

# Memorandum

Department of Planning, Public Works and Parks



**To: Planning and Public Works Committee**

**From: Kristian Corbin, Project Planner**

**Date: February 6, 2012**

**Re: T.S.P. 27-2010 AT&T (13559 Olive Boulevard):** A request to obtain approval for a Telecommunications Facility Siting Permit for location of antennas and equipment on two sections of land within 13559 Olive Boulevard zoned "PC" Planned Commercial District. (16Q241471).

## Summary

AT&T has requested a telecommunications siting permit to allow for the replacement of an existing tower and antennas and the location of upgraded antennas to facilitate 4G LTE data services located at 13559 Olive Boulevard. The existing tower is at thirty-four (34) feet in height and equipped with three (3) whip style antennas. The proposed tower will be forty-four (44) feet eight (8) inches in height, totaling a ten (10) feet eight (8) inch difference in height.

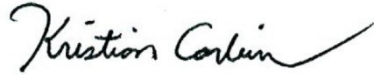
During the January 23, 2012 Public Hearing, the City Attorney asked the representative if taxes owed to the City had been paid. The representative was uncertain and unable to provide an answer.

City of Chesterfield Ordinance 2391, which governs telecommunications and facilities siting, requires that the Planning Commission provide a venue for public hearing for Telecommunications Siting Permits. Please note, the Planning 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 January 23, 2012, there were no issues identified with this request.

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

T.S.P 27-2010 AT&T (13559 Olive Boulevard)  
Planning and Public Works Committee  
February 6, 2012

Respectfully Submitted,

A handwritten signature in black ink that reads "Kristian Corbin". The signature is written in a cursive style with a long, sweeping tail that extends to the right.

Kristian Corbin  
Project Planner

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

Attachments: AT&T 4G LTE Upgrade Packet



June 28, 2011

The following is a brief explanation of why AT&T Mobility is proposing to change antennas at our current location at 13559 Olive Blvd in Chesterfield. Currently this facility only is capable of broadcasting our "2G" technology called GSM. This is our older technology that has been around since 2003. To broadcast our newer "3G" technology, called UMTS, and our soon to be launched "4G" technology, called LTE, we need to added more and new antennas. The 3G technology provides better voice quality and faster data rates than our current 2G technology. The 3G technology provides the basis for our fastest wireless internet advertising campaign. 3G is the technology that most new customers use. The modification will also allow AT&T to add our "4G" technology. 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. Without changing antennas this location will not be capable of transmitting the 3G or 4G technologies.

Because of high usage in the immediate area, customers are experiencing slow data speeds. As the demand for wireless data increases, the speeds customers experience will keep getting slower without the proposed modifications.

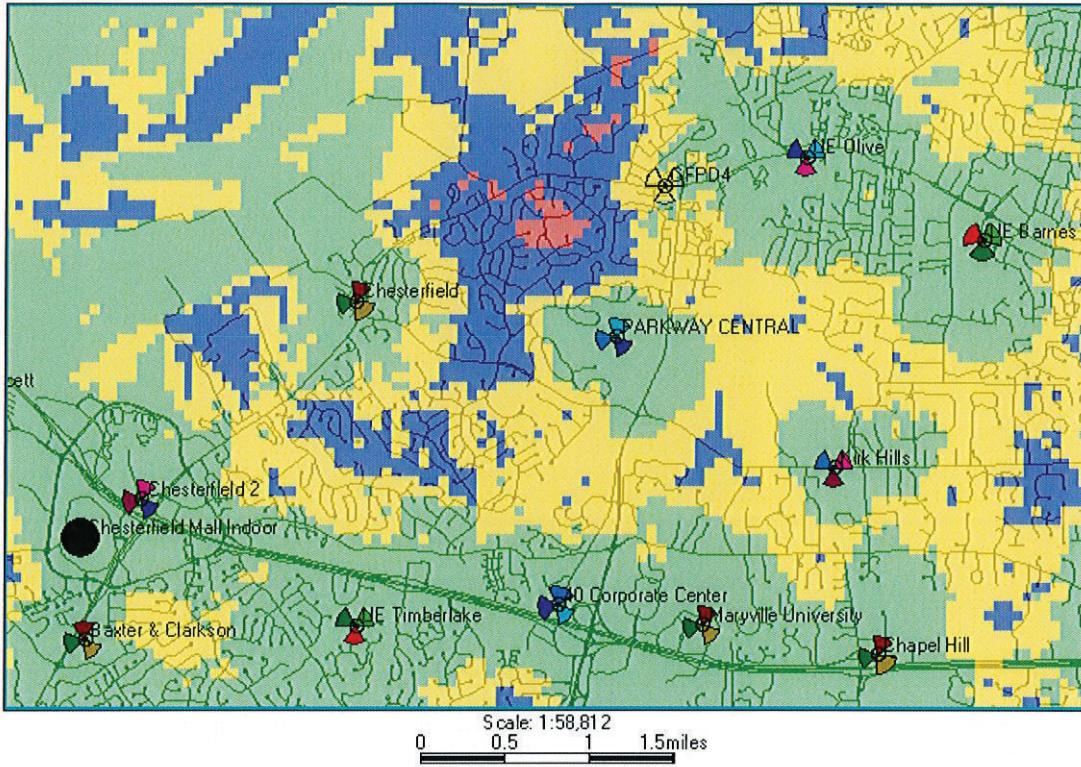
As seen in the map 1 below AT&T Mobility has outdoor and in vehicle 3G cellular coverage in most of the surrounding area. The green indicates solid coverage where phones should be able to perform at acceptable levels in most buildings. The blue indicates that a AT&T mobile device should perform at acceptable levels in vehicles and some buildings. The yellow indicates Mobile devices should work for in vehicle coverage but will be unacceptable to most customers for in building coverage. Map 2 shows the 3G coverage with the proposed site added.

If this application is approved this location will transmit GSM which uses TDMA modulation with a EIRP of 56.2 dBm. It will also transmit UMTS which uses a CDMA modulation with an EIRP of 50.5 dBm. Both technologies will use all of our FCC granted licenses. The transmit frequencies of these licenses are 880-890, 891.5-894, 1935-1950 and 1965-1970 Mhz. The receive frequencies of these licenses are 835-845, 846.5-849, 1855-1870 and 1885-1890 Mhz. The LTE will transmit at a EIRP of 57 dBm using a CDMA modulation. It will transmit on 734-746 Mhz and will receive on 704-716 Mhz.

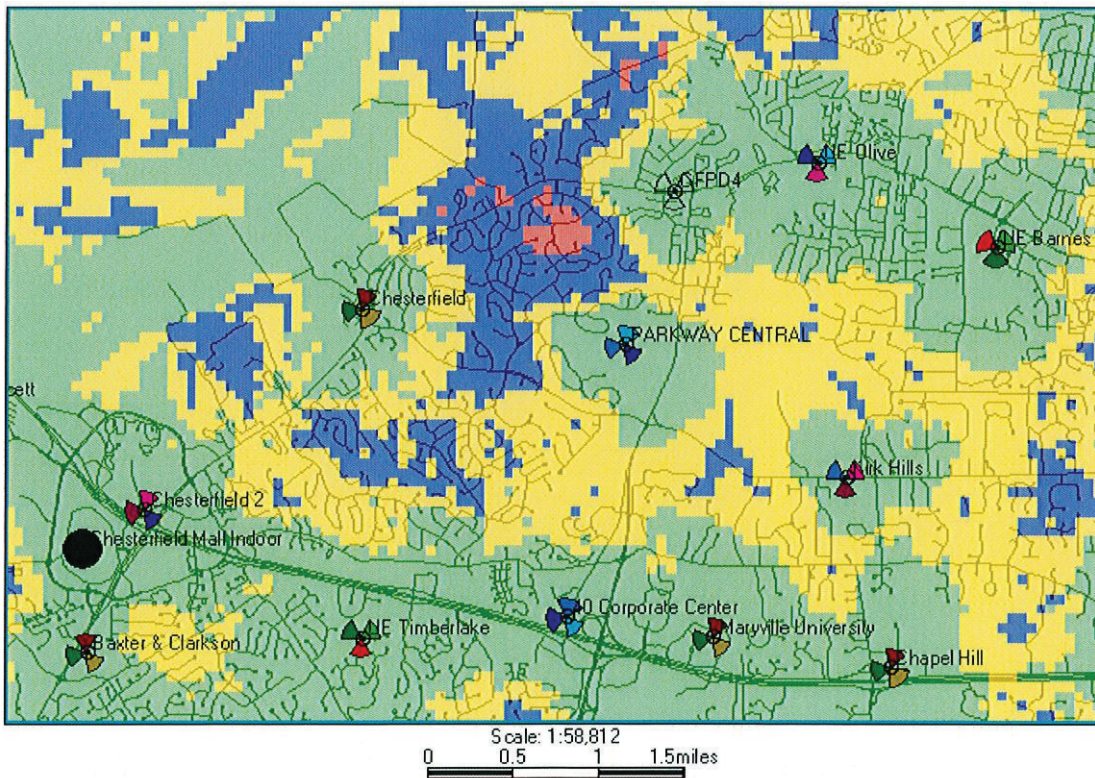
Ron Humphrey  
Radio Frequency Design Engineer  
AT&T Mobility Division



**Map 1**



**Map2**



# MO3147 CFPD4



## LTE 30'-LIGHT POLE

DEC 29 2011  
ST. LOUIS, MO



13075 MANCHESTER RD, SUITE 100  
ST LOUIS, MO 63131



### BLACK & VEATCH

10950 GRANDVIEW DRIVE  
OVERLAND PARK, KANSAS 66210  
(913) 458-2000

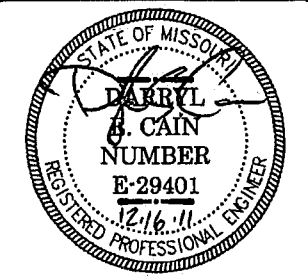
BLACK & VEATCH PROFESSIONAL ENGINEERING CORPORATION  
MISSOURI STATE CERTIFICATE OF AUTHORITY # 001846

