



APPLICATION ACCEPTED: March 31, 2014
PLANNING COMMISSION: October 22, 2014
BOARD OF SUPERVISORS: October 28, 2014 @ 4:00 PM

County of Fairfax, Virginia

WS

October 15, 2014

STAFF REPORT

2232-Y13-10, SEA 90-S-021

(concurrent applications)

SULLY DISTRICT

APPLICANT: Milestone Tower LP, III d/b/a Milestone Communications and Cellco Partnership d/b/a Verizon Wireless

ZONING: R-C (Residential-Conservation) and WS (Water Supply Protection Overlay District)

PARCEL: 64-2 ((3)) 26A

ACREAGE: 2.76 acres

FAR: 0.011

OPEN SPACE: (no requirement)

PLAN MAP: Residential at 0.1-0.2 du/ac

SE CATEGORY: Category 1 – Light Public Utility Uses

PROPOSAL: 130-foot tall lattice tower structure and associated equipment in a 60-foot by 60-foot area with 8-foot fencing.

STAFF RECOMMENDATIONS:

- Staff recommends that the Planning Commission find the subject Application 2232-Y13-10, as amended, substantially in accord with provisions of the adopted Comprehensive Plan.

Michael H. Lynskey, ASLA

Department of Planning and Zoning
Zoning Evaluation Division
12055 Government Center Parkway, Suite 801
Fairfax, Virginia 22035-5509
Phone 703-324-1290 FAX 703-324-3924
www.fairfaxcounty.gov/dpz/



- Staff recommends approval of SEA 90-S-021, subject to the proposed development conditions in Appendix 1.
- Staff recommends approval of a modification of transitional screening requirements (per Sect. 13-305, Par. 3) to consider existing vegetation and proposed vegetation, as depicted on the SEA Plat, and as conditioned, as satisfying requirements.
- Staff recommends approval of a modification of barrier requirements to consider the existing 11-foot chain-link fence with slats, and the proposed 8-foot chain-link fence with slats, as depicted on the SEA Plat, as satisfying requirements.
- Staff recommends continuation of a waiver of the service drive requirement along Lee Highway,
- Staff recommends direction to the Director of DPWES to continue a waiver of the dustless surface requirement of the PFM, to allow the gravel driveway and parking areas shown on the SEA Plat.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any development conditions, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards.

It should be further noted that the content of this report reflects the analysis and recommendation of staff; it does not reflect the position of the Board of Supervisors.

The approval of this special exception does not interfere with, abrogate, or annul any easement, covenants, or other agreements between parties as they may apply to the property subject to this application.

For information, contact the Zoning Evaluation Division, Department of Planning and Zoning, 12055 Government Center Parkway, Suite 801, Fairfax, Virginia 22035-5505, (703) 324-1290.

O:\mlynsk\Milestone - SEA 90-S-021\Draft Staff Report\SEA 90-S-021-Cover.doc



Americans with Disabilities Act (ADA): Reasonable accommodation is available upon 48 hours advance notice. For additional information on ADA call (703) 324-1334 or TTY 711 (Virginia Relay Center).

Special Exception Amendment

SEA 90-S -021



Applicant: MILESTONE COMMUNICATIONS AND VERIZON WIRELESS

Accepted: 03/31/2014

Proposed: AMEND SE 90-S-021 PREVIOUSLY APPROVED FOR ELECTRIC SUBSTATION TO PERMIT TELECOMMUNICATION FACILITY

Area: 2.7584 AC OF LAND; DISTRICT - SULLY

Zoning Dist Sect: 03-0C0403-0C04

Art 9 Group and Use: 1-08 1-01

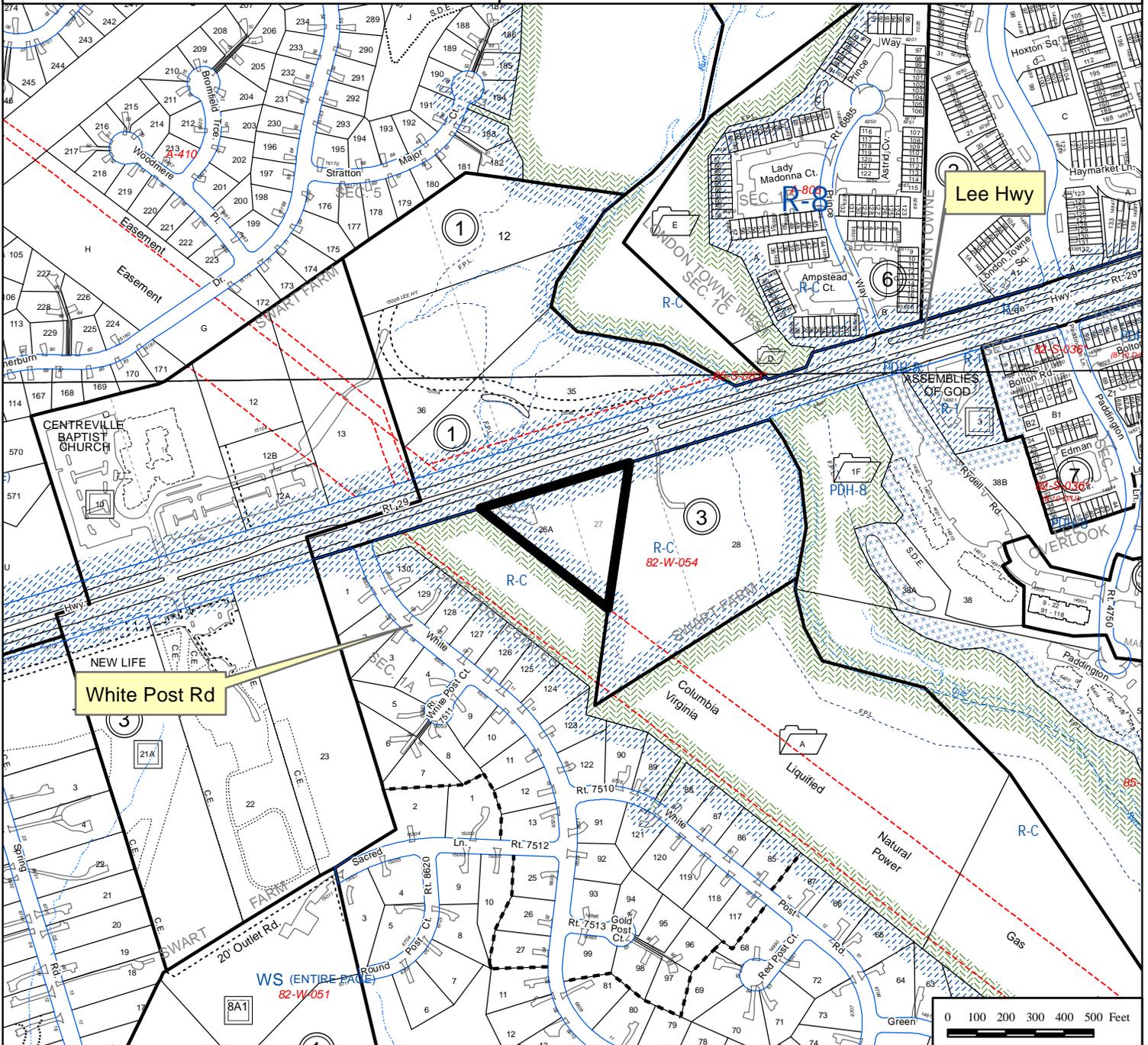
Located: 15001 LEE HIGHWAY, CENTREVILLE, VA 20121

Zoning: R- C

Plan Area: 3,

Overlay Dist: WS

Map Ref Num: 064-2- /03/ /0026A





Milestone
COMMUNICATIONS



SEA 90-S-021

2232-Y13-10

NOVEC - JOHNSON SUBSTATION

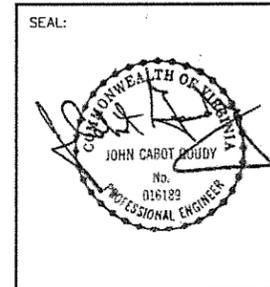
15001 LEE HWY

CENTREVILLE, VA 20121



6600 Rockledge Drive, Suite 550
BETHESDA, MD 20817
PHONE: (202)408-0960
FAX: (202)408-0961

SUBMITTALS		
DATE	DESCRIPTION	REV.
05-28-13	ZONING REVIEW	
08-20-13	ZONING	
11-07-13	COUNTY COMMENTS	
02-19-14	COUNTY COMMENTS	
06-24-14	COUNTY COMMENTS	
08-08-14	COUNTY COMMENTS	
09-17-14	COUNTY COMMENTS	



GENERAL NOTES

- THE CONTRACTOR SHALL GIVE ALL NOTICES AND COMPLY WITH ALL LAWS, ORDINANCES, RULES, REGULATIONS AND LAWFUL ORDERS OF ANY PUBLIC AUTHORITY, MUNICIPAL AND UTILITY COMPANY SPECIFICATIONS, AND LOCAL AND STATE JURISDICTIONAL CODES BEARING ON THE PERFORMANCE OF THE WORK. THE WORK PERFORMED ON THE PROJECT AND THE MATERIALS INSTALLED SHALL BE IN STRICT ACCORDANCE WITH ALL APPLICABLE CODES, REGULATIONS AND ORDINANCES.
- THE ARCHITECT/ENGINEER HAS MADE EVERY EFFORT TO SET FORTH IN THE CONSTRUCTION AND CONTRACT DOCUMENTS THE COMPLETE SCOPE OF WORK. THE CONTRACTOR BIDDING THE JOB IS NEVERTHELESS CAUTIONED THAT MINOR OMISSIONS OR ERRORS IN THE DRAWINGS AND OR SPECIFICATIONS SHALL NOT EXCUSE SAID CONTRACTOR FROM COMPLETING THE PROJECT AND IMPROVEMENTS IN ACCORDANCE WITH THE INTENT OF THESE DOCUMENTS.
- THE CONTRACTOR OR BIDDER SHALL BEAR THE RESPONSIBILITY OF NOTIFYING (IN WRITING) THE CONSTRUCTION MANAGER OF ANY CONFLICTS, ERRORS, OR OMISSIONS PRIOR TO THE SUBMISSION OF CONTRACTOR'S PROPOSAL OR PERFORMANCE OF WORK. IN THE EVENT OF DISCREPANCIES THE CONTRACTOR SHALL PRICE THE MORE COSTLY OR EXTENSIVE WORK, UNLESS DIRECTED IN WRITING OTHERWISE.
- THE SCOPE OF WORK SHALL INCLUDE FURNISHING ALL MATERIALS, EQUIPMENT, LABOR AND ALL OTHER MATERIALS AND LABOR DEEMED NECESSARY TO COMPLETE THE WORK/PROJECT AS DESCRIBED HEREIN.
- THE CONTRACTOR SHALL VISIT THE JOB SITE PRIOR TO THE SUBMISSION OF BIDS OR PERFORMING WORK TO FAMILIARIZE HIMSELF WITH THE FIELD CONDITIONS AND TO VERIFY THAT THE PROJECT CAN BE CONSTRUCTED IN ACCORDANCE WITH THE CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL OBTAIN AUTHORIZATION TO PROCEED WITH CONSTRUCTION PRIOR TO STARTING WORK ON ANY ITEM NOT CLEARLY DEFINED BY THE CONSTRUCTION DRAWING/CONTRACT DOCUMENTS.
- THE CONTRACTOR SHALL INSTALL ALL EQUIPMENT AND MATERIALS ACCORDING TO THE MANUFACTURER'S/VENDOR'S SPECIFICATION UNLESS NOTED OTHERWISE OR WHERE LOCAL CODES OR ORDINANCES TAKE PRECEDENCE.
- THE CONTRACTOR SHALL PROVIDE A FULL SET OF CONSTRUCTION DOCUMENTS AT THE SITE UPDATED WITH THE LATEST REVISIONS AND ADDENDA OR CLARIFICATIONS AVAILABLE FOR THE USE BY ALL PERSONNEL INVOLVED WITH THE PROJECT.
- THE CONTRACTOR SHALL SUPERVISE AND DIRECT THE PROJECT DESCRIBED HEREIN. THE CONTRACTOR SHALL BE SOLELY RESPONSIBLE FOR ALL CONSTRUCTION MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES AND FOR COORDINATING ALL PORTIONS OF THE WORK UNDER THE CONTRACT.
- THE CONTRACTOR SHALL BE RESPONSIBLE FOR OBTAINING ALL PERMITS AND INSPECTIONS WHICH MAY BE REQUIRED FOR THE BY THE ARCHITECT/ENGINEER, THE STATE, COUNTY OR LOCAL GOVERNMENT AUTHORITY.
- THE CONTRACTOR SHALL MAKE NECESSARY PROVISIONS TO PROTECT EXISTING IMPROVEMENTS, EASEMENTS, PAVING, CURBING, ETC. DURING CONSTRUCTION. UPON COMPLETION OF WORK, THE CONTRACTOR SHALL REPAIR ANY DAMAGE THAT MAY HAVE OCCURRED DUE TO CONSTRUCTION ON OR ABOUT THE PROPERTY.
- THE CONTRACTOR SHALL KEEP THE GENERAL WORK AREA CLEAN AND HAZARD FREE DURING CONSTRUCTION AND DISPOSE OF ALL DIRT, DEBRIS, RUBBISH AND REMOVE EQUIPMENT NOT SPECIFIED AS REMAINING ON THE PROPERTY. PREMISES SHALL BE LEFT IN CLEAN CONDITION AND FREE FROM PAINT SPOTS, DUST, OR SMUDGES OF ANY NATURE.
- THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
- THE CONTRACTOR SHALL NOTIFY THE CONSTRUCTION MANAGER WHERE A CONFLICT OCCURS ON ANY OF THE CONTRACT DOCUMENTS. THE CONTRACTOR IS NOT TO ORDER MATERIAL OR CONSTRUCT ANY PORTION OF THE WORK THAT IS IN CONFLICT UNTIL THE CONFLICT IS RESOLVED BY THE CONSTRUCTION MANAGER.
- THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE PROJECT.

