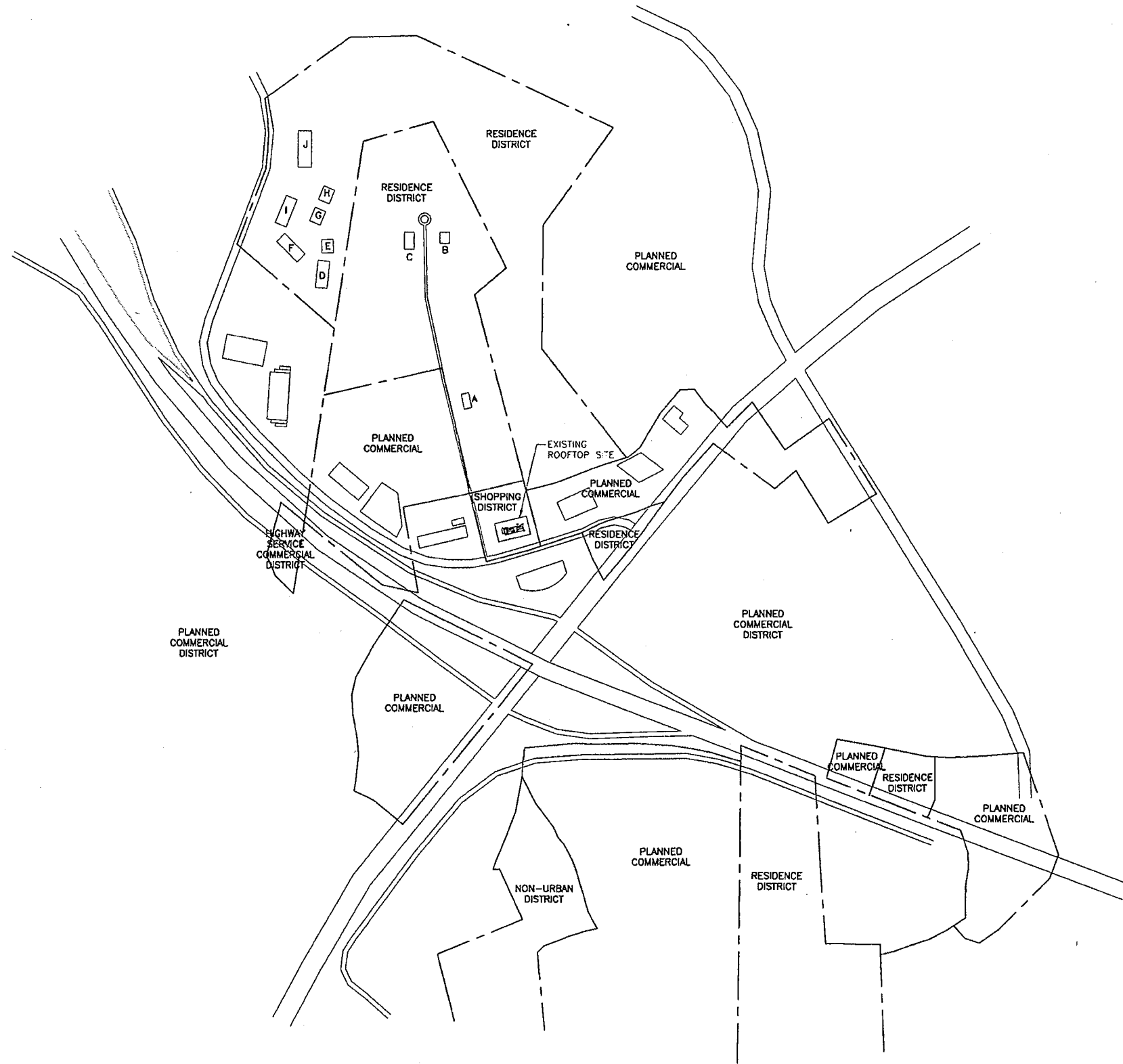
SHEET TITLE:  
PROPERTY BOUNDARY SURVEY

SHEET NUMBER:  
**SUV-1**

SHEET NO: 1 OF 1  
PROJECT NO: 11-099

MO3139  
CHESTERFIELD 2  
2ND CARRIER ROOFTOP  
16141 SWINGLEY ROAD  
CHESTERFIELD, MO 63017  
ST. LOUIS COUNTY, MISSOURI