PROJECT NO: 168986

DRAWN BY: AK

CHECKED BY: GPX

REV	DATE	DESCRIPTION
4	12/15/11	REMOVED LIGHT
3	12/09/11	ISSUED FOR ZONING
2	04/28/11	ISSUED FOR ZONING
1	12/22/10	PER ZONING COMMENTS
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DARRYL E. CAIN E-29401  
PROFESSIONAL ENGINEER

IT IS A VIOLATION OF LAW FOR ANY PERSON,  
UNLESS THEY ARE ACTING UNDER THE DIRECTION  
OF A LICENSED PROFESSIONAL ENGINEER,  
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MO3147  
CFPD4  
13559 OLIVE BLVD  
CHESTERFIELD, MO 63017  
LTE-LIGHT POLE

SHEET TITLE  
TITLE SHEET

SHEET NUMBER  
T-1

**ENGINEERING**  
2009 INTERNATIONAL BUILDING CODE  
2008 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 (1) LIGHT POLE, (1) UMS CABINET, (1) POWER NODE B CABINET, (1) LTE eNODE B, (1) LTE GPS ANTENNA, (6) ANTENNAS, (3) RRHs INCLUDING (12) COAX, (6) TMA's AND (6) DIPLEXERS IS PROPOSED.

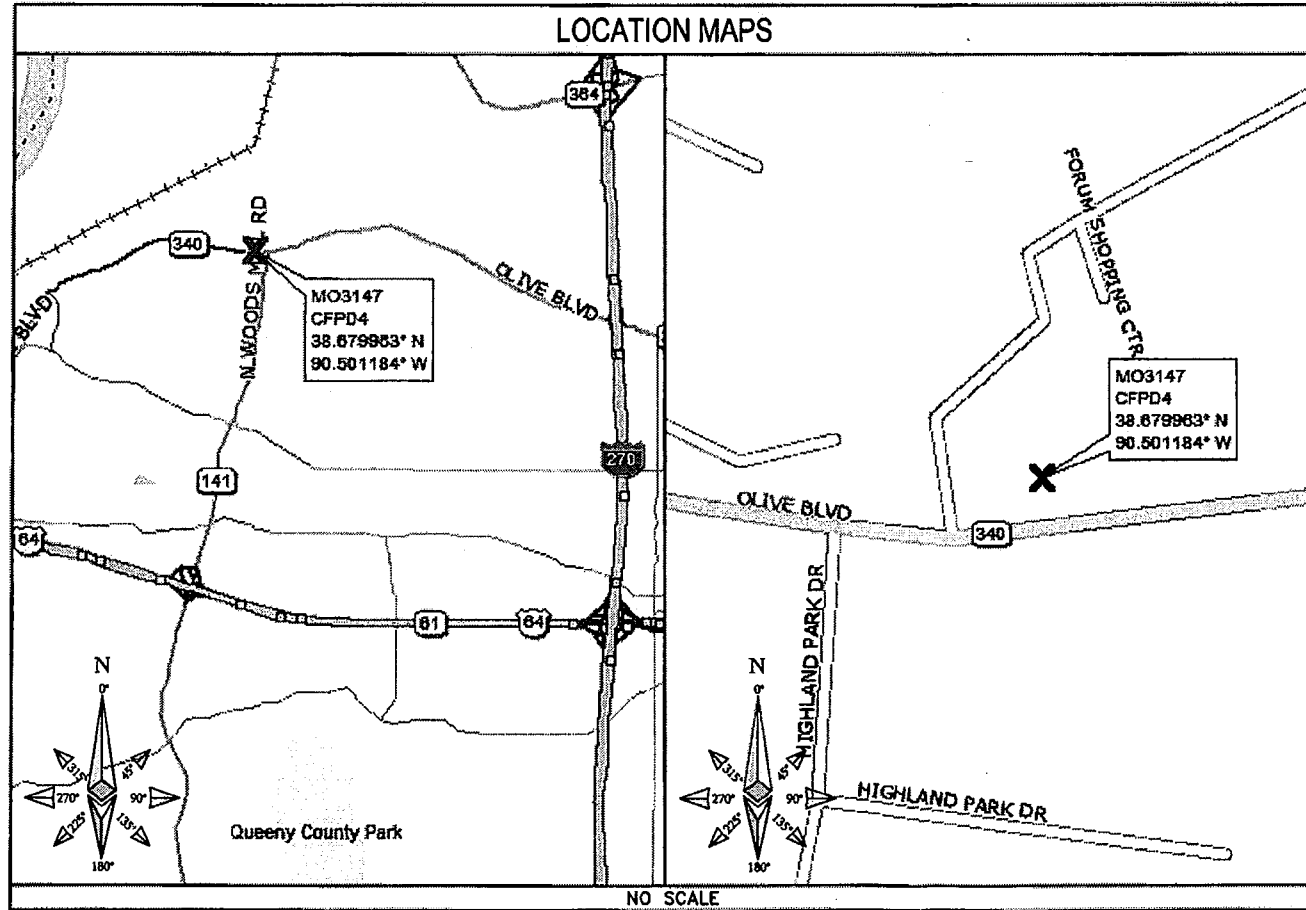
**SITE INFORMATION**

PROPERTY OWNER: MCDONALD'S CORPORATION  
ADDRESS: PERRY PELTON REGIONAL REAL ESTATE MANAGER 10801 MASTIN BLVD, SUITE 400 OVERLAND PARK, KS 66210

TOWER OWNER: AT&T  
SITE NAME: MO3147  
SITE NUMBER: CFPD4  
SITE CONTACT: NA  
SITE ADDRESS: 13559 OLIVE BLVD CHESTERFIELD, MO 63017

COUNTY: ST. LOUIS COUNTY  
LATITUDE (NAD 83): 38° 40' 47.8668" N 38.679963  
LONGITUDE (NAD 83): 90° 30' 4.2624" W -90.501184  
GROUND ELEVATION: 550' AMSL  
RAD CENTER: 34', 44' AGL  
ZONING JURISDICTION: CITY OF CHESTERFIELD  
ZONING DISTRICT: C-8  
PARCEL #: 160241471  
OCCUPANCY GROUP: U  
CONSTRUCTION TYPE: V-B  
POWER COMPANY: AMEREN MO  
TELEPHONE COMPANY: AT&T  
SITE ACQUISITION CONTACT: MARY KREPS (636) 532-1051 x113  
RF ENGINEER: RON HUMPHREY  
CONSTRUCTION MANAGER: KEN SHAW (314) 210-8629

IF USING 11"x17" PLOT, DRAWINGS WILL BE HALF SCALE



**DRIVING DIRECTIONS**

DIRECTIONS FROM NEAREST AT&T OFFICE:  
FROM SR 100, KEEP RIGHT ONTO I-270 RAMP, TAKE EXIT 14, GO STRAIGHT ONTO SR 340 RAMP, KEEP LEFT ON SR 340 RAMP, KEEP RIGHT ON SR 340 RAMP, TURN LEFT ONTO SR 340, SITE IS ON RIGHT.

**CONTACT INFORMATION**

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

**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: \_\_\_\_\_

**DRAWING INDEX**

SHEET NO:	SHEET TITLE
T-1	TITLE SHEET
LS-1	LAND SURVEY
Z-1	ZONING SITE PLAN
Z-1.1	SITE PLAN
Z-2	SITE ELEVATION
Z-3	SITE ELEVATION
Z-3.1	SITE ELEVATION
Z-4	EQUIPMENT LAYOUT
L-1	PROPOSED LANDSCAPING

**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

**LEASE AREA DESCRIPTION**

A TRACT OF LAND LOCATED IN LOT 1 SHARE 1 OF PARTITION OF MISSOURI STEVEN'S ESTATES IN U.S. SURVEY 207, TOWNSHIP 48 NORTH, RANGE 5 EAST, ST. LOUIS COUNTY, MISSOURI, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- COMMENCING AT THE NORTHWESTERLY CORNER OF A TRACT DESCRIBED IN BOOK 7765 PAGE 1660;
- THENCE N62°28'32"E, 37.14 FEET;
- THENCE S27°37'28"E, 26.44 FEET, TO THE POINT OF BEGINNING;
- THENCE S84°31'18"E, 15.00 FEET;
- THENCE S43°28'44"W, 15.00 FEET;
- THENCE N48°31'19"W, 15.00 FEET;
- THENCE N43°28'44"E, 15.00 FEET, TO THE POINT OF BEGINNING.

CONTAINING 225 SQUARE FEET, MORE OR LESS.

**18' ACCESS EASEMENT DESCRIPTION**

A TRACT OF LAND 18 FEET IN WIDTH BEING 15 FEET ON EACH SIDE OF THE FOLLOWING DESCRIBED CENTERLINE LOCATED IN LOT 1 SHARE 1 OF PARTITION OF MISSOURI STEVEN'S ESTATES IN U.S. SURVEY 207, TOWNSHIP 48 NORTH, RANGE 5 EAST, ST. LOUIS COUNTY, MISSOURI, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

- COMMENCING AT THE EASTERLY CORNER OF THE ABOVE DESCRIBED LEASE AREA;
- THENCE S43°28'44"W, 7.50 FEET, TO THE POINT OF BEGINNING;
- THENCE S48°31'19"E, 8.21 FEET;
- THENCE S09°10'15"E, 127.15 FEET, TO A POINT ON THE NORTHERLY RIGHT-OF-WAY LINE OF OLIVE STREET, FOR A TERMINUS.