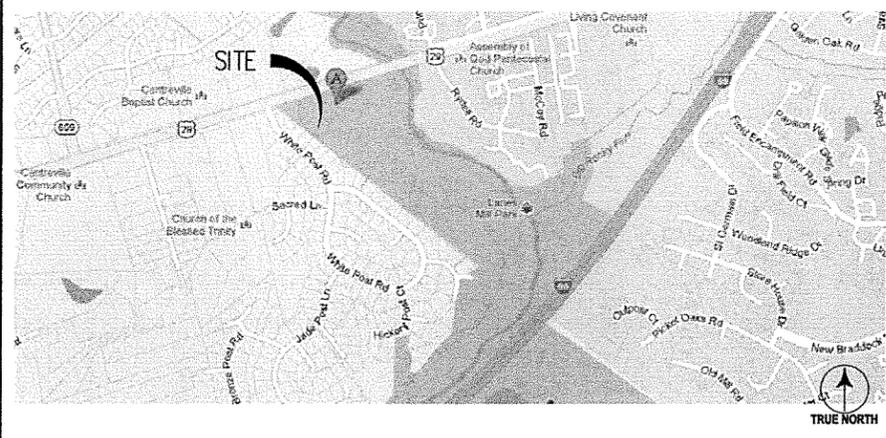
APPROVALS

MILESTONE COMMUNICATIONS: _____
NAME _____ DATE _____

NOVEC REPRESENTATIVE: _____
NAME _____ DATE _____

DIRECTIONS: FROM I-495 (CAPITAL BELTWAY), TAKE EXIT 49 ON THE RIGHT FOR INTERSTATE 66 W TOWARD MENNA/ FRONT ROYAL, MERGE ONTO I-66 W, TAKE EXIT 52 FOR US-29 TOWARD CENTREVILLE, TURN RIGHT ONTO US-29 S/ LEE HWY, PROCEED 0.9 MILES TO 15001 LEE HWY CENTREVILLE, VA 20121.

VICINITY MAP



SYMBOLS AND ABBREVIATIONS

ADJ	ADJUSTABLE	MECH	MECHANICAL	◆	SPOT ELEVATION
APPROX	APPROXIMATE	MFR	MANUFACTURER	⊕	CENTERLINE
CAB	CABINET	MGB	MAIN GROUND BAR	⊖	PLATE
CLG	CEILING	MIN	MINIMUM	⊙	DETAIL NUMBER SHEET NUMBER
CONC	CONCRETE	MTL	METAL	—○—	GROUND WIRE
CONT	CONTINUOUS	NIC	NOT IN CONTRACT	⊔	ANTENNA
CJ	CONSTRUCTION JOINT	NTS	NOT TO SCALE		
DIA	DIAMETER	OC	ON CENTER		
DWG	DRAWING	OPP	OPPOSITE		
EGB	EQUIPMENT GROUND BAR	SF	SQUARE FOOT		
EA	EACH	SHT	SHEET		
ELEC	ELECTRICAL	SM	SIMILAR		
EL	ELEVATION	SS	STAINLESS STEEL		
EQ	EQUAL	STL	STEEL		
EQUIP	EQUIPMENT	TOC	TOP OF CONCRETE		
EXT	EXTERIOR	TOM	TOP OF MASONRY		
FF	FINISHED FLOOR	TOS	TOP OF STEEL		
GA	GAGE	TYP	TYPICAL		
GALV	GALVANIZED	WF	VERIFY IN FIELD		
GB	GROUND BAR	UN	UNLESS OTHERWISE NOTED		
GC	GENERAL CONTRACTOR	W/F	WELDED WIRE FABRIC		
GRND	GROUND	W/	WITH		
LG	LONG	&	AND		
LLH	LONG LEG HORIZONTAL	⊙	AT		
MAX	MAXIMUM				

SHEET INDEX

- T-1 TITLE SHEET
- Z-1 SPECIAL EXCEPTION PLAT
- Z-2 EROSION AND SEDIMENT CONTROL PLAN AND DETAILS
- Z-3 COMPOUND PLAN
- Z-4 TOWER ELEVATION
- Z-5 SITE PROFILES
- Z-6 CIVIL MAPS
- Z-7 SITE DETAILS
- Z-8 ANTENNA SCHEDULE AND DETAILS
- Z-9 RRR AND DISTRIBUTION BOX DETAILS
- Z-10 SHELTER PLANS AND GENERATOR DETAILS
- Z-11 SHELTER ELEVATIONS
- Z-12 LANDSCAPE PLAN, DETAILS AND NOTES
- Z-13 TRANSITIONAL SCREENING AND TREE CANOPY CALCULATION
- Z-14 SWM MAP
- Z-15 SWM NARRATIVE

PROJECT DESCRIPTION

- SCOPE OF WORK:
- INSTALL A NEW 130'-0" HIGH SELF SUPPORT TOWER FOUNDATIONS AND TOWER.
 - INSTALL GROUNDING, UTILITIES, COMPOUND SUBGRADE AND FENCING.
 - INSTALL LANDSCAPING.
 - INSTALL VERIZON WIRELESS EQUIPMENT SHELTER AND GENERATOR FOUNDATIONS.
 - INSTALL VERIZON WIRELESS SHELTER AND GENERATOR.
 - INSTALL VERIZON WIRELESS PANEL ANTENNAS ON A STANDOFF FRAMES ON THE TOWER.
 - INSTALL RF CABLES ON THE TOWER.

PROPERTY OWNER: ELECTRIC COOPERATIVE, PRINCE WILLIAM
10323 LONOND DR.
MANASSAS, VA 20109

LATITUDE: N 38° 49' 53.972"
LONGITUDE: W 77° 27' 55.996"

GROUND ELEVATION: 249.35' AMSL

APPLICANT: MILESTONE COMMUNICATIONS
12110 SUNSET HILLS ROAD, SUITE 100
RESTON, VA 20107
MR. LEN FORKAS
(703) 620-2555 EX. 104

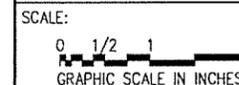
JURISDICTION: FAIRFAX COUNTY

PROPERTY INFO: MAP #: 0642 03 0026A

CURRENT ZONING: RC

USE: ELECTRIC UTILITIES / TELECOMMUNICATIONS SITE

PROJECT NO: 1050.130
DESIGNER: M.A.
ENGINEER: M.M.



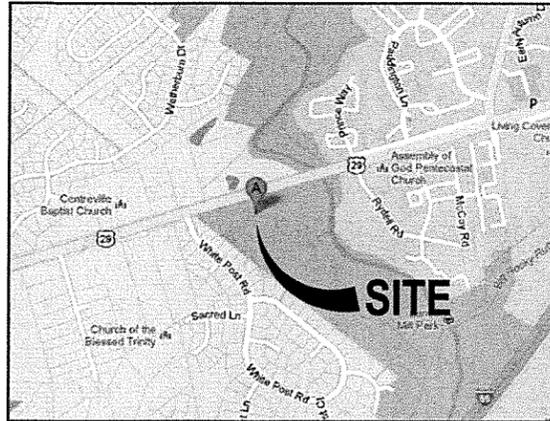
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

TITLE SHEET

SHEET NUMBER:

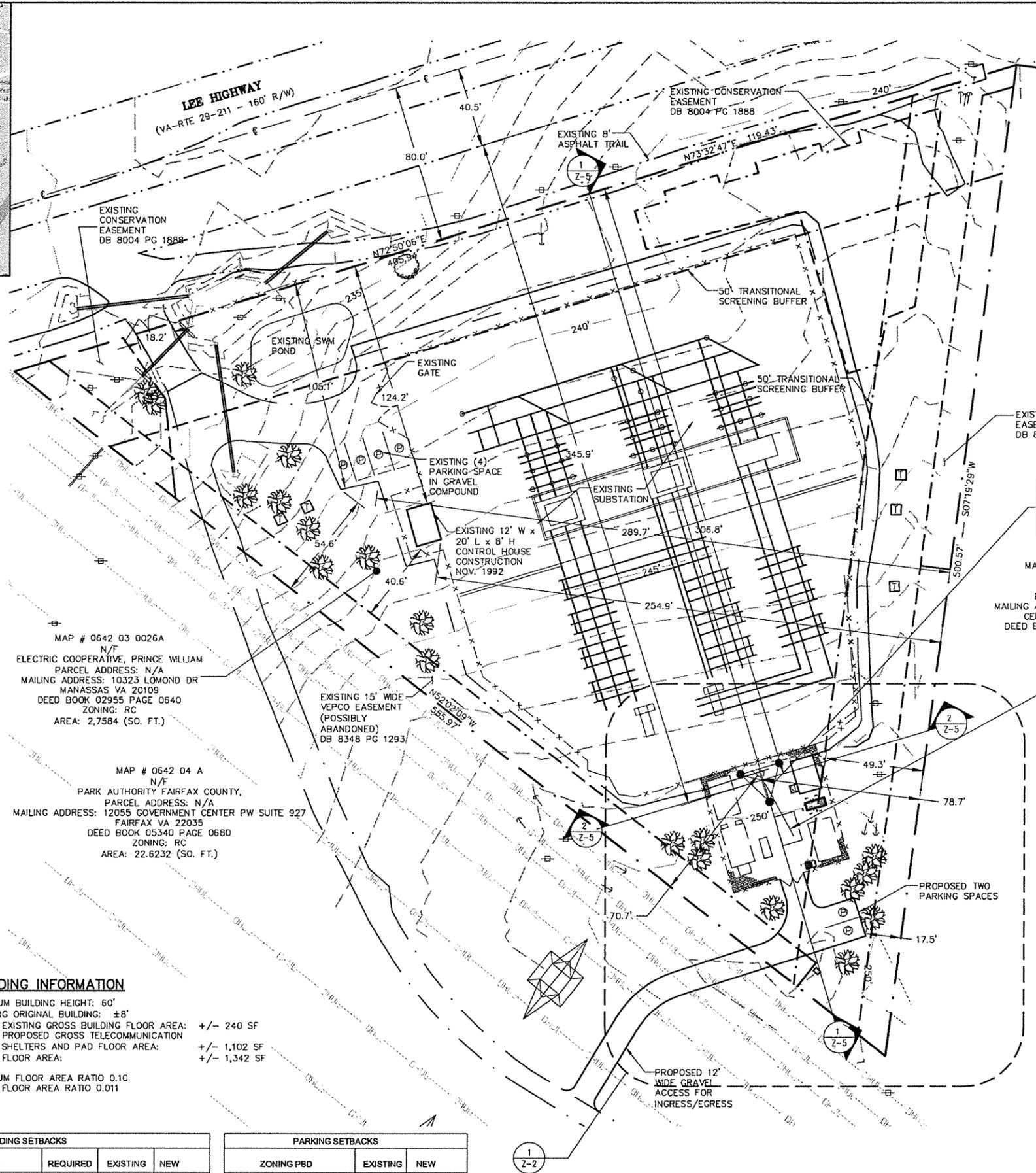
T-1



VICINITY MAP
SCALE: 1"=2000'