C:\2011\CDM\099\11-099\11-099.dwg, Revision: 09, 7/19/2011, 3:29pm



**OVERALL SITE PLAN**  
SCALE: 1" = 300'-0"

RESIDENCE	DISTANCE FROM CL OF SELF SUPPORT TOWER
A	595'-0"±
B	1430'-0"±
C	1440'-0"±
D	1460'-0"±
E	1590'-0"±
F	1660'-0"±
G	1745'-0"±
H	1820'-0"±
I	1835'-0"±
J	2025'-0"±

LEGEND	
FENCE	— x — x — x —
LEASE AREA	— — — — —
ICE BRIDGE	XXXXXXXXXXXXXXXXXXXX
OVERHEAD POWER	— OHP — OHP — OHP —
UNDERGROUND POWER	— UGP — UGP — UGP —
OVERHEAD UTILITIES	— OHU — OHU — OHU —
UNDERGROUND TELCO	— UGT — UGT — UGT —



13075 MANCHESTER RD, SUITE 100  
ST LOUIS, MO 63131



**BLACK & VEATCH**

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(913) 458-2000

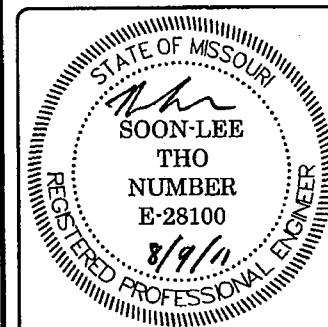
BLACK & VEATCH PROFESSIONAL ENGINEERING CORPORATION  
MISSOURI STATE CERTIFICATE OF AUTHORITY # 001844

PROJECT NO: 168986

DRAWN BY: RCC

CHECKED BY: GPX

REV	DATE	DESCRIPTION
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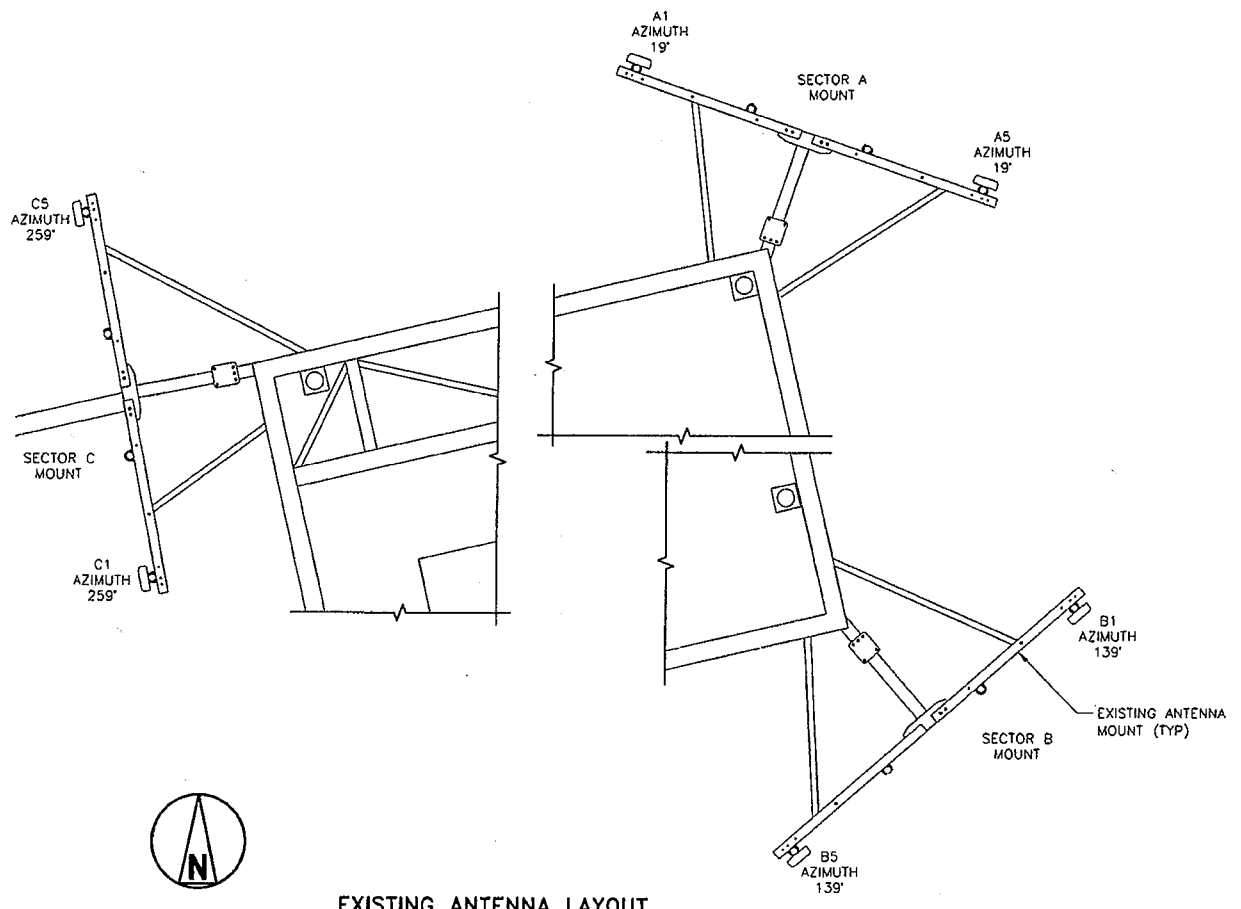