**EXISTING COMPOUND DESCRIPTION**

A TRACT OF LAND LOCATED IN LOT 1 SHARE 1 OF PARTITION OF MISSOURI STEVEN'S ESTATES IN U.S. SURVEY 207, TOWNSHIP 48 NORTH, RANGE 5 EAST, ST. LOUIS COUNTY, MISSOURI, MORE PARTICULARLY DESCRIBED AS FOLLOWS:

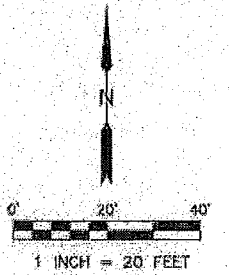
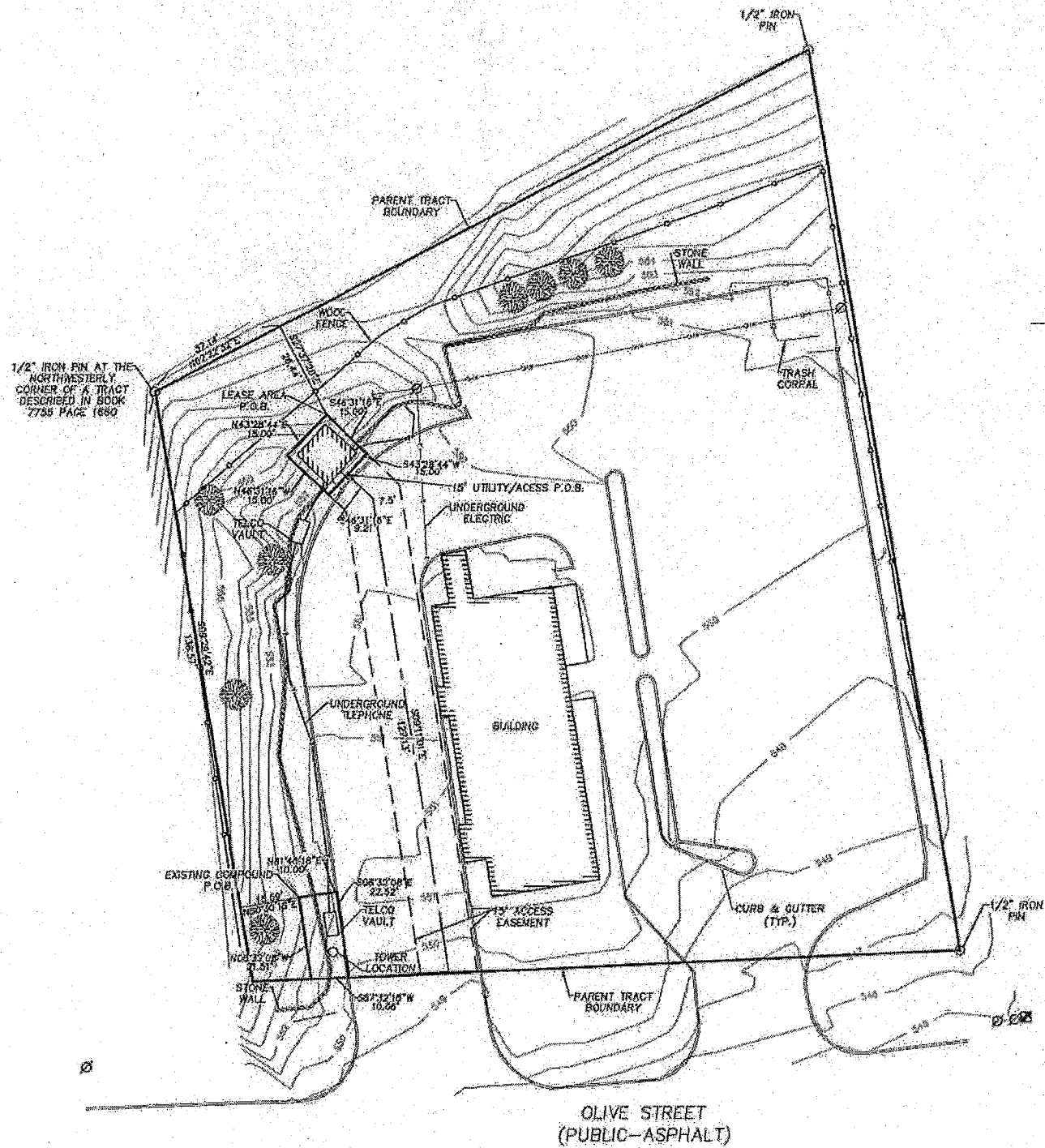
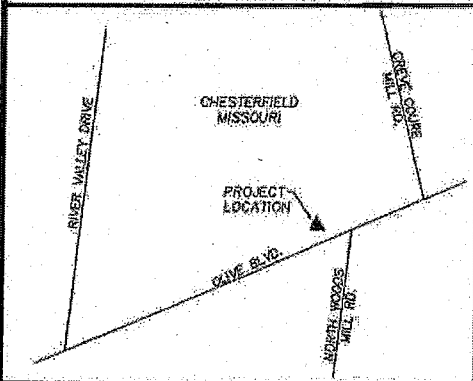
- COMMENCING AT THE NORTHWESTERLY CORNER OF A TRACT DESCRIBED IN BOOK 7765 PAGE 1660;
- THENCE S09°29'42"E, 138.57 FEET;
- THENCE N40°30'18"E, 16.59 FEET, TO THE POINT OF BEGINNING;
- THENCE N61°45'18"E, 10.00 FEET;
- THENCE S08°32'08"E, 22.52 FEET;
- THENCE S07°33'14"W, 12.04 FEET;
- THENCE N02°32'06"W, 21.51 FEET, TO THE POINT OF BEGINNING.

CONTAINING 220 SQUARE FEET, MORE OR LESS.

**NOTES**

BEARINGS BASED ON MO SPICE - EAST ZONE.  
ELEVATIONS BASED ON OUR MONUMENT SL24.

**VICINITY MAP**



**LEGEND**

- POWER POLE
- FOUND IRON PIN
- OVERHEAD WIRE
- TEL. PEDESTAL
- TREE

EASEMENT EXHIBIT  
LS 1.0

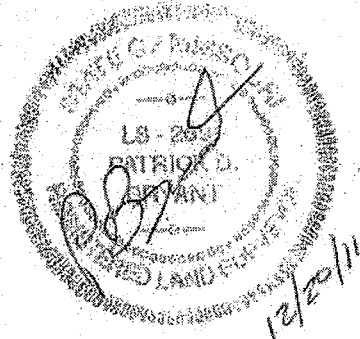
**BLACK & VEATCH**  
CORPORATION  
11401 LAMAR  
OVERLAND PARK, KS 66211  
(913) 458-2000

**FINLEY**  
SURVEYING & ENGINEERING  
104 E. 11TH STREET  
LAMAR, MO 64705  
TEL: 417.682.6531

THIS DRAWING IS THE PROPERTY OF BLACK & VEATCH AND IS TO BE USED ONLY FOR THE PROJECT AND SITE SPECIFICALLY IDENTIFIED HEREON. NO PART OF THIS DRAWING IS TO BE REPRODUCED OR TRANSMITTED IN ANY FORM OR BY ANY MEANS WITHOUT THE WRITTEN PERMISSION OF BLACK & VEATCH.  
ALL RIGHTS RESERVED © 2009  
Drawn By: DJM  
Approved By: PDB

REVISIONS	DATE	BY	PROJECT NO.
			111113.000

MO3147 CFPD4  
ST. LOUIS COUNTY, MISSOURI  
**EASEMENT SURVEY**  
LS-1.0  
SHEET 1 OF 1



**SURVEYOR'S DECLARATION**  
I HEREBY DECLARE THAT THIS EXHIBIT WAS PREPARED UNDER MY DIRECT PERSONAL SUPERVISION AND TO THE BEST OF MY KNOWLEDGE THE CONDITIONS ARE AS SHOWN.

THIS DRAWING IS NOT A SURVEY. THE PURPOSE OF THIS DRAWING IS TO SHOW HOW THE DEVELOPED SITE RELATES TO THE PARENT PARCEL AND ADJACENT PROPERTIES. THE INFORMATION ON THIS DRAWING IS BASED ON A SURVEY BY FINLEY ENGINEERING, DATED 02/23/11.

**NOTES**  
 NEAREST MAJOR STREET INTERSECTION (OLIVE BLVD & NORTH WOODS MILL ROAD) IS APPROXIMATELY 0.10 MILES.



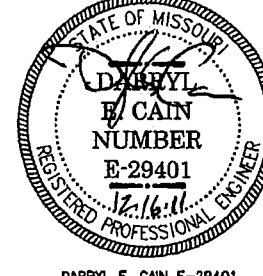
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 MISSOURI STATE CERTIFICATE OF AUTHORITY # 001848