SPECIAL EXCEPTION PLAT NOTES

- 1.) SITE NAME: NOVEC - JOHNSON SUBSTATION
- 2.) THIS IS NOT A BOUNDARY SURVEY AND IS NOT TO BE USED FOR THE TRANSFER OF PROPERTY.
- 3.) THE SUBJECT PARCEL INFORMATION:
OWNER: ELECTRIC COOPERATIVE, PRINCE WILLIAM
MAILING ADDRESS: 10323 LOMOND DRIVE MANASSAS, VA 20109
PROPERTY ADDRESS: 15001 LEE HWY CENTREVILLE, VA 20121
COUNTY: FAIRFAX COUNTY
PARCEL ID #: 0642 03 0026A
TAX DISTRICT : 90200 DULLY DISTR 2
DEED BK: 02955 PG: 0640
LAND AREA: 2.7584 AC
USE: ELECTRIC UTILITIES
ZONING: RC
OVERLAY DISTRICT: WATER SUPPLY PROTECTION (WS)
- 4.) THE DATUM'S ARE NAD 83 AND NAVD 88, AND THE BEARING BASE IS STATE GRID.
- 5.) NO UNDERGROUND UTILITIES HAVE BEEN LOCATED, THE PRESENCE OF ANY SUCH UTILITIES MUST BE CONFIRMED BY THE CONTRACTOR BEFORE CONSTRUCTION.
- 6.) NO WETLANDS HAVE BEEN DEFINED AND ANY AREAS SHOWN AS MARSH, PONDS OR DITCHES ARE DONE SO FROM VISIBLE SURFACE FEATURES AND IN NO WAY CONSTITUTE A DEFINED WETLAND.
- 7.) THE FLOOD ZONE OF THE PROPOSED TOWER IS AS FOLLOWS; FLOOD ZONE X, AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCES FLOODPLAIN. SOURCE, FEMA FLOOD MAP FOR FAIRFAX COUNTY, VA, COMMUNITY PANEL NUMBER 51059C 0230E, EFFECTIVE, SEPTEMBER 17, 2010.
- 8.) TITLE REPORT WAS FURNISHED FOR THIS SURVEY WAS FURNISHED BY HITECH TITLE SOLUTIONS, INC., FILE# 15001 LEE.
- 9.) THE DATA COLLECTED AND SHOWN ON THIS DRAWING ARE FOR THE PURPOSES OF CONSTRUCTION OF A CELLULAR TOWER, ANY NECESSARY ANCILLARY EQUIPMENT AND ALL APPROPRIATE EASEMENTS.
- 10.) NO UNRECORDED EASEMENTS ARE SHOWN ON THIS SURVEY AND IT IS POSSIBLE THAT SUCH EASEMENTS IMPACT THE SITE.
- 11.) THIS PROPERTY IS SUBJECT TO ALL MATTERS OF PUBLIC RECORD.
- 12.) THE LOCATION OF THE PROPOSED TOWER IS AS FOLLOWS; THE VALUES LISTED BELOW ARE WITHIN ±50' HORIZONTAL AND ±20' VERTICAL.
LATITUDE: N 38° 49' 53.972"
LONGITUDE: W 77° 27' 55.996"
ELEVATION: 249.35' AMSL AT BASE
- 13.) THE EXISTING TOPOGRAPHY IS TAKEN FROM A FIELD RUN SURVEY WITH A MAXIMUM TWO FOOT CONTOUR INTERVAL PREPARED BY ENTREX COMMUNICATION SERVICES, INC.



PARKING SPACES	
PARKING SPACES PROVIDED	TOTAL
2	2
PARKING SPACES REQUIRED	N/A

- NOTES**
1. THE PROPERTY DOES NOT USE PUBLIC WATER AND OR PUBLIC SEWER, THERE IS NO SEPTIC FIELD ON THE PROPERTY.
 2. THE PROPERTY IS IN AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCES FLOODPLAIN. SOURCE, FEMA FLOOD MAP FOR FAIRFAX COUNTY, VA, COMMUNITY PANEL NUMBER 51059C 0230E, EFFECTIVE, SEPTEMBER 17, 2010.
 3. THERE ARE NO PROPOSED STORM WATER MANAGEMENT FACILITIES FOR THIS PROJECT.
 4. THERE ARE NO GRAVES, OBJECTS OR STRUCTURES MARKING A PLACE OF BURIAL ON THE PROPERTY PER THE FAIRFAX COUNTY CEMETERY MAP.
 5. FAIRFAX COUNTY COMPREHENSIVE PLAN, LAND USE MAP SECTION 64-2, SHOWS A MINOR PAVED TRAIL WITH PARALLEL NATURAL SURFACE OR STONE DUST TRAIL 6' - 8' ON THE SOUTH SIDE OF ROUTE 29 AS SHOWN ON 2/Z-6.
 6. THERE ARE NO PROPOSED SIGNS FOR THIS PROJECT.

MAP # 0642 03 0026A
N/F
ELECTRIC COOPERATIVE, PRINCE WILLIAM
PARCEL ADDRESS: N/A
MAILING ADDRESS: 10323 LOMOND DR
MANASSAS VA 20109
DEED BOOK 02955 PAGE 0640
ZONING: RC
AREA: 2.7584 (SQ. FT.)

MAP # 0642 04 A
N/F
PARK AUTHORITY FAIRFAX COUNTY,
PARCEL ADDRESS: N/A
MAILING ADDRESS: 12055 GOVERNMENT CENTER PW SUITE 927
FAIRFAX VA 22035
DEED BOOK 05340 PAGE 0680
ZONING: RC
AREA: 22.6232 (SQ. FT.)

PROPOSED 130' TOWER
GRID N: 6987583.634
GRID E: 11777589.127
LATITUDE: 38°49'53.972"
LONGITUDE: -77°27'55.996"
GROUND ELEVATION: 249.35' AMSL AT BASE

MAP # 0642 03 0028
N/F
CHI MINAM,
PARCEL ADDRESS:
MAILING ADDRESS: 14927 LEE HWY
CENTREVILLE VA 20121
DEED BOOK 22735 PAGE 1453
ZONING: RC

BUILDING INFORMATION

MAXIMUM BUILDING HEIGHT: 60'
EXISTING ORIGINAL BUILDING: ±8'
TOTAL EXISTING GROSS BUILDING FLOOR AREA: +/- 240 SF
TOTAL PROPOSED GROSS TELECOMMUNICATION SHELTERS AND PAD FLOOR AREA: +/- 1,102 SF
TOTAL FLOOR AREA: +/- 1,342 SF
MAXIMUM FLOOR AREA RATIO 0.10
TOTAL FLOOR AREA RATIO 0.011

TOWER SETBACKS		
ZONING PBD	REQUIRED	PROPOSED
FRONT YARD (NORTH)	40'	306.8'
REAR YARD (N/A)	25'	N/A
SIDE YARD (SOUTH WEST)	20'	70.7'
SIDE YARD (EAST)	20'	78.7'
CLOSEST OFF SITE BUILDING	N/A	326.2'
CLOSEST ROAD	N/A	345.9'

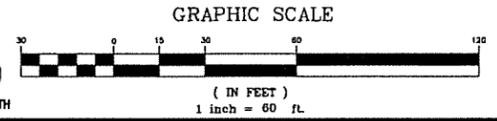
BUILDING SETBACKS				
ZONING PBD	REQUIRED	EXISTING	NEW	
FRONT YARD (NORTH)	40'	124.2'	UNCHANGED	
REAR YARD (N/A)	25'	N/A	N/A	
SIDE YARD (SOUTH WEST)	20'	40.8'	UNCHANGED	
SIDE YARD (EAST)	20'	254.9'	49.3'	

PARKING SETBACKS			
ZONING PBD	EXISTING	NEW	
FRONT YARD (NORTH)	105.1'	UNCHANGED	
REAR YARD (N/A)	N/A	N/A	
SIDE YARD (SOUTH WEST)	54.6'	UNCHANGED	
SIDE YARD (EAST)	289.7'	17.5'	

LEGEND

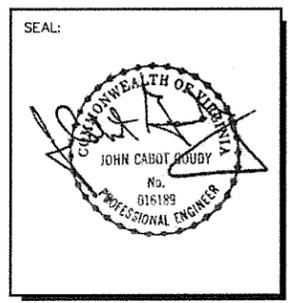
- LIGHT POLE
 - INDIVIDUAL TREE
 - INDIVIDUAL TREE-TO BE REMOVED
 - ⊕ EXISTING PARKING SPACE
- LINE TYPES**
- BOUNDARY LINE - PARENT PARCEL
 - RIGHT OF WAY/CONSERVATION EASEMENT BOUNDARY
 - FENCE LINE - CHAIN
 - 1' CONTOUR LINE
 - 5' CONTOUR LINE
 - TREE OR VEGETATION LINE

SPECIAL EXCEPTION PLAT
SCALE: 1"=60'-0"

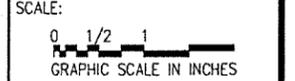


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PROJECT NO:	1050.130
DESIGNER:	M.A.
ENGINEER:	M.M.



SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

SPECIAL EXCEPTION PLAT

SHEET NUMBER:
Z-1

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SEAL:



Milestone
COMMUNICATIONS

PROJECT NO: 1050.130
 DESIGNER: M.M.
 ENGINEER: M.M.

SCALE:

 GRAPHIC SCALE IN INCHES

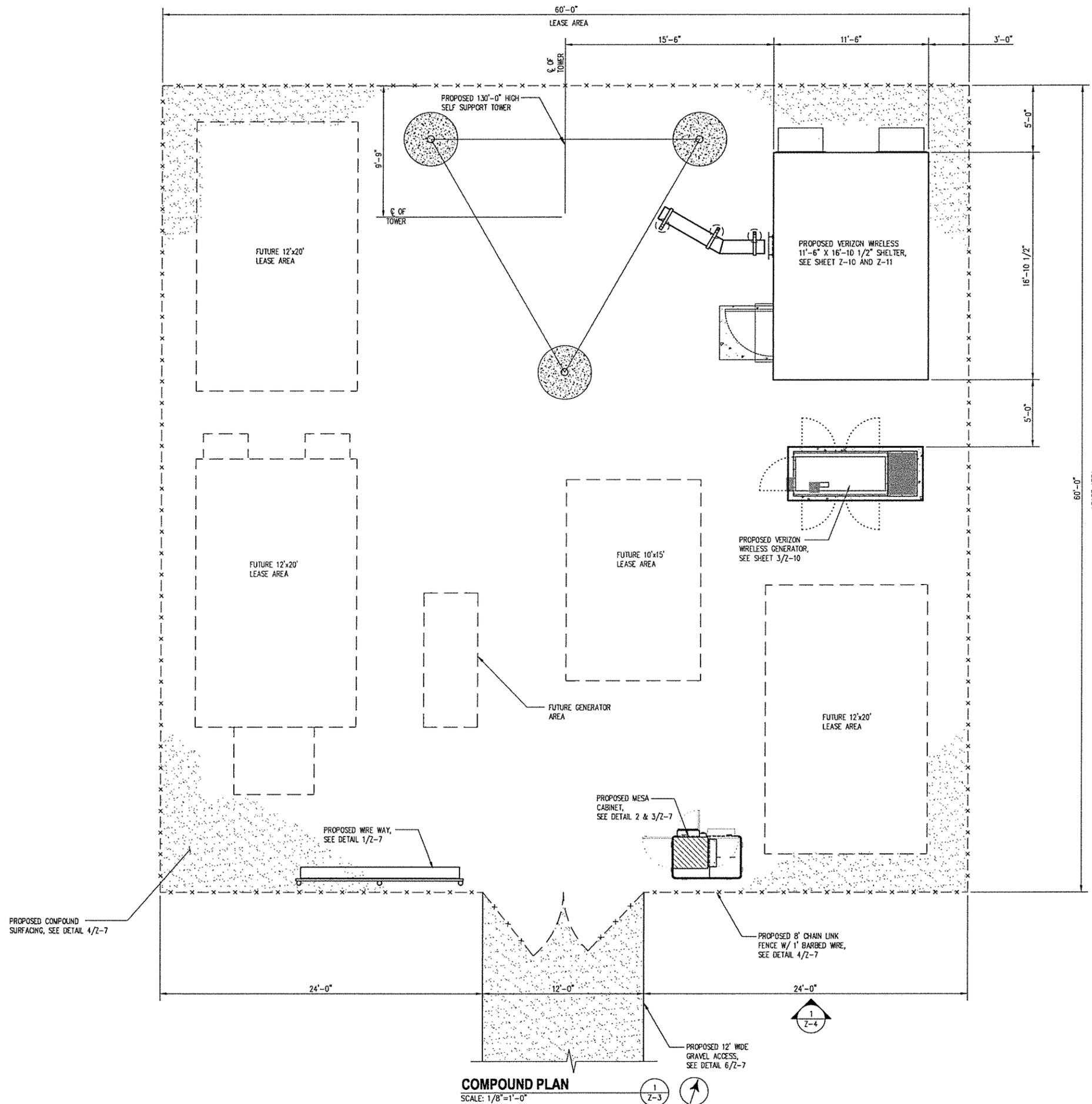
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

COMPOUND PLAN

SHEET NUMBER:

Z-3



SUBMITTALS

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08-08-14	COUNTY COMMENTS	
09-17-14	COUNTY COMMENTS	

SEAL:



Milestone
COMMUNICATIONS

PROJECT NO: 1050.130
DESIGNER: M.A.
ENGINEER: M.M.