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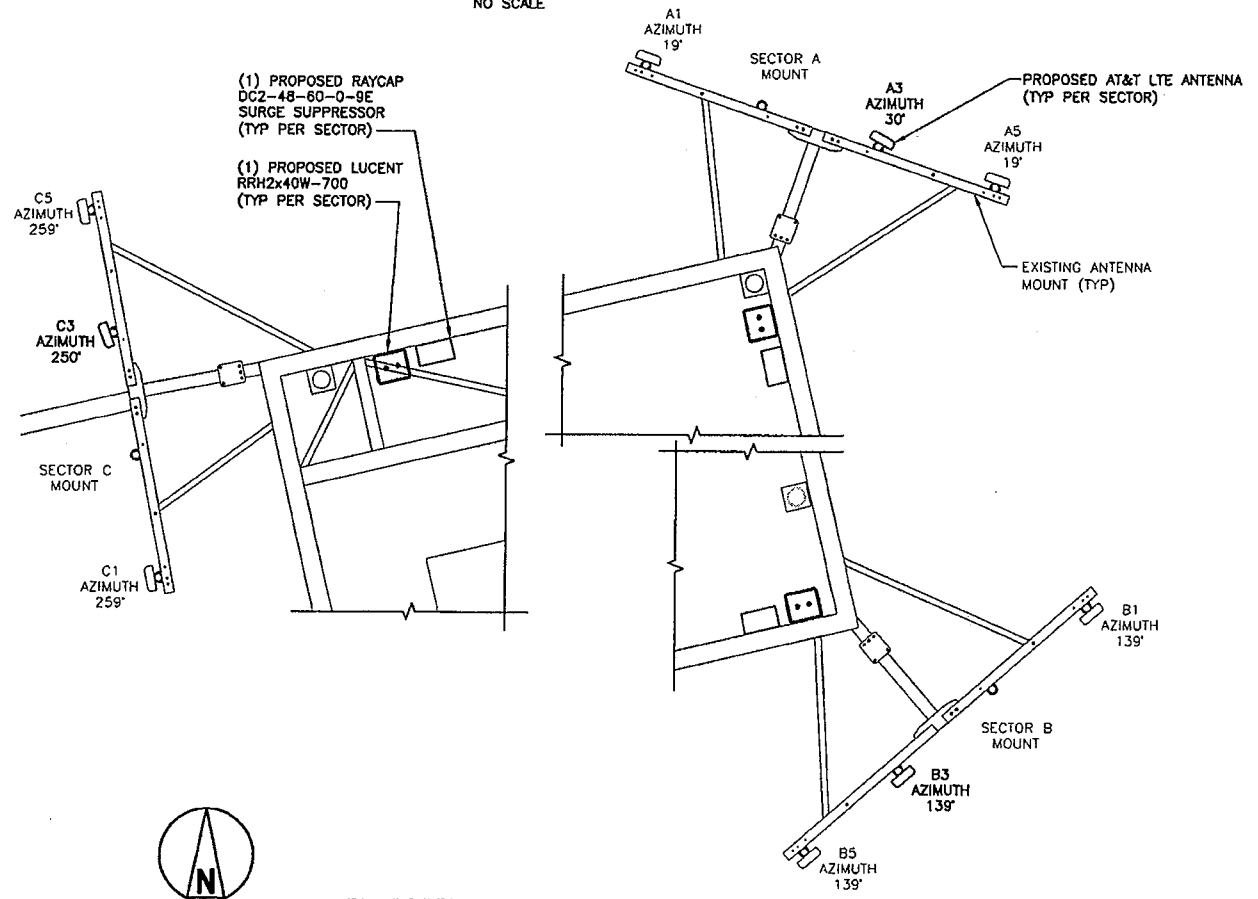
MO3139  
CHESTERFIELD 2  
16141 NORTH OUTER 40  
CHESTERFIELD, MO 63017  
LTE - ROOFTOP