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

REV	DATE	DESCRIPTION
4	12/16/11	REMOVED LIGHT
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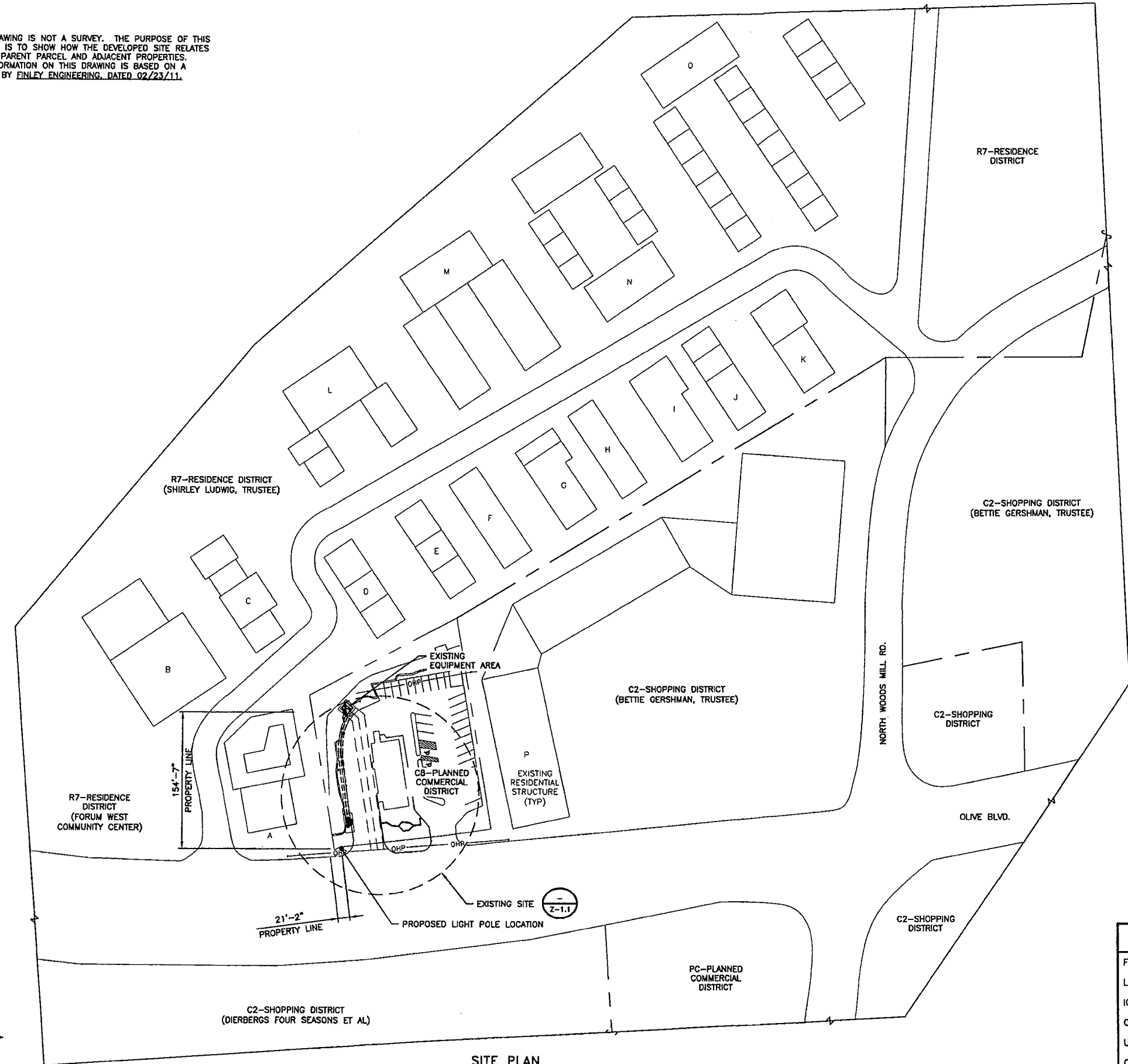
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 PROFESSIONAL ENGINEER

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M03147  
 CFPD4  
 13559 OLIVE BLVD  
 CHESTERFIELD, MO 63017  
 LTE-LIGHT POLE

SHEET TITLE  
**ZONING SITE PLAN**

SHEET NUMBER  
**Z-1**

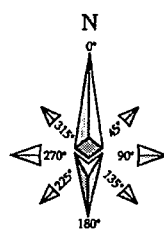


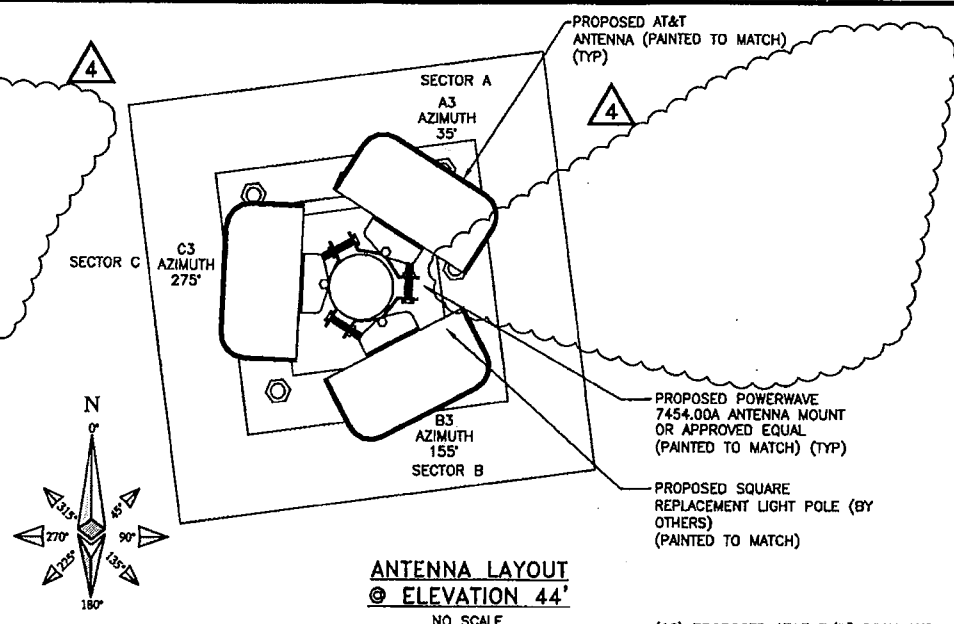
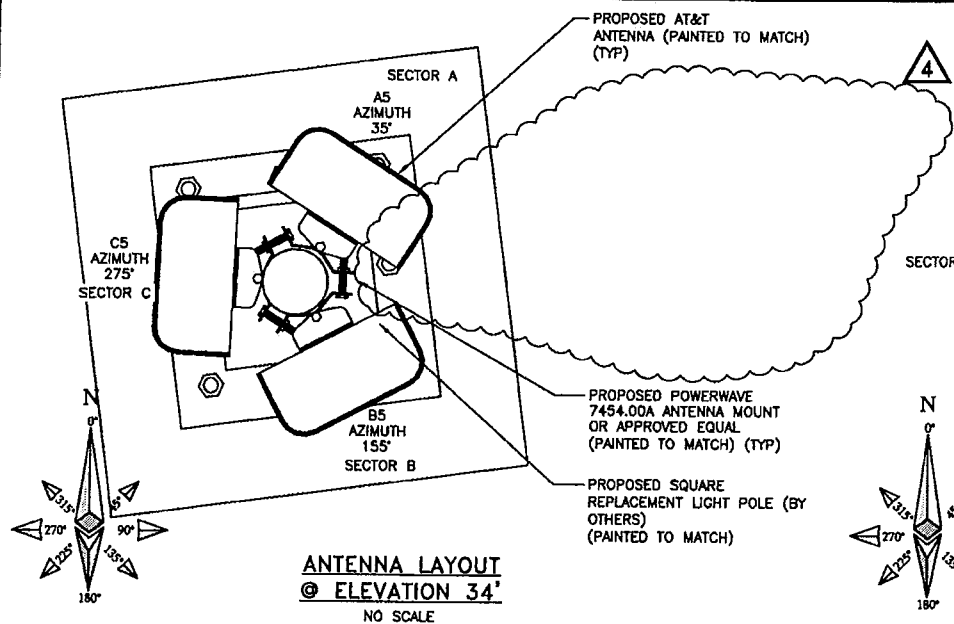
RESIDENCE	DISTANCE FROM CL OF STEALTH POLE
A	50'-0"±
B	243'-0"±
C	252'-0"±
D	250'-0"±
E	320'-0"±
F	381'-0"±
G	459'-0"±
H	528'-0"±
I	606'-0"±
J	679'-0"±
K	765'-0"±
L	422'-0"±
M	532'-0"±
N	691'-0"±
O	843'-0"±
P	217'-0"±

**LEGEND**

FENCE	— □ — □ — □ — □ —
LEASE AREA	— — — — —
ICE BRIDGE	▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒▒
OVERHEAD POWER	— OHP — OHP — OHP —
UNDERGROUND POWER	— UGP — UGP — UGP —
OVERHEAD UTILITIES	— OHU — OHU — OHU —
UNDERGROUND TELCO	— UGT — UGT — UGT —