SCALE:
0 1/2 1
GRAPHIC SCALE IN INCHES

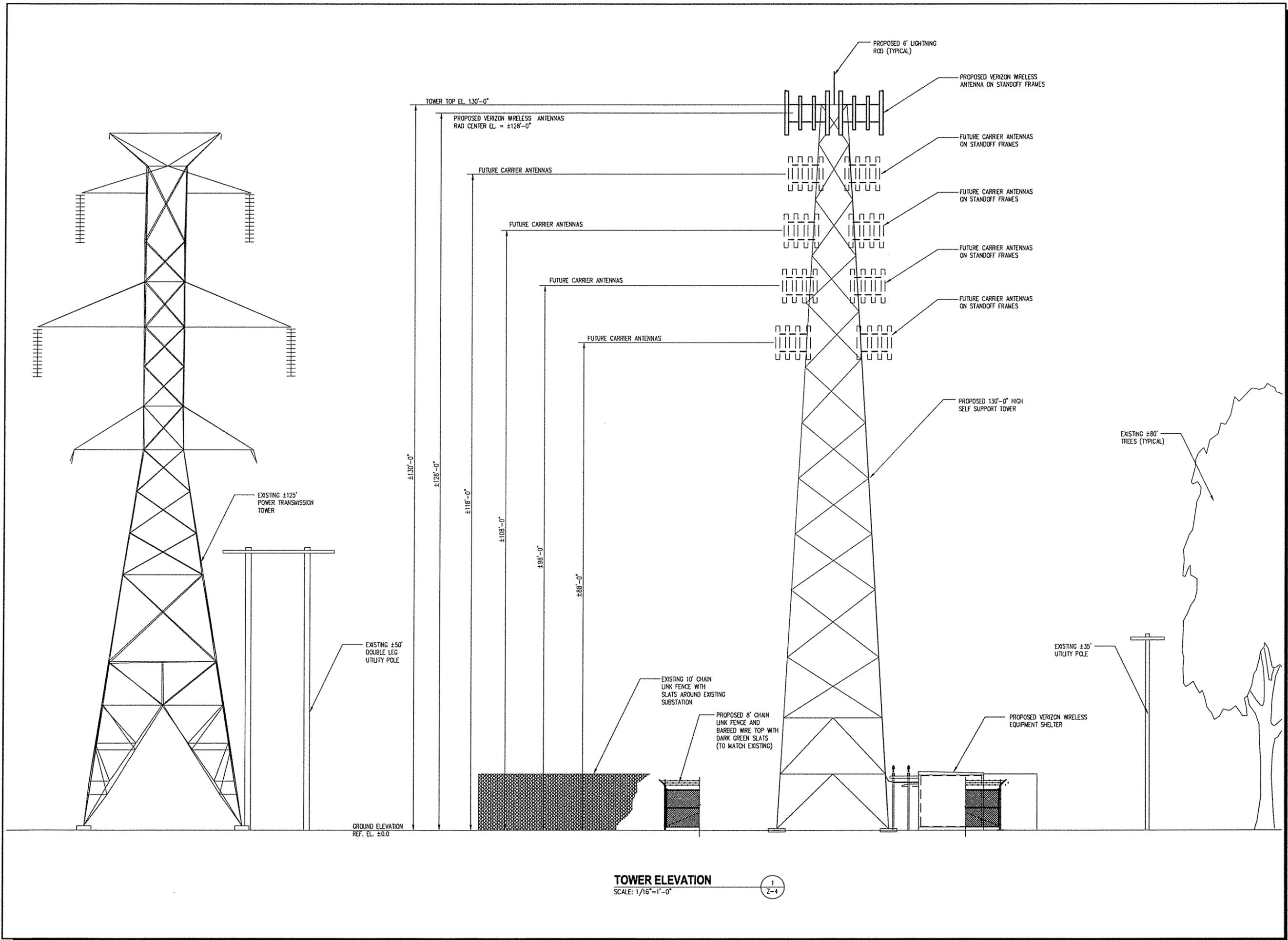
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

TOWER
ELEVATION

SHEET NUMBER:

Z-4



TOWER ELEVATION
SCALE: 1/16"=1'-0"
1
Z-4

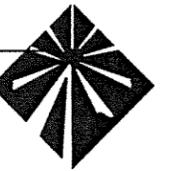
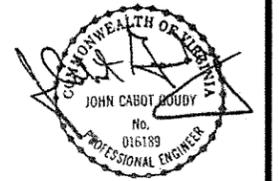


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09-17-14	COUNTY COMMENTS	

SEAL:



Milestone
 COMMUNICATIONS

PROJECT NO: 1050.130
 DESIGNER: M.A.
 ENGINEER: M.M.

SCALE:

 GRAPHIC SCALE IN INCHES

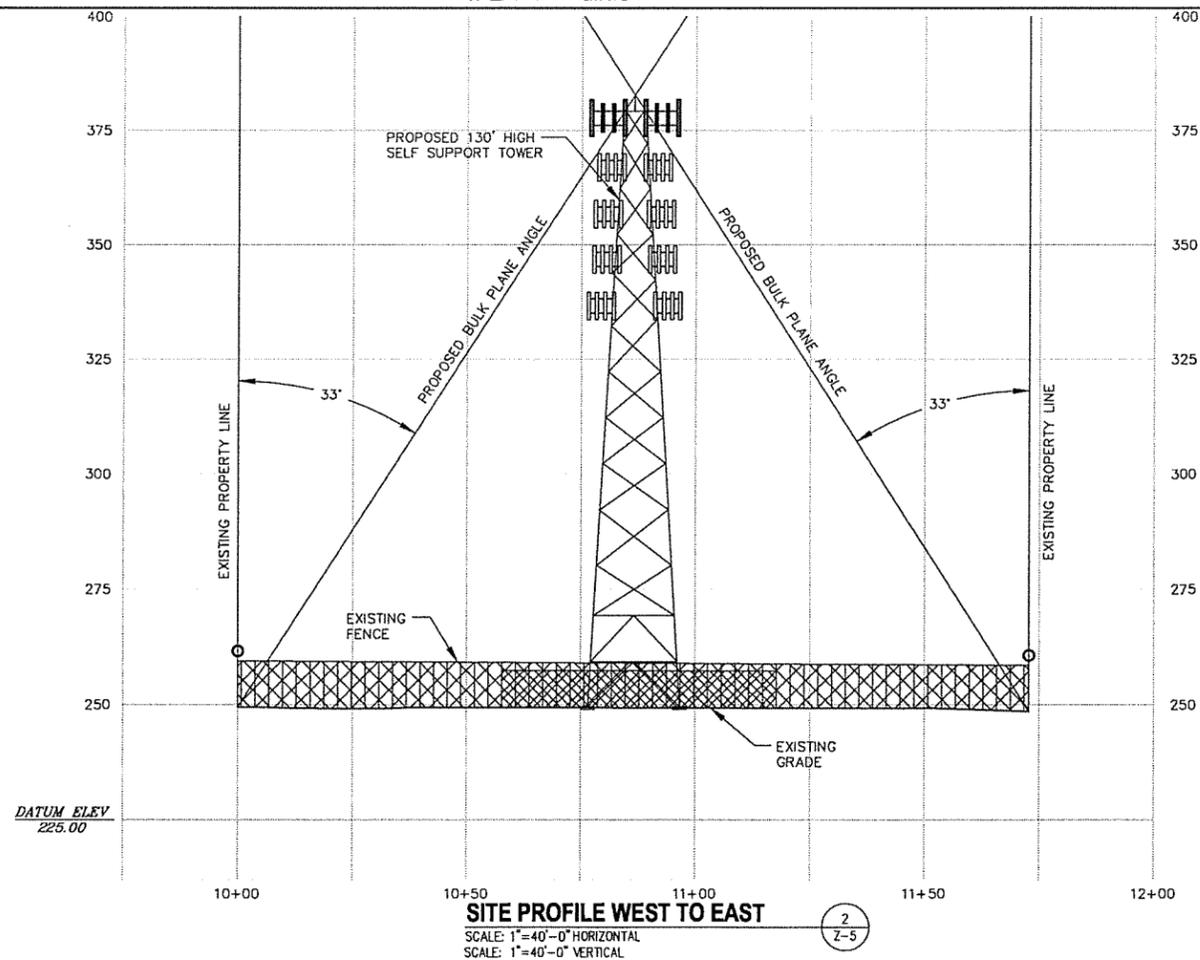
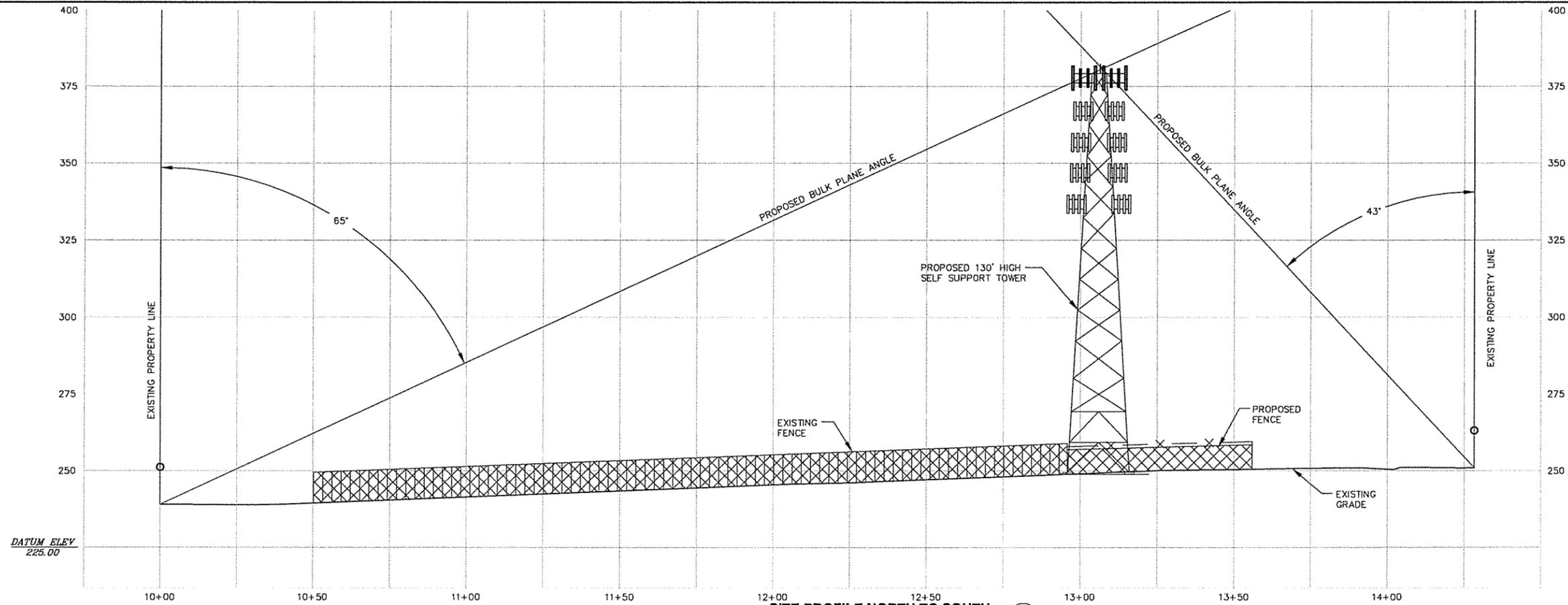
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15001 LEE HWY
CENTREVILLE, VA 20121

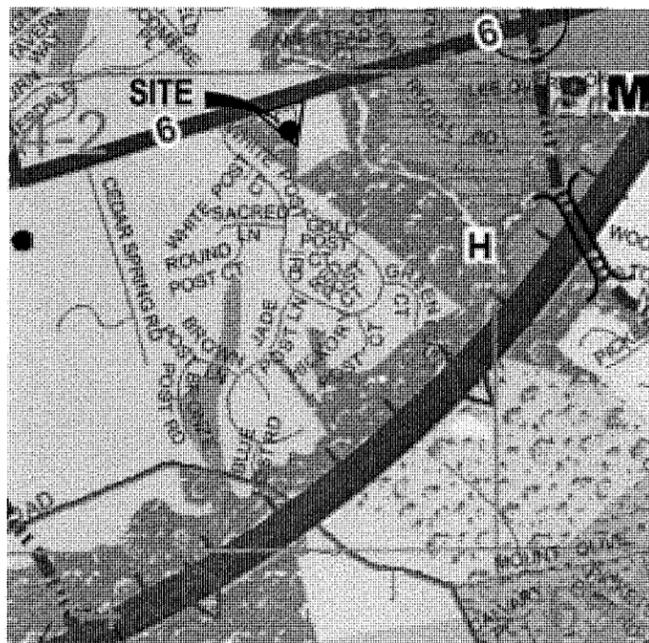
TITLE:

SITE PROFILES

SHEET NUMBER:

Z-5





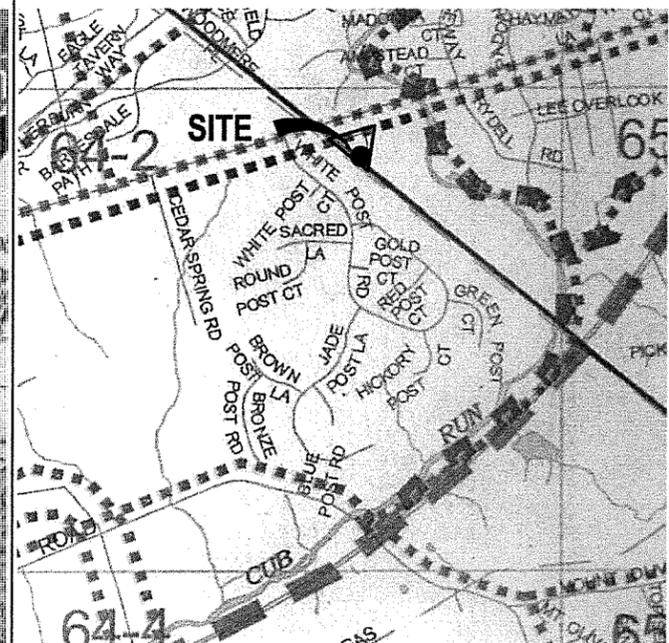
LAND USE MAP

SCALE: 1"=2000'