SHEET TITLE  
**OVERALL SITE PLAN**

SHEET NUMBER  
**Z-2**



**EXISTING ANTENNA LAYOUT**  
NO SCALE



**PROPOSED ANTENNA LAYOUT**  
NO SCALE

**NOTES**

- ALL MAIN CABLES WILL BE GROUNDED W/ COAXIAL CABLE GROUNDING KITS AT:
  - THE ANTENNA LEVEL.
  - MID LEVEL IF TOWER IS OVER 200'.
  - BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
  - OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.
  - INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.
- ALL PROPOSED GROUNDING BAR DOWNLEADS ARE TO BE TERMINATED TO THE EXISTING ADJACENT GROUNDING BAR DOWNLEADS A MINIMUM DISTANCE OF 4'-0" BELOW GROUNDING BAR. TERMINATIONS MAY BE EXOTHERMIC OR COMPRESSION.
- THE SUB CONTRACTORS SHALL BE RESPONSIBLE FOR VERIFYING THE ANTENNA AND THE COAX CONFIGURATION, MAKE AND MODELS, PRIOR TO INSTALLATION.
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S STANDARD DETAILS.
- THE EXISTING TOWER IS CURRENTLY BEING ANALYZED BY OTHERS TO DETERMINE ITS STRUCTURAL CAPACITY TO CARRY THE PROPOSED NEW COAX AND ANTENNAS. THESE DRAWINGS HAVE BEEN CREATED BASED ON THE ASSUMPTION THE STRUCTURAL ANALYSIS WILL SHOW THAT THE TOWER HAS SUFFICIENT CAPACITY TO SUPPORT THE PROPOSED NEW LOADS. INSTALLATION OF THE COAX AND ANTENNAS SHALL NOT COMMENCE UNTIL AN APPROVED STRUCTURAL ANALYSIS HAS BEEN RECEIVED BY THE OWNER OR AT&T AND HAS BEEN REVIEWED BY BLACK AND VEATCH.
- SUBCONTRACTOR SHALL REFERENCE THE TOWER STRUCTURAL ANALYSIS/DESIGN DRAWINGS FOR DIRECTIONS ON CABLE DISTRIBUTION/ROUTING.