**SITE PLAN**  
 SCALE: 1/64" = 1'-0"





**NOTES**

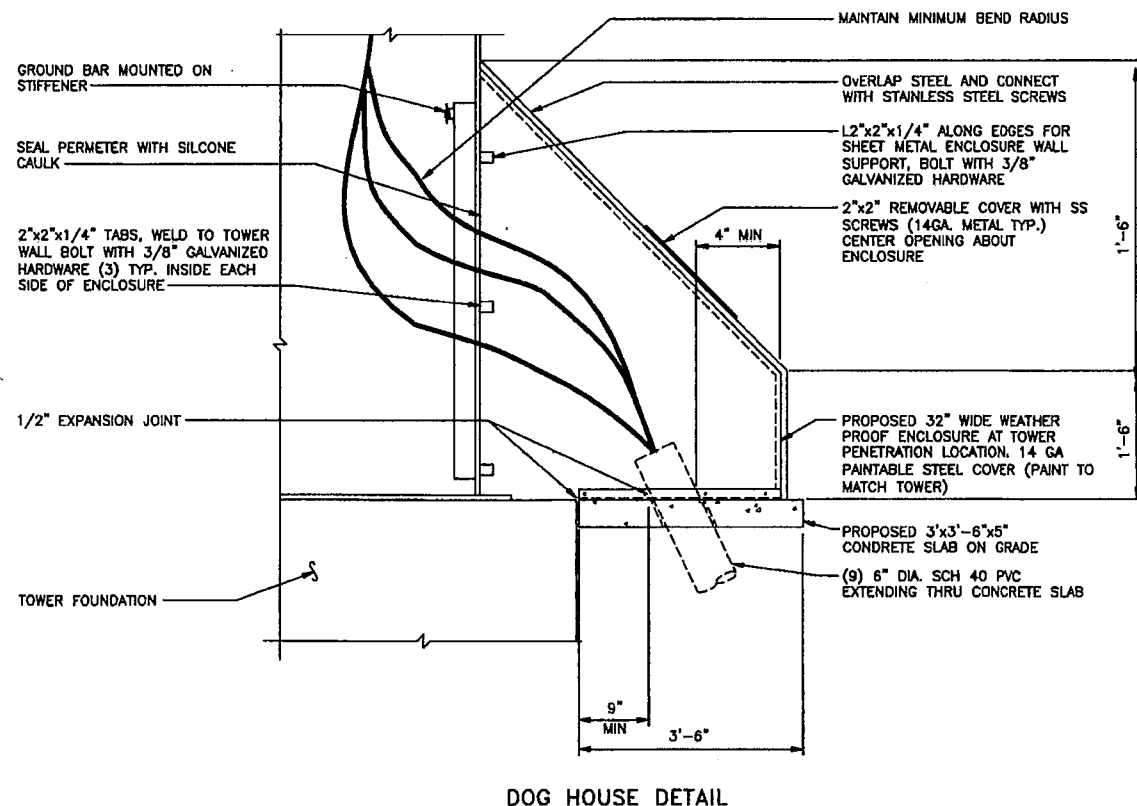
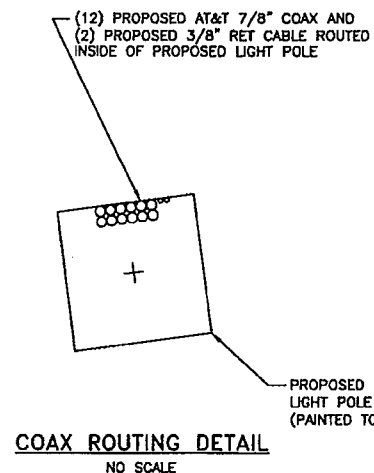
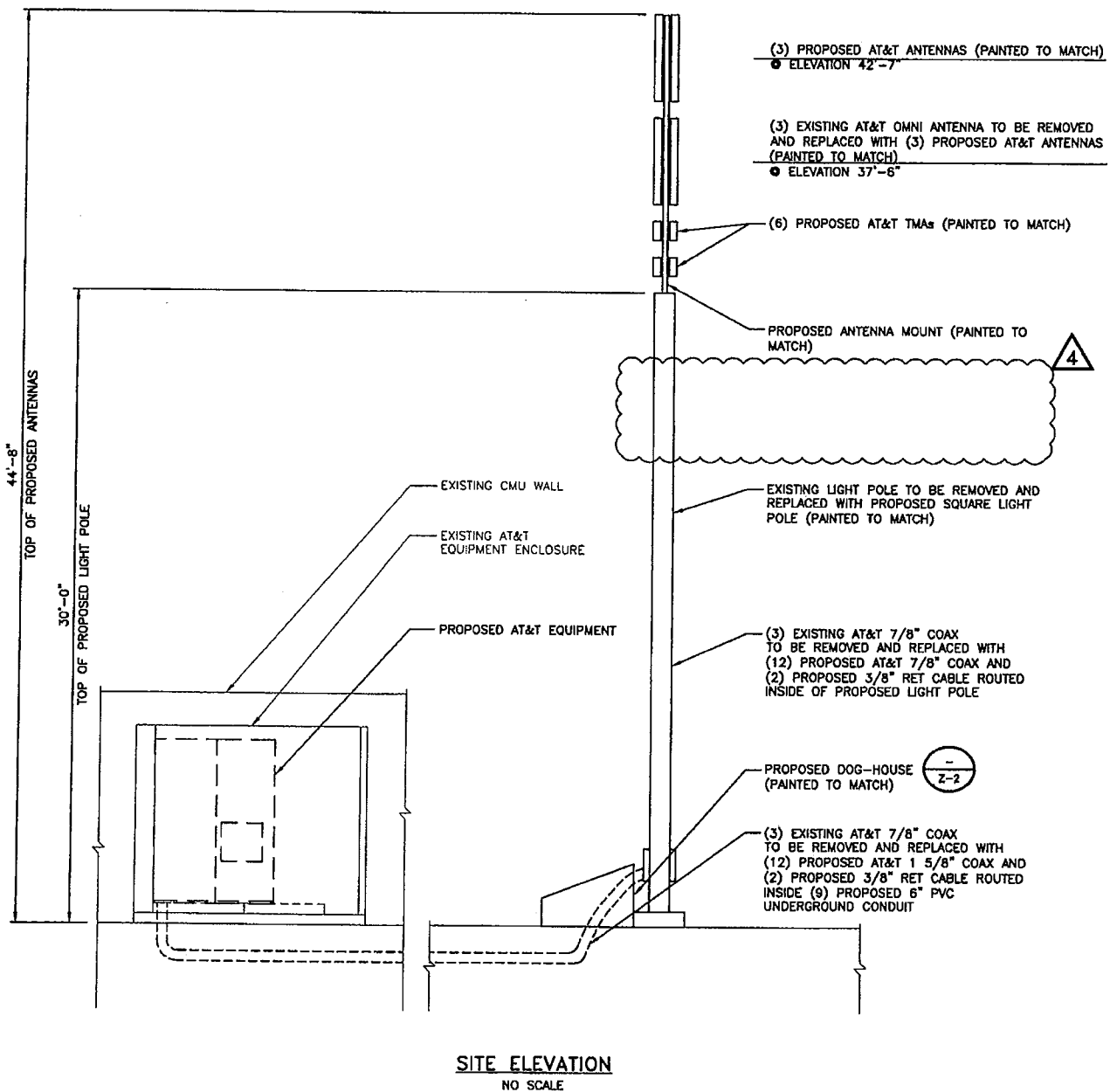
- ALL MAIN CABLES WILL BE GROUNDED W/ COAXIAL CABLE GROUNDING KITS AT:
  - THE ANTENNA LEVEL.
  - MID LEVEL IF TOWER IS OVER 200'.
  - BASE OF TOWER PRIOR TO TURNING HORIZONTAL.
  - OUTSIDE THE EQUIPMENT SHELTER AT ENTRY PORT.
  - INSIDE THE EQUIPMENT SHELTER AT THE ENTRY PORT.
- ALL PROPOSED GROUNDING BAR DOWNLEADS ARE TO BE EXOTHERMIC TO THE EXISTING ADJACENT GROUNDING BAR DOWNLEADS A MINIMUM DISTANCE OF FOUR FEET BELOW GROUNDING BAR.
- IT IS THE CONTRACTOR'S RESPONSIBILITY TO VERIFY ANTENNA AND COAX CONFIGURATION, MAKE AND MODELS PRIOR TO INSTALLATION.
- ANTENNA CONTRACTOR SHALL FURNISH AND INSTALL A CLUSTER MOUNT STANDOFF MOUNT.
- ALL CONNECTIONS FOR HANGERS, SUPPORTS, BRACING, ETC. SHALL BE INSTALLED PER TOWER MANUFACTURER'S STANDARD DETAILS.
- THE EXISTING TOWER IS CURRENTLY BEING DESIGNED 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, CONTRACTOR SHALL VERIFY ACTUAL LENGTH BASED ON CONSTRUCTION LAYOUT AND NOTIFY THE PROJECT MANAGER IF ACTUAL LENGTHS EXCEED ESTIMATED LENGTHS.
- 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" NO-00027 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 AT DISTANCES NOT TO EXCEED 4'-0" OC.
- CONTRACTOR MUST FOLLOW ALL MANUFACTURER'S RECOMMENDATIONS REGARDING THE INSTALLATION OF COAXIAL CABLES, CONNECTORS, AND ANTENNAS.
- WEATHERPROOF ALL ANTENNA CONNECTORS WITH SELF AMALGAMATING TAPE.

**NOTE**

- PROPOSED TOWER IS NOT INTENDED FOR ANY COLOCATION.



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ST LOUIS, MO 63131

10950 GRANDVIEW DRIVE  
OVERLAND PARK, KANSAS 66210  
(913) 458-2000

BLACK & VEATCH PROFESSIONAL ENGINEERING CORPORATION  
MISSOURI STATE CERTIFICATE OF AUTHORITY # 001848

PROJECT NO:	168986
DRAWN BY:	AK
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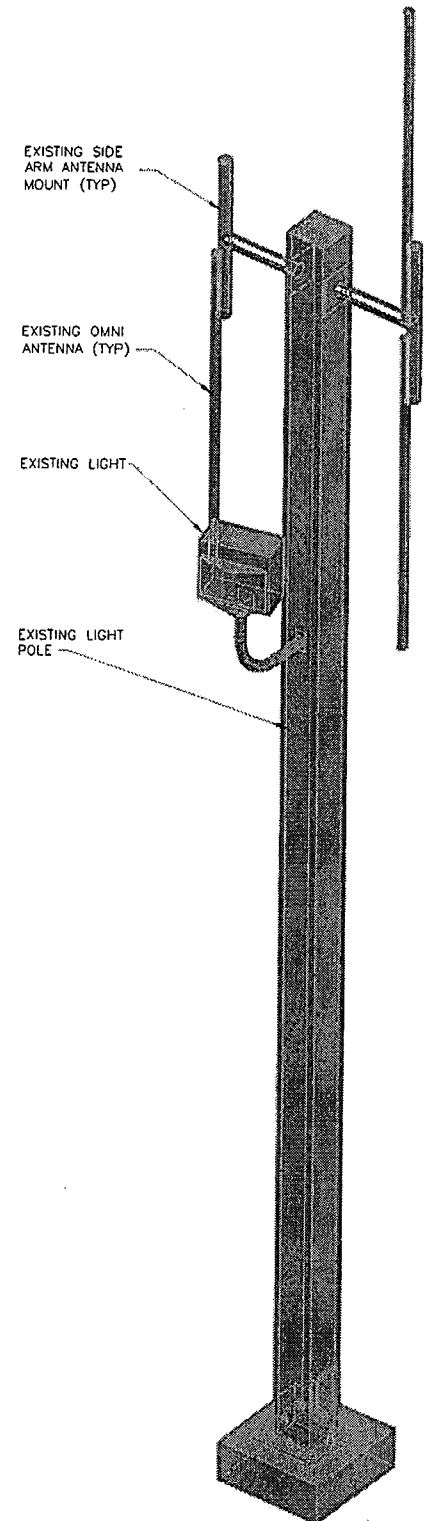
SHEET TITLE  
SITE ELEVATION