TRUE NORTH

SOURCE:
FAIRFAX COUNTY COMPREHENSIVE PLAN



TRAIL MAP

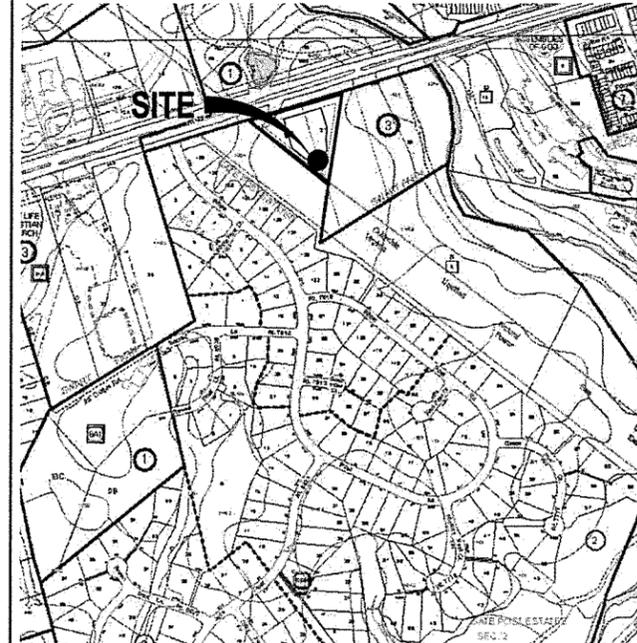
SCALE: 1"=2000'



TRUE NORTH

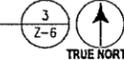
SOURCE:
FAIRFAX COUNTY

NOTES:
THERE IS A KNOWN NEARBY MAJOR PAVED TRAIL SYSTEM ALONG LEE HWY.



SOILS MAP

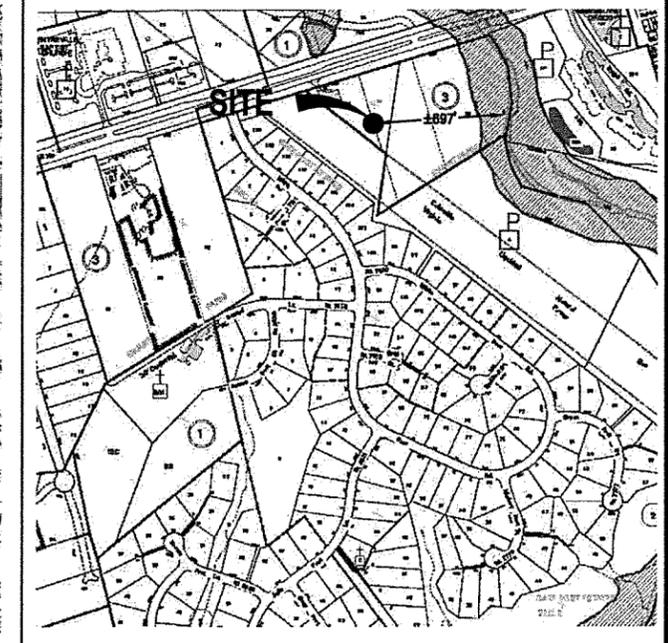
SCALE: 1"=1000'



TRUE NORTH

SOURCE:
FAIRFAX COUNTY
MAP SECTION 64-2

NOTE:
SOIL TYPE: 63B
SOIL NAME: JACKLAND AND HAYMARKET SOILS
SOIL TYPE: 95
SOIL NAME: URBAN LAND



RESOURCE MANAGEMENT MAP

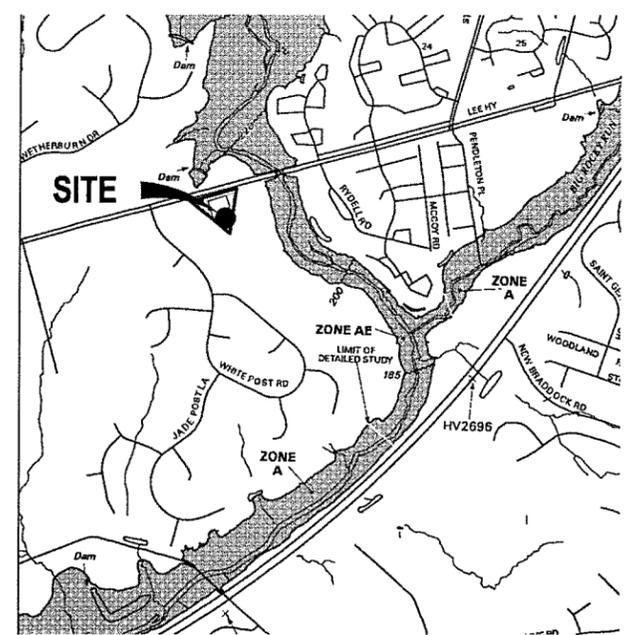
SCALE: 1"=1000'



TRUE NORTH

SOURCE:
FAIRFAX COUNTY

NOTES:
THE PROJECT SITE IS LOCATED APPROXIMATELY 697' FROM THE NEAREST RESOURCE PROTECTION AREA.



FLOOD ZONE MAP

SCALE: 1"=2000'



TRUE NORTH

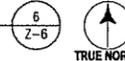
SOURCE:
FEMA FLOOD MAP FOR FAIRFAX COUNTY, VA.
COMMUNITY PANEL NUMBER 510559C 0230E. SEPTEMBER 17, 2010.

NOTES:
THE PROJECT SITE IS LOCATED IN FLOOD ZONE X, AREAS DETERMINED TO BE OUTSIDE 500-YEAR FLOOD-PLAIN.



ZONING MAP

SCALE: 1"=1000'



TRUE NORTH

SOURCE:
FAIRFAX COUNTY

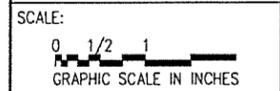
NOTES:
THE PROJECT SITE IS LOCATED IN A RESIDENTIAL AREA R-C.

6600 Rockledge Drive, Suite 550
BETHESDA, MD 20817
PHONE: (202)408-0960
FAX: (202)408-0961

SUBMITTALS		
DATE	DESCRIPTION	REV.
05-28-13	ZONING REVIEW	
08-20-13	ZONING	
11-07-13	COUNTY COMMENTS	
02-19-14	COUNTY COMMENTS	
06-24-14	COUNTY COMMENTS	
08-08-14	COUNTY COMMENTS	
09-17-14	COUNTY COMMENTS	

SEAL:

PROJECT NO:	1050.130
DESIGNER:	M.A.
ENGINEER:	M.M.



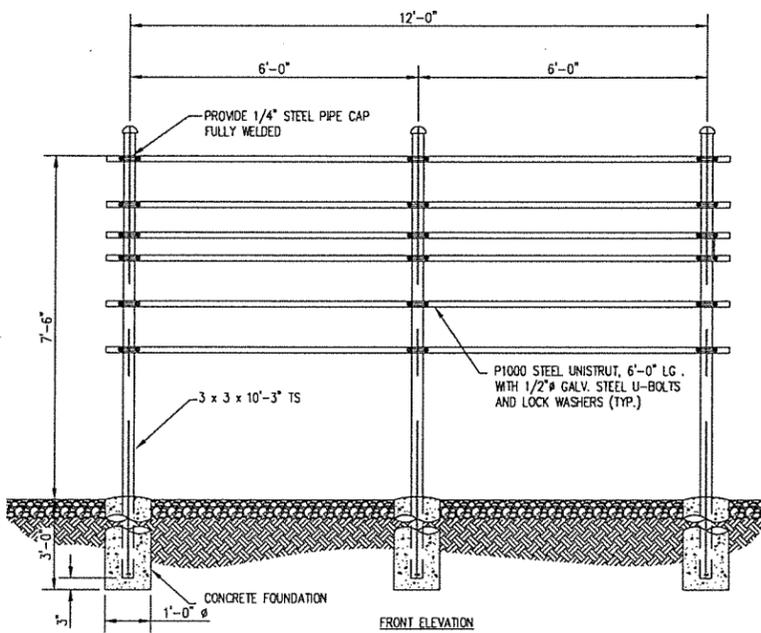
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

CIVIL MAPS

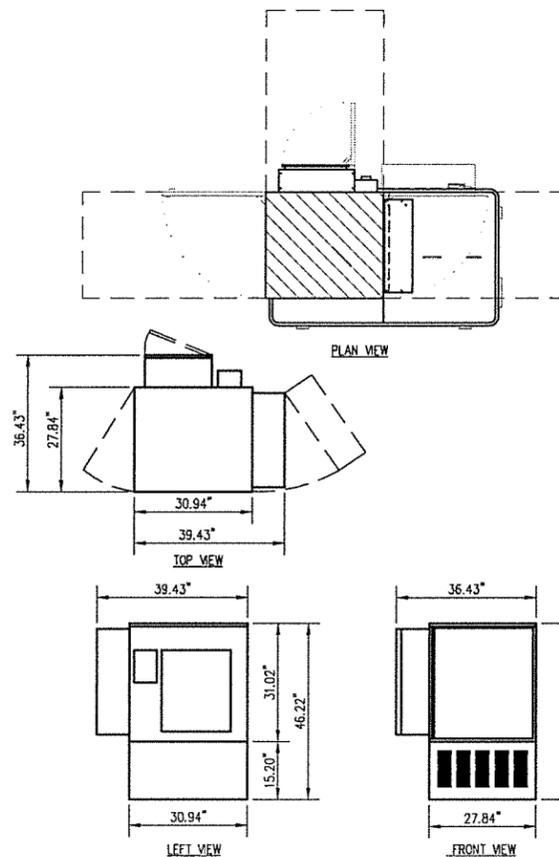
SHEET NUMBER:

Z-6



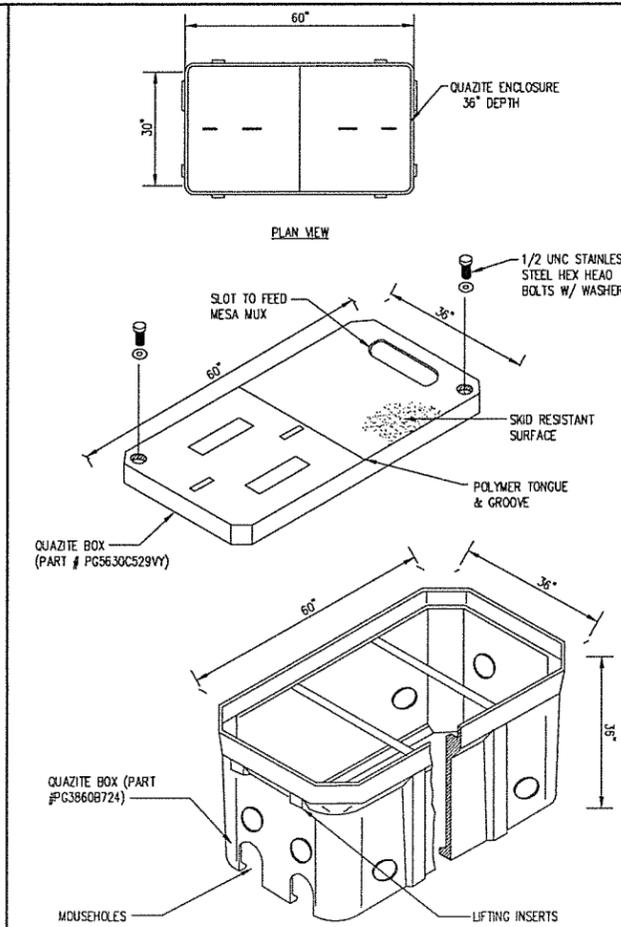
ELECTRICAL SERVICE FRAME
SCALE: 1/4"=1'-0"

1
Z-7



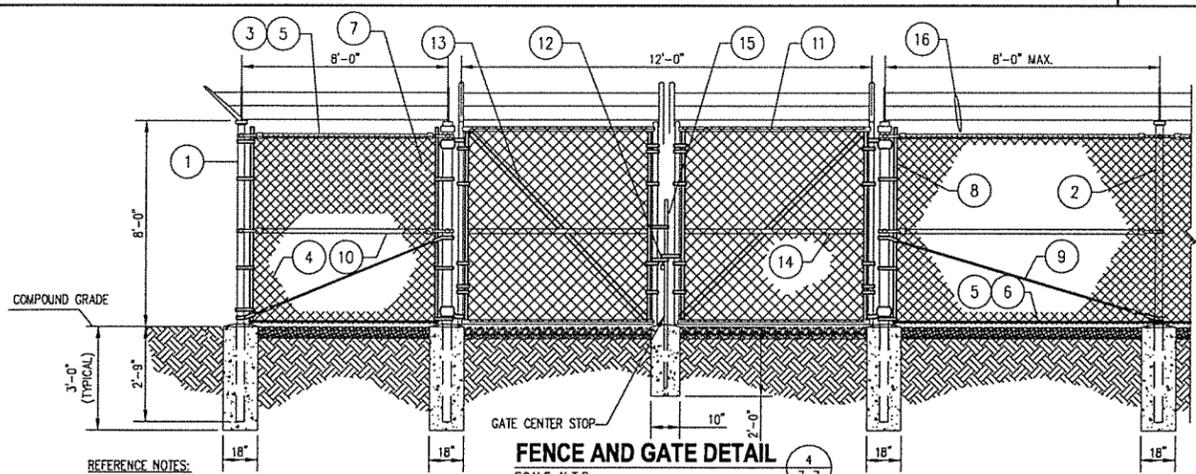
MESA SPAN XL TELCO CABINET DETAILS
SCALE: 1/4"=1'-0"