**COAXIAL ANTENNA CABLE NOTES**

- TYPES AND SIZES OF THE ANTENNA CABLE ARE BASED ON ESTIMATED LENGTHS. PRIOR TO ORDERING CABLE, SUBCONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.
- SUB CONTRACTOR SHALL VERIFY THE DOWN-TILT OF EACH ANTENNA WITH A DIGITAL LEVEL.
- CONTRACTOR TO CONFIRM COAX COLOR CODING PRIOR TO CONSTRUCTION. REFER TO "ANTENNA SYSTEM LABELING STANDARD" ND-00027 REFER TO THE LATEST VERSION.
- ALL JUMPERS TO THE ANTENNAS FROM THE MAIN TRANSMISSION LINE WILL BE 1/2" DIA. LDF AND SHALL NOT EXCEED 6'-0".
- ALL COAXIAL CABLE WILL BE SECURED TO THE DESIGNED SUPPORT STRUCTURE, IN AN APPROVED MANNER, AT DISTANCES NOT TO EXCEED 4'-0" OC.
- CONTRACTOR MUST FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING BOTH THE INSTALLATION AND GROUNDING OF ALL COAXIAL CABLES, CONNECTORS, ANTENNAS, AND ALL OTHER EQUIPMENT.
- WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF AMALGAMATING TAPE. WEATHERPROOFING SHALL BE COMPLETED IN STRICT ACCORDANCE WITH AT&T STANDARDS.



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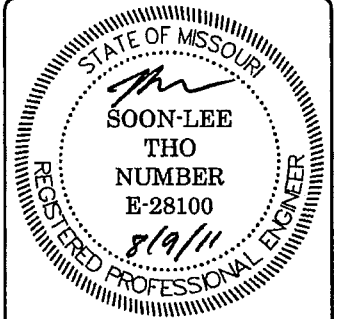
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MISSOURI STATE CERTIFICATE OF AUTHORITY # 001848

PROJECT NO: 168986

DRAWN BY: RCC

CHECKED BY: GPX

REV	DATE	DESCRIPTION
0	08/09/11	ISSUED FOR ZONING



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M03139  
CHESTERFIELD 2  
16141 NORTH OUTER 40  
CHESTERFIELD, MO 63017  
LTE - ROOFTOP

SHEET TITLE  
SITE DETAILS

SHEET NUMBER  
**Z-4**



13075 MANCHESTER RD, SUITE 100  
ST LOUIS, MO 63131



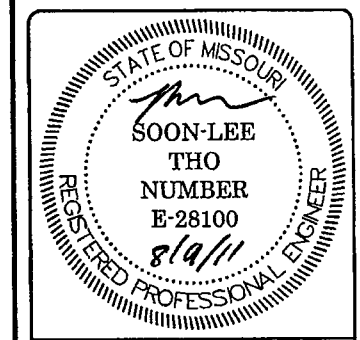
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(913) 458-2000

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MISSOURI STATE CERTIFICATE OF AUTHORITY # 001848

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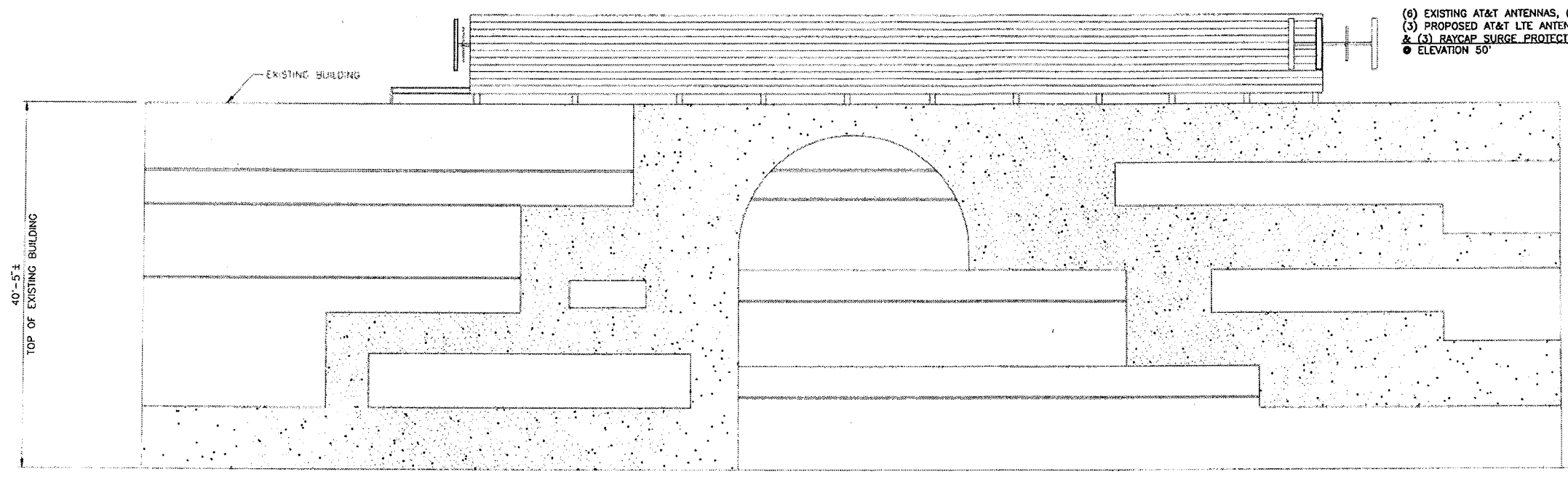