SHEET NUMBER  
Z-2

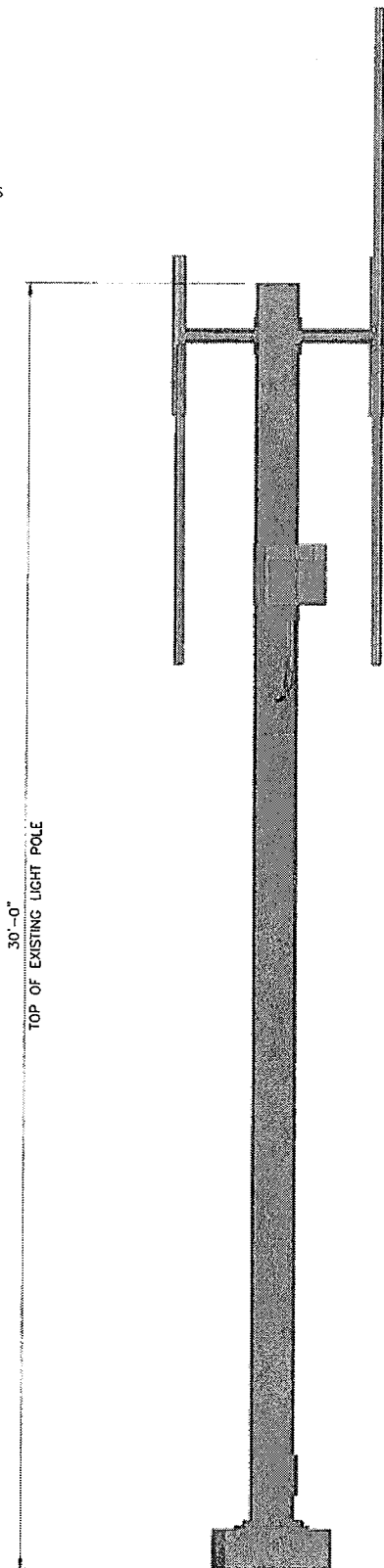


**NOTES**

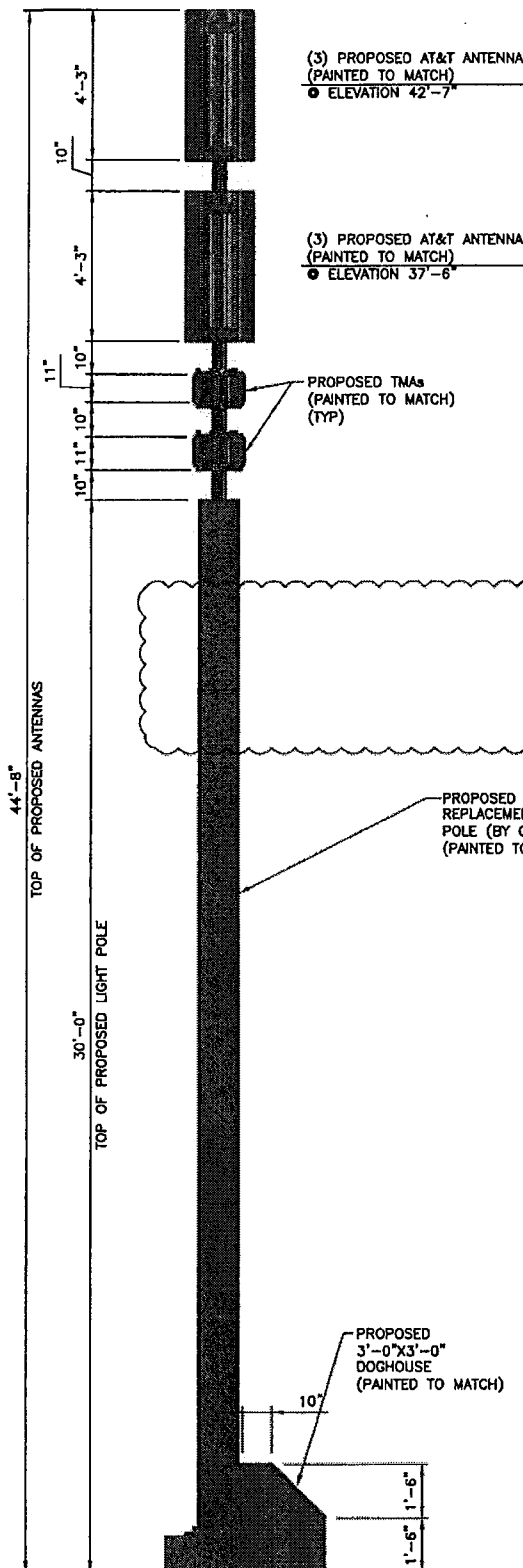
1. PROPOSED TOWER IS NOT INTENDED FOR ANY COLOCATION.



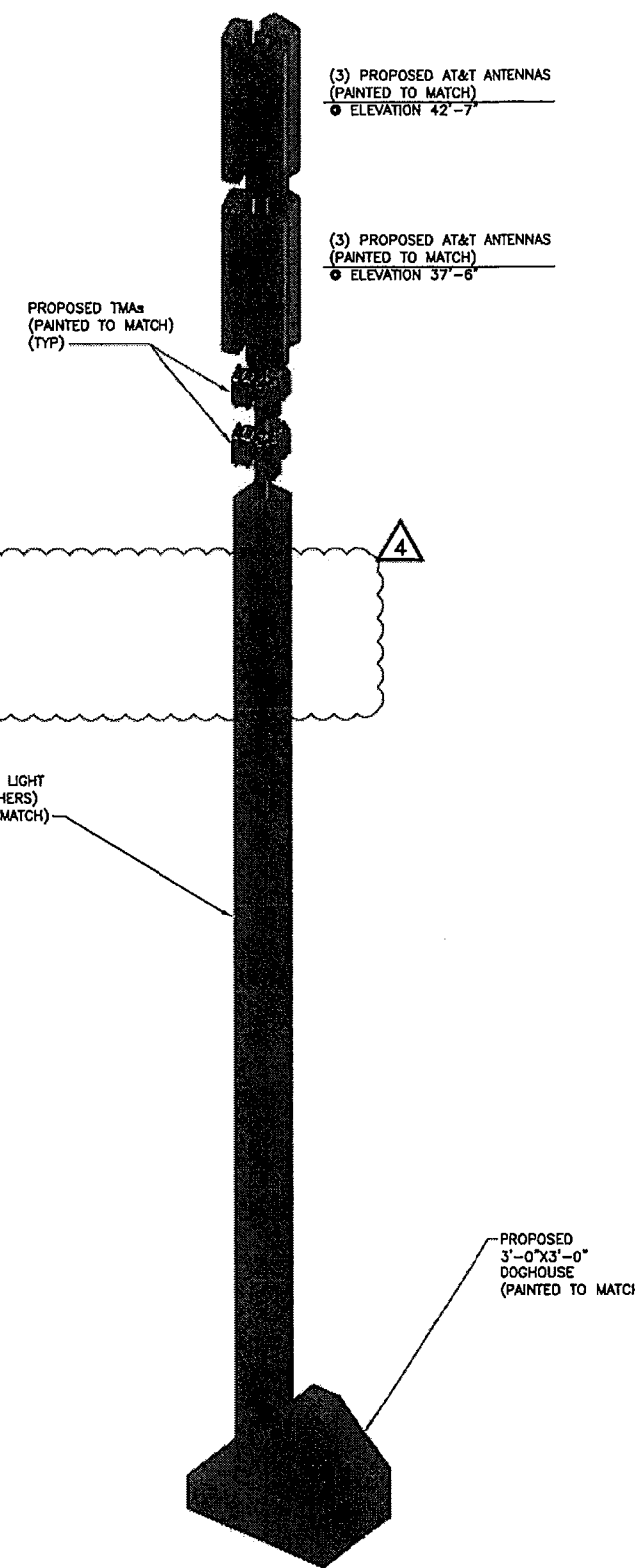
(3) EXISTING AT&T OMNI ANTENNAS  
● ELEVATION 34'



(3) EXISTING AT&T OMNI ANTENNAS  
● ELEVATION 34'



**PROPOSED EQUIPMENT LAYOUT ELEVATION**  
SCALE: NONE



**PROPOSED EQUIPMENT LAYOUT ISOMETRIC VIEW**  
SCALE: NONE



13075 MANCHESTER RD, SUITE 100  
ST LOUIS, MO 63131



10950 GRANDVIEW DRIVE  
OVERLAND PARK, KANSAS 66210  
(913) 458-2000

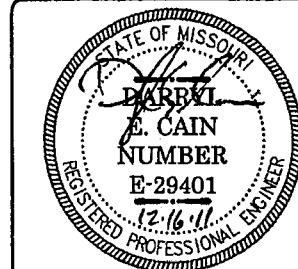
BLACK & VEATCH PROFESSIONAL ENGINEERING CORPORATION  
MISSOURI STATE CERTIFICATE OF AUTHORITY # 001648

PROJECT NO: 168986

DRAWN BY: AK

CHECKED BY: GPX

REV	DATE	DESCRIPTION
4	12/16/11	REMOVED LIGHT
3	12/09/11	ISSUED FOR ZONING
2	04/29/11	ISSUED FOR ZONING
1	12/22/10	PER ZONING COMMENTS
0	11/11/10	ISSUED FOR ZONING



DARRYL E. CAIN E-29401  
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.