2
Z-7



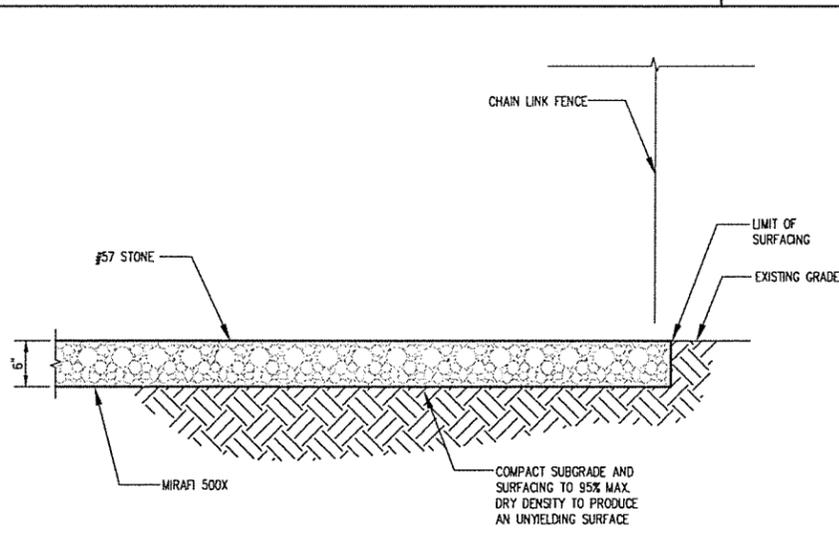
HANDHOLE QUAZITE BOX
SCALE: N.T.S.

3
Z-7



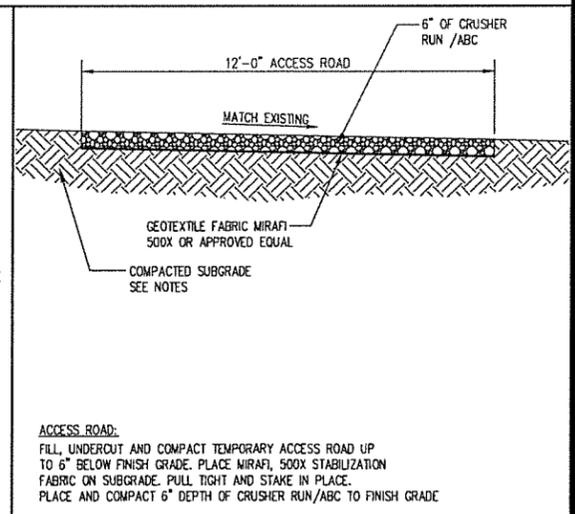
FENCE AND GATE DETAIL
SCALE: N.T.S.

4
Z-7



COMPOUND SURFACING DETAIL
SCALE: N.T.S.

5
Z-7



GRAVEL ACCESS ROAD DETAIL
SCALE: N.T.S.

6
Z-7

- REFERENCE NOTES:**
- CORNER, END OR PULL POST 3" NOMINAL SCHEDULE 40 PIPE.
 - LINE POST: 2" SCHEDULE 40 PIPE, PER ASTM-F1083. LINE POSTS SHALL BE EQUALLY SPACED AT MAXIMUM 8'-0" O.C.
 - TOP RAIL & BRACE RAIL: 1 1/2" PIPE, PER ASTM-F1083.
 - FABRIC: 9 GA CORE WIRE SIZE 2" MESH, CONFORMING TO ASTM-A392.
 - TIE WIRE: MINIMUM 11 GA GALVANIZED STEEL AT POSTS AND RAILS A SINGLE WRAP OF FABRIC TIE AND AT TENSION WIRE BY HOG RINGS SPACED MAX. 24" INTERVALS.
 - TENSION WIRE: 9 GA. GALVANIZED STEEL.
 - DARK GREEN SLATS TO MATCH EXISTING.
 - STRETCHER BAR.

- 3/8" DIAGONAL ROD WITH GALVANIZED STEEL TURNBUCKLE OR DIAGONAL THREADED ROD.
- FENCE CORNER POST BRACE: 1 5/8" DIA. EACH CORNER EACH WAY.
- GATE FRAME: 1 1/2" PIPE, PER ASTM-F1083.
- MULTI-LOCKING DEVICE
- GATE DIAGONAL GALVANIZED STEEL 1 1/2" PIPE.
- GATE FRAME BRACE: 1 5/8" DIAMETER.
- CENTER GATE STOP
- BARBED WIRE: DOUBLE STRAND 12-1/2" O.D. TWISTED WIRE TO MATCH WITH FABRIC 14 GA, 4 PT. BARBS SPACED ON APPROXIMATELY 5" CENTERS.

- GENERAL NOTES:**
- INSTALL FENCING PER ASTM F-567
 - INSTALL SWING GATES PER ASTM F-900
 - FENCE PIPE AND COMPONENTS SHALL BE GALVANIZED.
 - GATE FRAMES SHALL BE WELDED. WELDING SHALL BE COATED WITH (3) COATS OF COLD GALV. (OR EQUAL).
 - POSTS SHALL HAVE END-CAPS.
 - GATES SHALL HAVE LOCKING HARDWARE.
 - PROVIDE GATE STOPS TO SECURE GATES IN OPEN POSITION.

NOTE:
UTILITY AREA SHALL BE CLEARED AND GRUBBED. REMOVE UNSUITABLE LOOSE OR SOFT SOIL, ORGANIC MATERIAL OR RUBBLE TO FIRM GRADE. FILL UNDERCUT AND COMPACT UP TO 6" BELOW FINISH GRADE. PLACE A MIRAFI 500X SOIL STABILIZATION FABRIC ON SUBGRADE. FILL WITH 6" OF AASHTO 57 STONE TO FINISH GRADE.

ACCESS ROAD:
FILL, UNDERCUT AND COMPACT TEMPORARY ACCESS ROAD UP TO 6" BELOW FINISH GRADE. PLACE MIRAFI, 500X STABILIZATION FABRIC ON SUBGRADE. PULL TIGHT AND STAKE IN PLACE. PLACE AND COMPACT 6" DEPTH OF CRUSHER RUN/ABC TO FINISH GRADE.

COMPACTION NOTES:
1. SURFACE COURSE AND BASE COURSE SHALL BE COMPACTED TO 98% MAX. DRY DENSITY STANDARD PROCTOR.
2. SUBGRADE SOIL SHALL BE COMPACTED TO 95% MAX. DRY DENSITY STANDARD PROCTOR.

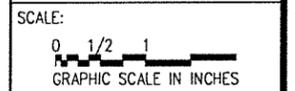
6600 Rockledge Drive, Suite 550
BETHESDA, MD 20817
PHONE: (202)408-0960
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09-17-14	COUNTY COMMENTS	

SEAL:

Milestone
COMMUNICATIONS

PROJECT NO:	1050.130
DESIGNER:	M.A.
ENGINEER:	M.M.



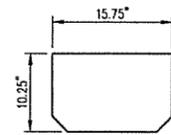
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

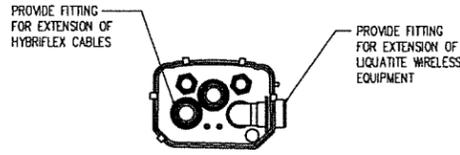
SITE DETAILS

SHEET NUMBER:

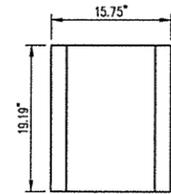
Z-7



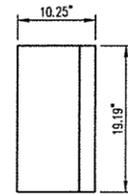
PLAN VIEW



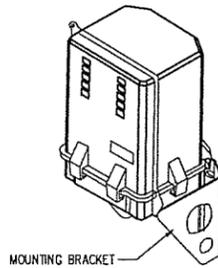
BOTTOM VIEW



PLAN VIEW



SIDE VIEW

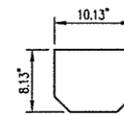


MOUNTING BRACKET

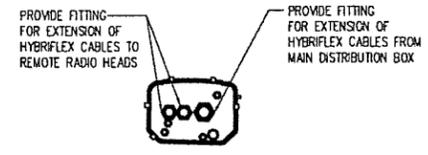
MANUFACTURER: RAYCAP
 DIMENSIONS: 10.250x15.730x19.187H
 WEIGHT 21.4 LBS (SYSTEM)
 5.5 LBS (MOUNT)
 26.9 LBS (TOTAL)

MAIN DISTRIBUTION BOX DETAILS
 SCALE: N.T.S.

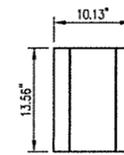
1
 Z-9



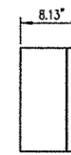
PLAN VIEW



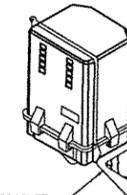
BOTTOM VIEW



PLAN VIEW



SIDE VIEW

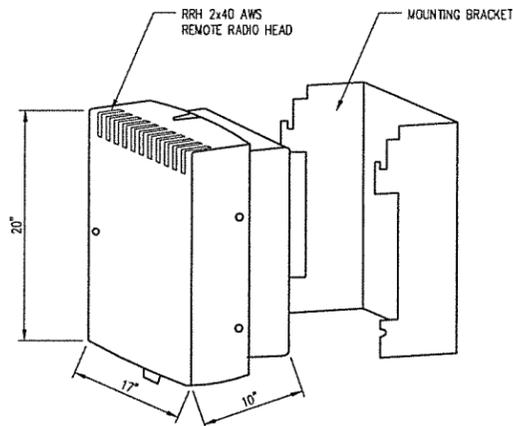


MOUNTING BRACKET

MANUFACTURER: RAYCAP
 DIMENSIONS: 8.150x 10.150W x13.567H
 WEIGHT 8.9 LBS (SYSTEM)
 3.2 LBS (MOUNT)
 12.1 LBS (TOTAL)

SECTOR DISTRIBUTION BOX DETAILS
 SCALE: N.T.S.

2
 Z-9

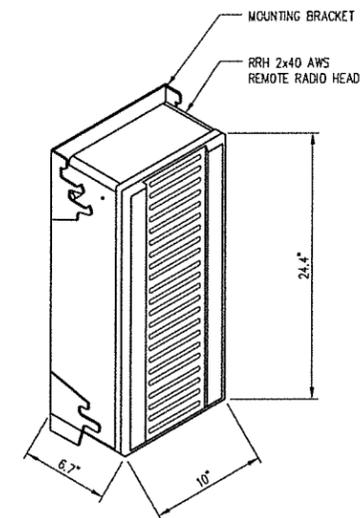


MANUFACTURER: ALCATEL-LUCENT
 POWER SUPPLY: 48 VDC
 DIMENSION: 10"Dx17"Wx20"H
 WEIGHT: 51 LBS WITH MOUNTING HARDWARE

NOTE:
 1. INSTALL RRH PER MANUFACTURE RECOMMENDATION.
 2. FIBER, DC POWER AND GROUND CONNECTION NOT SHOWN.

700 MHz LTE RRH DETAIL
 SCALE: N.T.S.

3
 Z-9



MANUFACTURER: ALCATEL-LUCENT
 POWER SUPPLY: 48 VDC
 DIMENSION: 6.7"Dx10.63"Wx24.4"H
 WEIGHT: 44 LBS

NOTE:
 1. INSTALL RRH PER MANUFACTURE RECOMMENDATION.
 2. FIBER, DC POWER AND GROUND CONNECTION NOT SHOWN.

2100 MHz AWS RRH DETAIL
 SCALE: N.T.S.

4
 Z-9



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SUBMITTALS

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08-08-14	COUNTY COMMENTS	
09-17-14	COUNTY COMMENTS	

SEAL:



Milestone
 COMMUNICATIONS

PROJECT NO: 1050.130
 DESIGNER: M.A.
 ENGINEER: M.M.