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CHESTERFIELD 2  
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CHESTERFIELD, MO 63017  
LTE - ROOFTOP

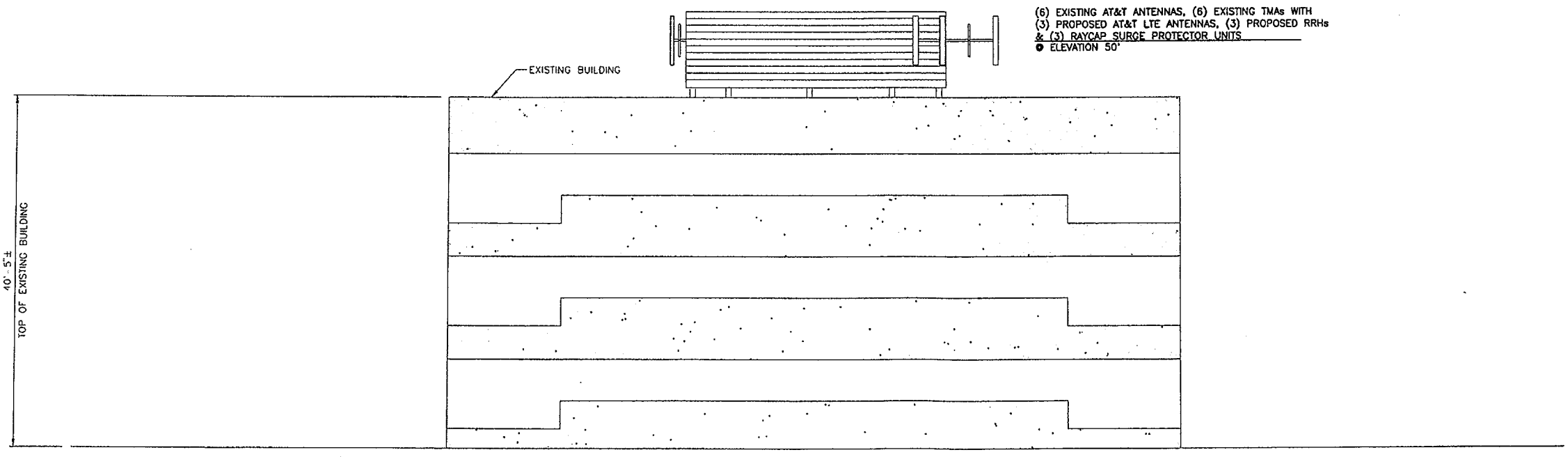
SHEET TITLE  
SITE ELEVATION

SHEET NUMBER  
**Z-5**



(6) EXISTING AT&T ANTENNAS, (6) EXISTING TMA's WITH  
(3) PROPOSED AT&T LTE ANTENNAS, (3) PROPOSED RRH's  
& (3) RAYCAP SURGE PROTECTOR UNITS  
● ELEVATION 50'

**SOUTH ELEVATION**  
SCALE: 1/8" = 1'-0"



(6) EXISTING AT&T ANTENNAS, (6) EXISTING TMA's WITH  
(3) PROPOSED AT&T LTE ANTENNAS, (3) PROPOSED RRH's  
& (3) RAYCAP SURGE PROTECTOR UNITS  
● ELEVATION 50'

**EAST ELEVATION**  
SCALE: 1/8" = 1'-0"