MO3147  
CFPD4  
13559 OLIVE BLVD  
CHESTERFIELD, MO 63017  
LTE-LIGHT POLE

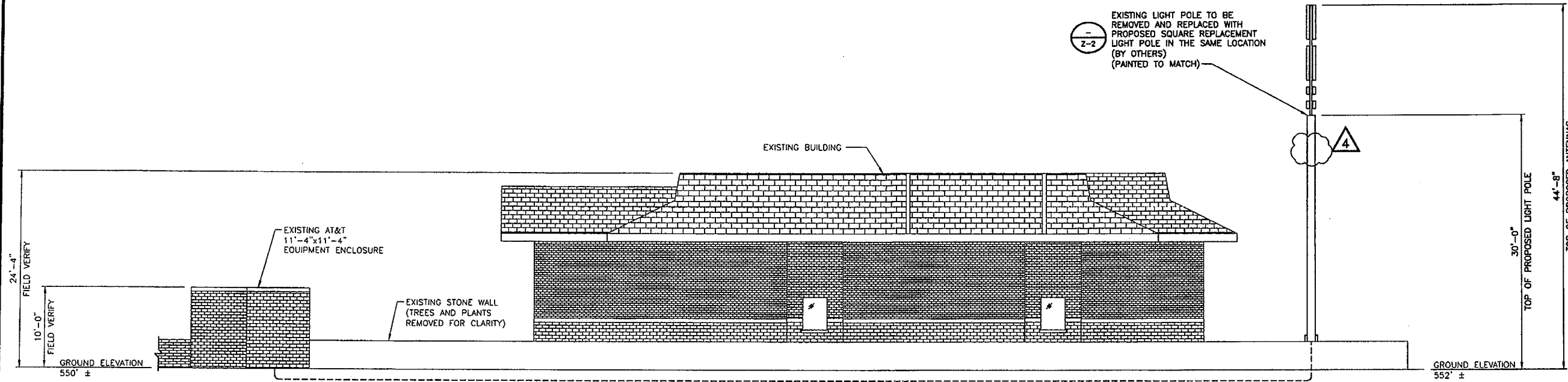
SHEET TITLE  
SITE ELEVATION

SHEET NUMBER

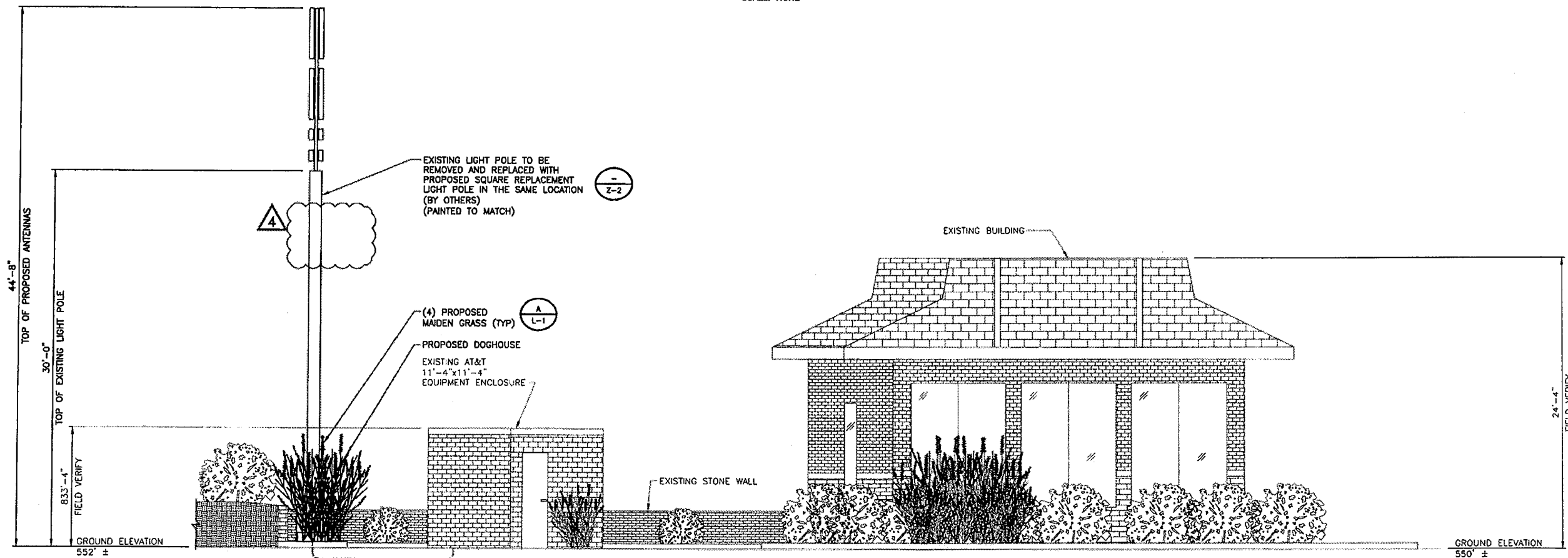
**Z-3**

**NOTES**

1. PROPOSED TOWER IS NOT INTENDED FOR ANY COLOCATION.



**PROPOSED EQUIPMENT ELEVATION  
LOOKING EAST**  
SCALE: NONE



**PROPOSED EQUIPMENT ELEVATION  
LOOKING NORTH**  
SCALE: NONE



13075 MANCHESTER RD, SUITE 100  
ST LOUIS, MO 63131



10950 GRANDVIEW DRIVE  
OVERLAND PARK, KANSAS 66210  
(913) 458-2000

BLACK & VEATCH PROFESSIONAL ENGINEERING CORPORATION  
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PROJECT NO: 168986

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DARRYL E. CAIN  
E-29401  
REGISTERED PROFESSIONAL ENGINEER

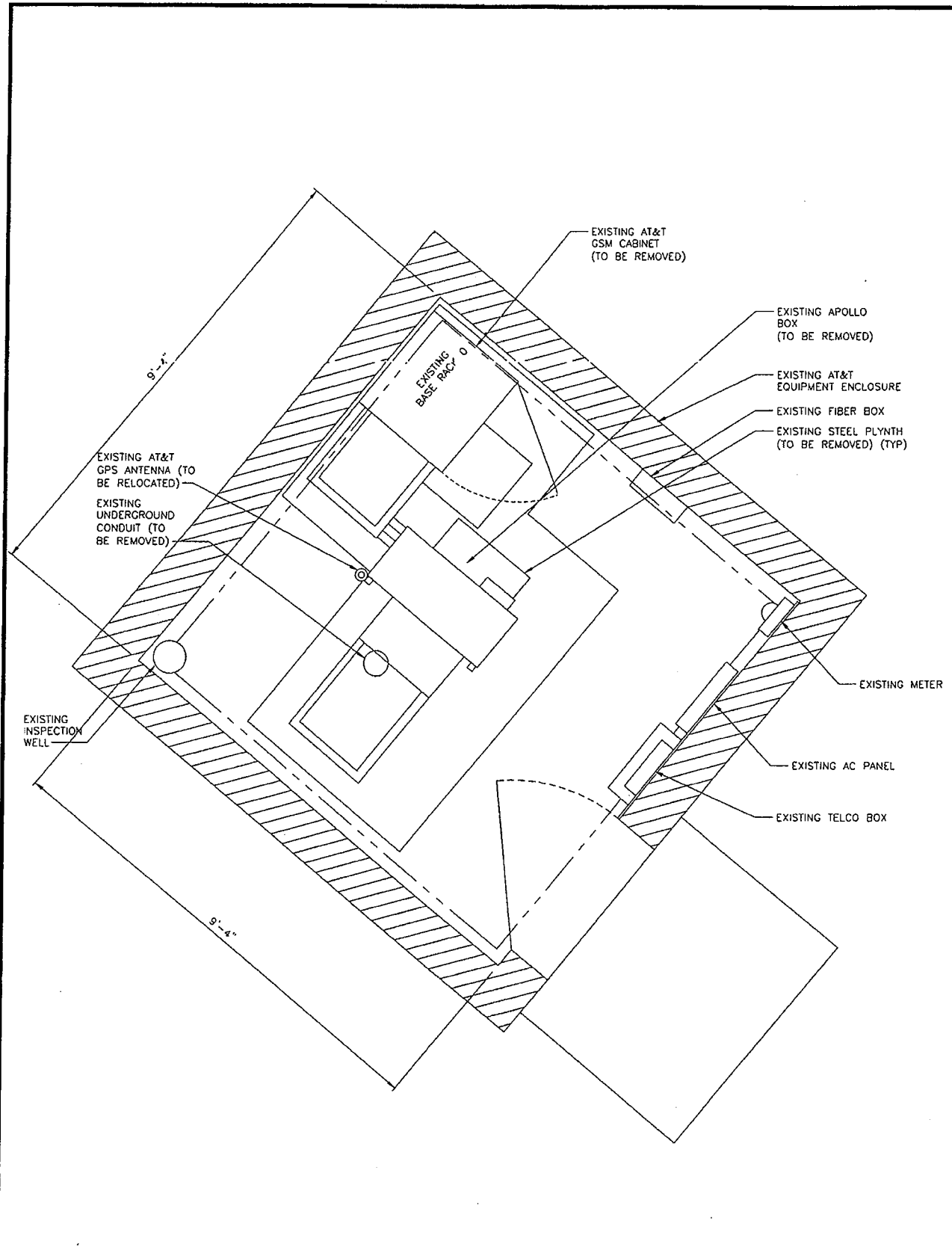
DARRYL E. CAIN E-29401  
PROFESSIONAL ENGINEER