SCALE:
 0 1/2 1
 GRAPHIC SCALE IN INCHES

SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

RRH AND
DISTRIBUTION
BOX DETAILS

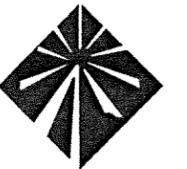
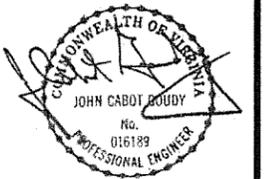
SHEET NUMBER:

Z-9

SUBMITTALS

DATE	DESCRIPTION	REV.
05-28-13	ZONING REVIEW	
08-20-13	ZONING	
11-07-13	COUNTY COMMENTS	
02-19-14	COUNTY COMMENTS	
06-24-14	COUNTY COMMENTS	
08-08-14	COUNTY COMMENTS	
09-17-14	COUNTY COMMENTS	

SEAL:



Milestone
COMMUNICATIONS

PROJECT NO: 1050.130
DESIGNER: M.A.
ENGINEER: M.M.

SCALE:
0 1/2 1
GRAPHIC SCALE IN INCHES

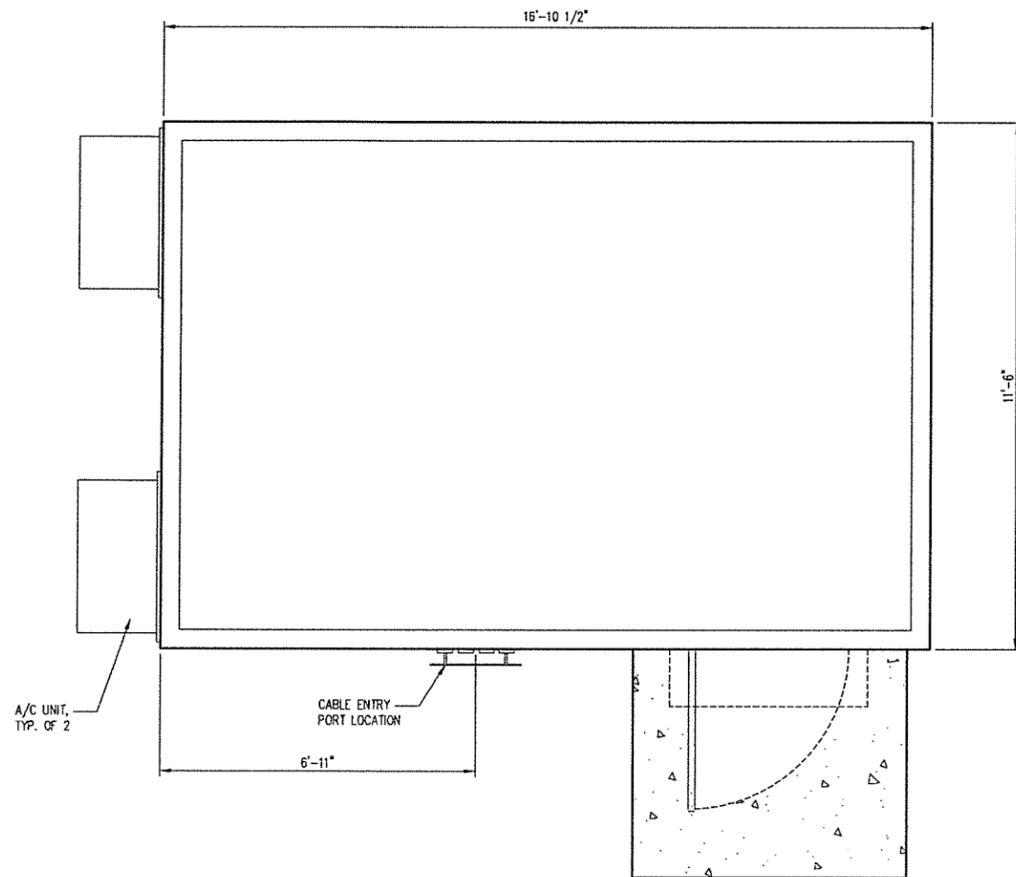
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

SHELTER PLANS
AND GENERATOR
DETAILS

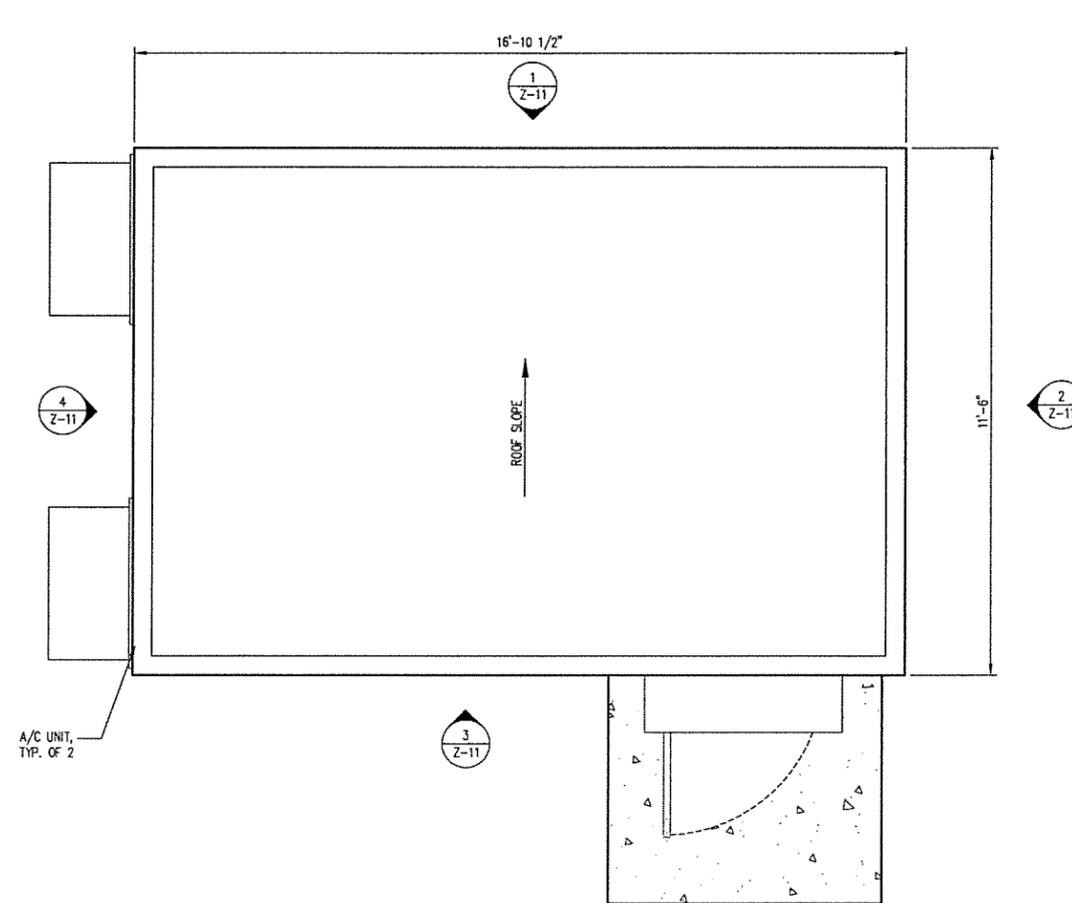
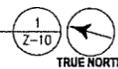
SHEET NUMBER:

Z-10



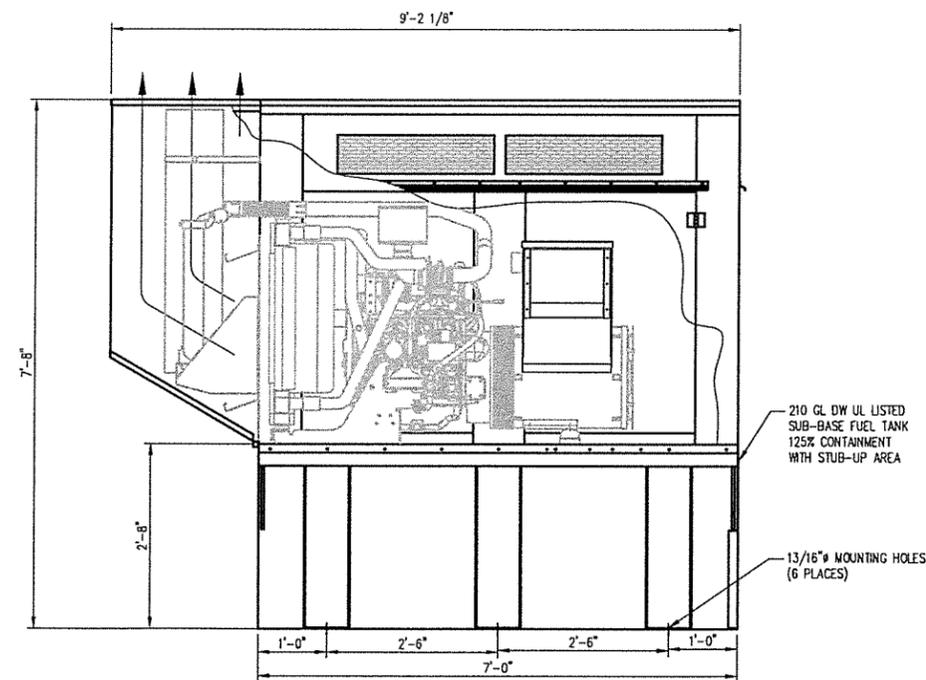
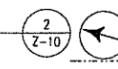
EQUIPMENT SHELTER FLOOR PLAN

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

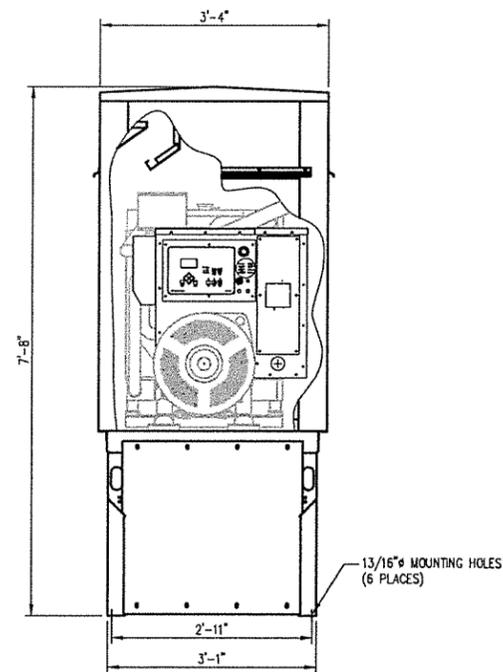


EQUIPMENT SHELTER ROOF PLAN

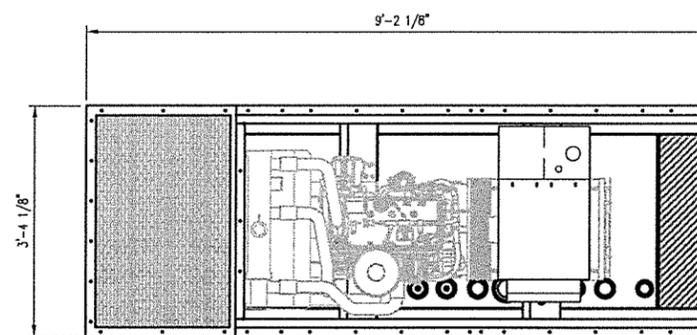
SCALE: 1/4"=1'-0"



SIDE VIEW



END VIEW



TOP VIEW

- NOTES:
1. THE GENERATOR IS MTU MODEL DS5006
 2. REFERENCE ENCLOSURE DRAWINGS : COE-729
 3. REFERENCE TANK DRAWINGS: 108-2514
 4. GENERATOR AND ENCLOSURE WEIGHT: 2560 LBS
 5. FUEL TANK WEIGHT: 1500 LBS
 6. FUEL WEIGHT: 1680 LBS
 7. THE GENERATOR DESIGN WEIGHT (WET): 6000 LBS

MTU DIESEL GENERATOR DETAILS

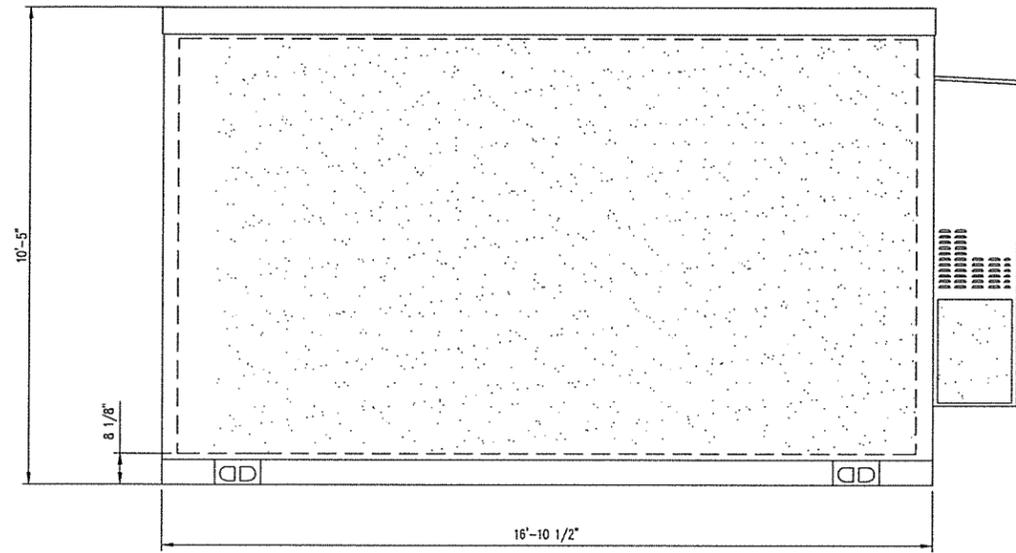
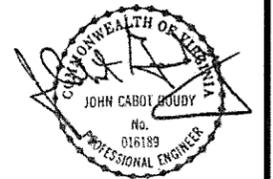
SCALE: 3/8"=1'-0"