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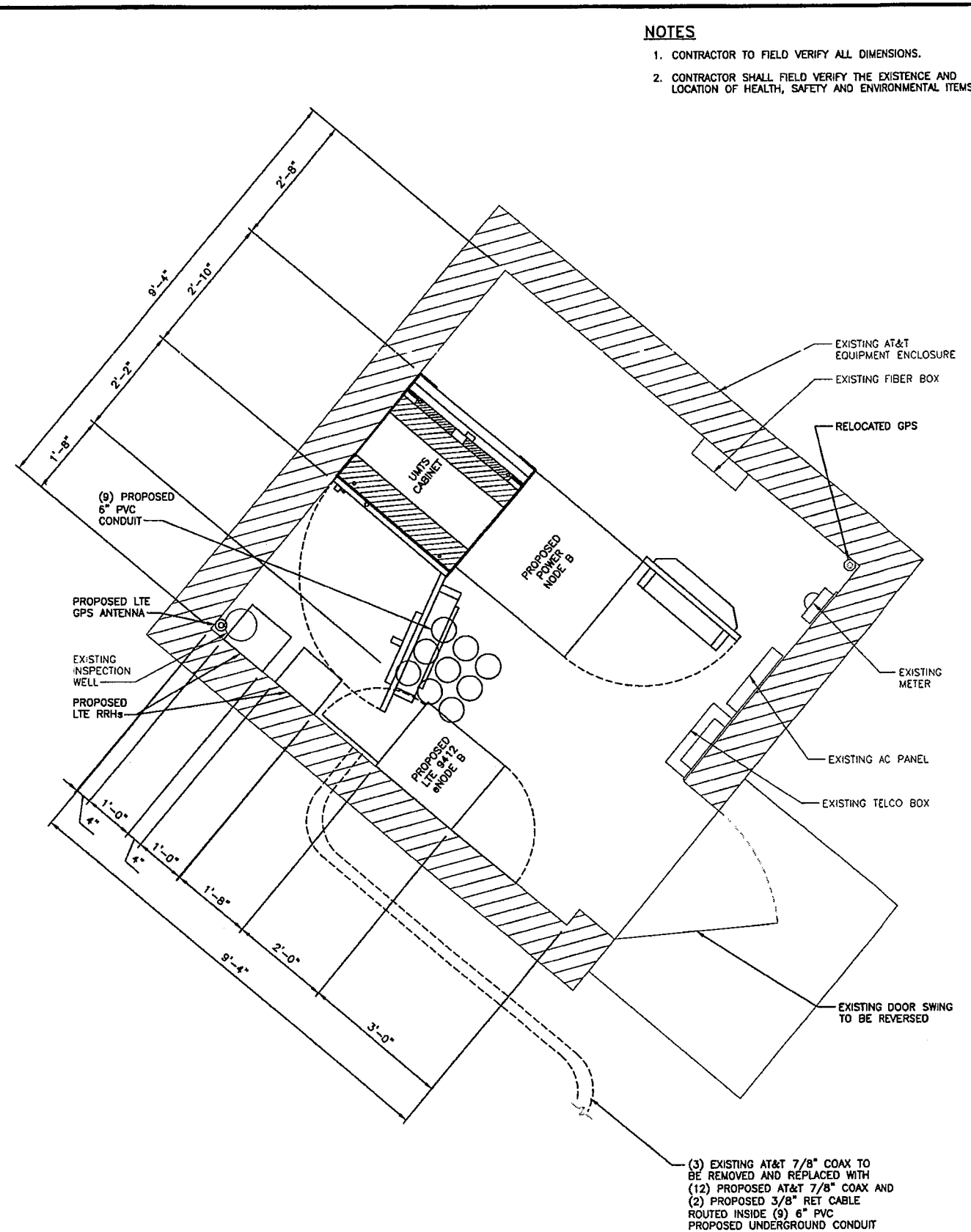
M03147  
CFPD4  
13559 OLIVE BLVD  
CHESTERFIELD, MO 63017  
LTE-LIGHT POLE

SHEET TITLE  
SITE ELEVATION

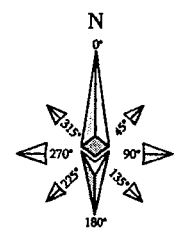
SHEET NUMBER  
**Z-3.1**



**EXISTING EQUIPMENT LAYOUT**  
SCALE: 3/4" = 1'-0"



**PROPOSED EQUIPMENT LAYOUT**  
SCALE: 3/4" = 1'-0"



- NOTES**
1. CONTRACTOR TO FIELD VERIFY ALL DIMENSIONS.
  2. CONTRACTOR SHALL FIELD VERIFY THE EXISTENCE AND LOCATION OF HEALTH, SAFETY AND ENVIRONMENTAL ITEMS.



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MO3147  
CFPD4  
13559 OLIVE BLVD  
CHESTERFIELD, MO 63017  
LTE-LIGHT POLE

SHEET TITLE  
EQUIPMENT LAYOUT

SHEET NUMBER  
**Z-4**

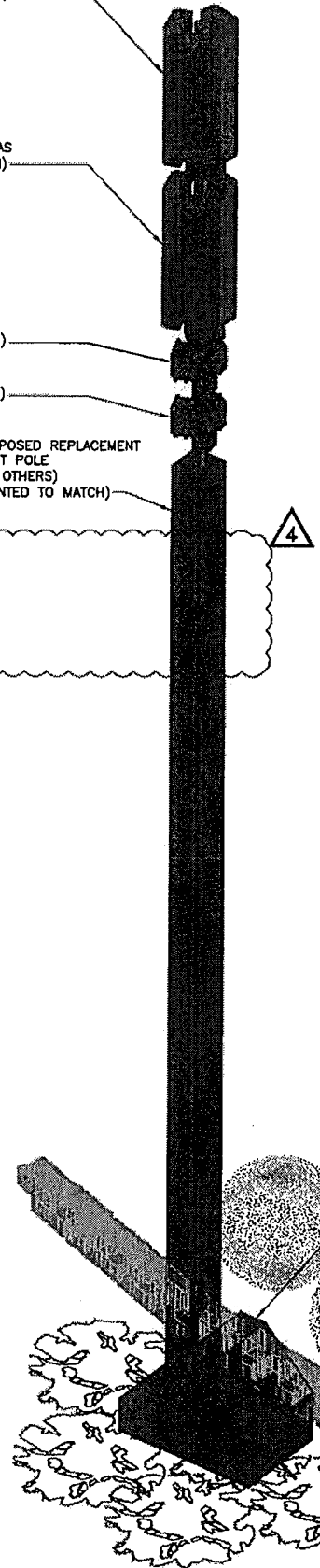
PROPOSED ANTENNAS  
(PAINTED TO MATCH)

PROPOSED ANTENNAS  
(PAINTED TO MATCH)

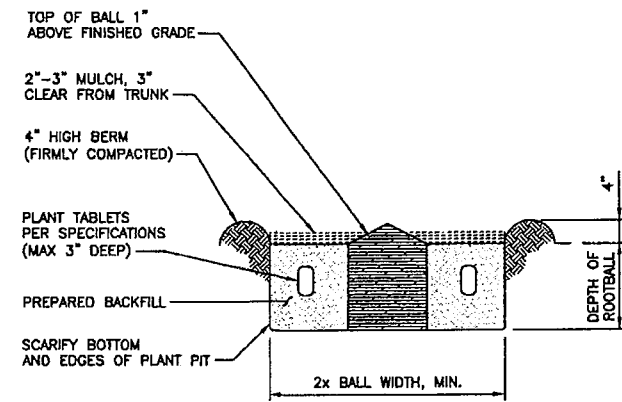
PROPOSED TMA  
(PAINTED TO MATCH)

PROPOSED TMA  
(PAINTED TO MATCH)

PROPOSED REPLACEMENT  
LIGHT POLE  
(BY OTHERS)  
(PAINTED TO MATCH)



**PROPOSED LANDSCAPING  
ISOMETRIC VIEW**  
SCALE: NONE

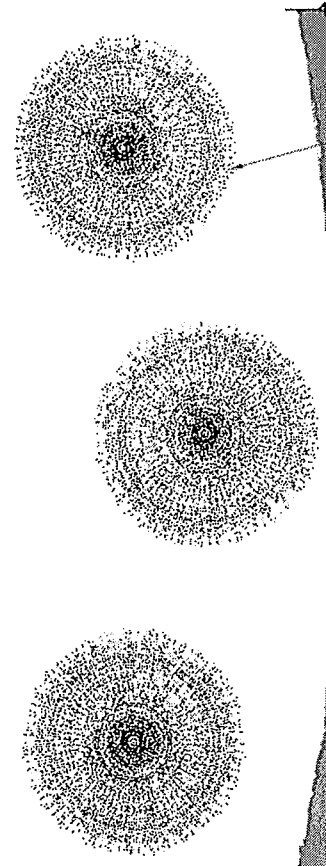


**DETAIL A  
GRASS PLANTING DETAIL**  
SCALE: 3/4" = 1'-0"

PROPOSED  
3'-0"X3'-0"  
DOGHOUSE  
(PAINTED TO MATCH)

EXISTING  
SHRUBS (TYP)

(4) PROPOSED  
MAIDEN GRASS (TYP)



**PROPOSED LANDSCAPING  
PLAN VIEW**  
SCALE: NONE

**NOTES**  
1. PROPOSED TOWER IS NOT INTENDED FOR ANY COLOCATION.

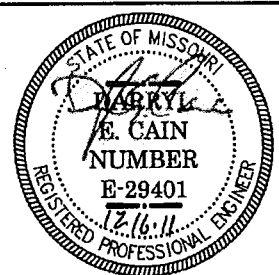
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LTE-LIGHT POLE

SHEET TITLE  
**PROPOSED LANDSCAPING**

SHEET NUMBER  
**L-1**