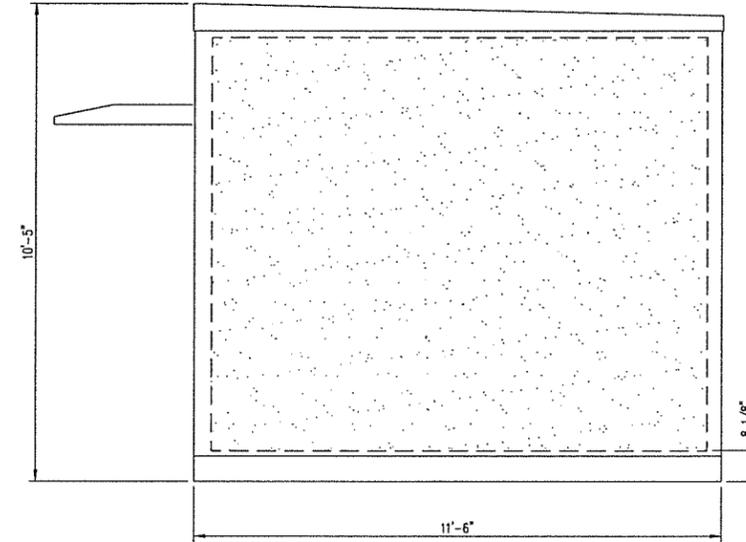
SUBMITTALS

DATE	DESCRIPTION	REV.
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08-08-14	COUNTY COMMENTS	
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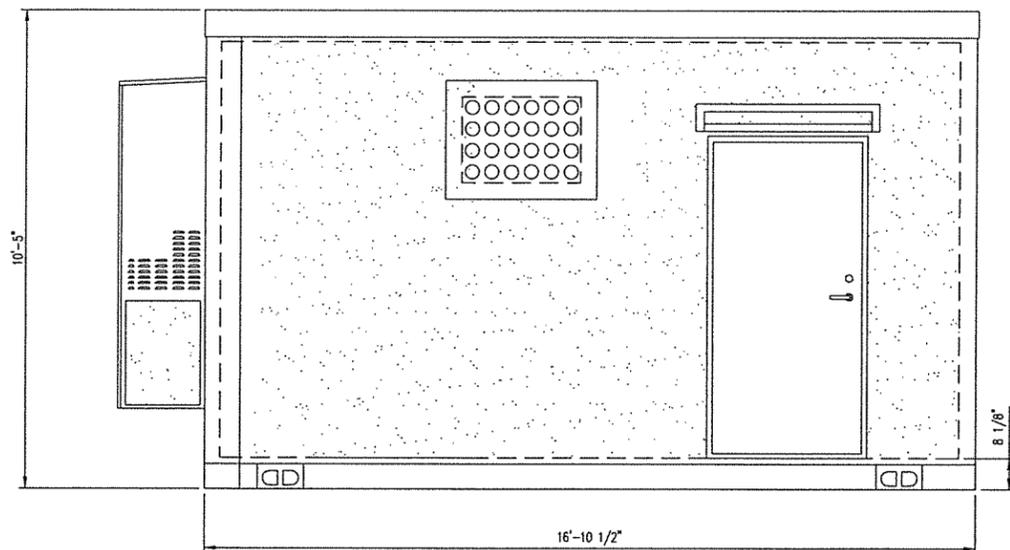
SEAL:



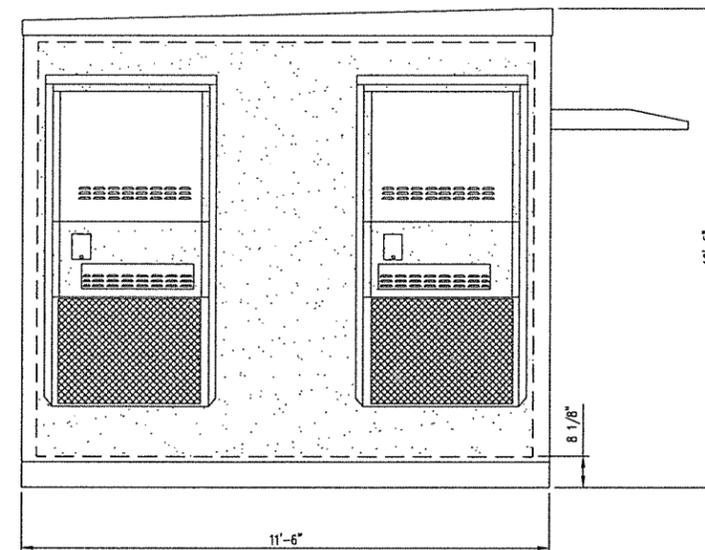
SHELTER ELEVATION 1
 SCALE: 1/4"=1'-0" Z-11



SHELTER ELEVATION 2
 SCALE: 1/4"=1'-0" Z-11



SHELTER ELEVATION 3
 SCALE: 1/4"=1'-0" Z-11



SHELTER ELEVATION 4
 SCALE: 1/4"=1'-0" Z-11



Milestone
 COMMUNICATIONS

PROJECT NO: 1050.130
 DESIGNER: M.A.
 ENGINEER: M.M.

SCALE:
 0 1/2 1
 GRAPHIC SCALE IN INCHES

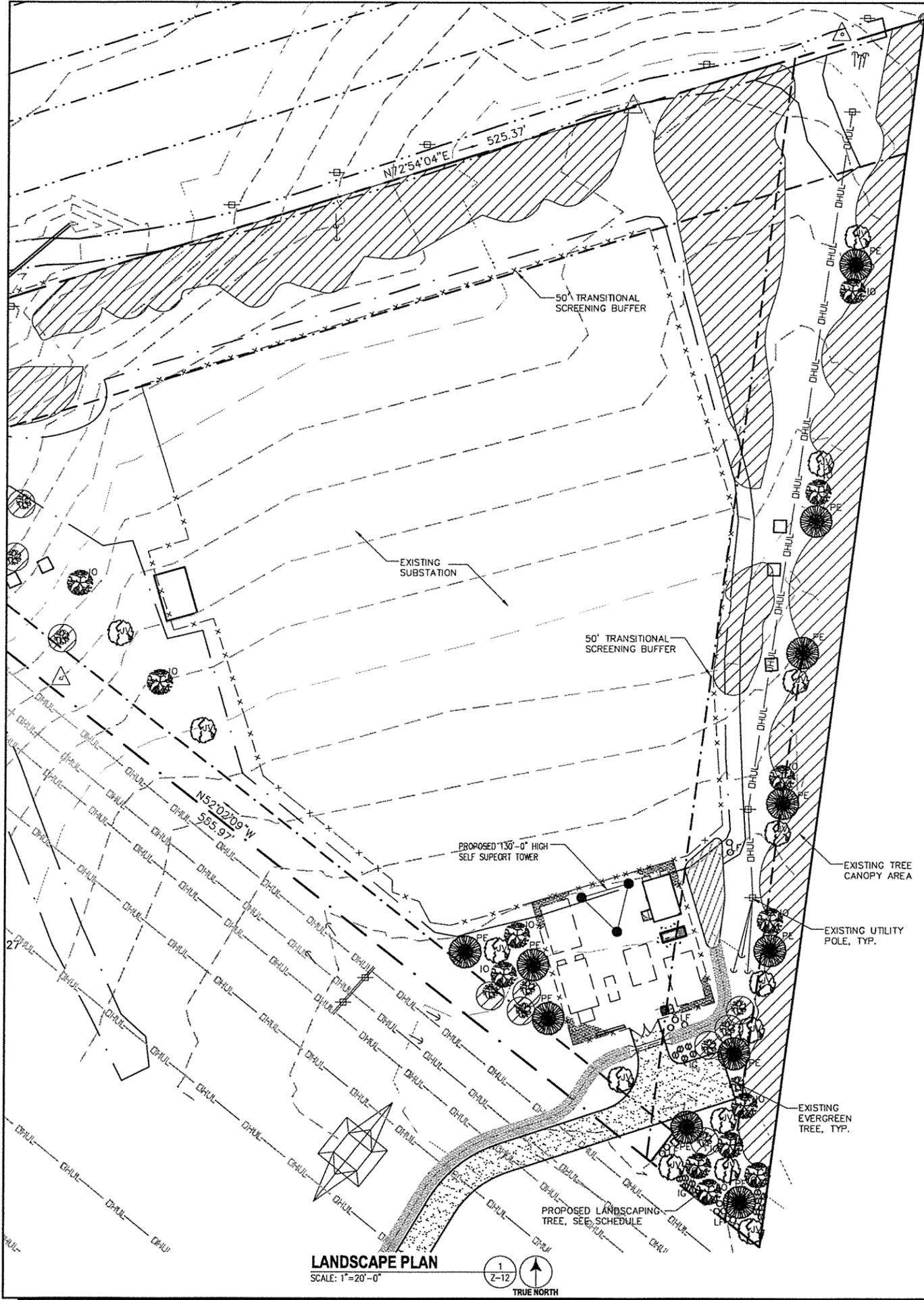
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

SHELTER
ELEVATIONS

SHEET NUMBER:

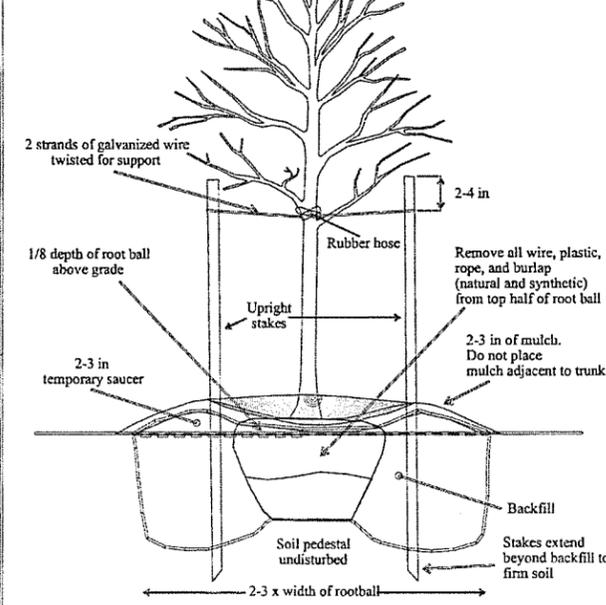
Z-11



LANDSCAPE PLAN
SCALE: 1"=20'-0"
1
2-12
TRUE NORTH

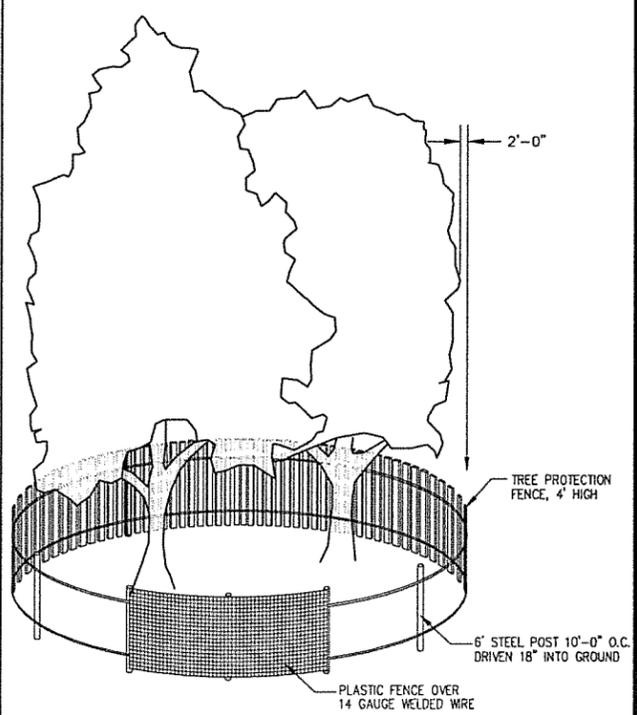
FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

Note: Staking and guying may be required to counter high winds, soil settlement, steep slopes, vandalism, or other conditions threatening tree health or suitable growth patterns.



Reference: Section 12-0805.3C	TREE STAKING UPRIGHT STAKING FOR TREES LESS THAN 3 INCHES IN CALIPER WHEN REQUIRED	PLATE NO 9-12	STD NO
----------------------------------	---	------------------	--------

TREE PLANTING & STAKING DETAIL
SCALE: N.T.S.
2
2-12



TREE PROTECTION DETAIL
SCALE: N.T.S.
3
2-12

LEGEND

- EXISTING EVERGREEN TREE
- EXISTING DECIDUOUS TREE
- EXISTING TREE CANOPY AREA

TREE PLANTING NOTES:

- EXCAVATE 'PLANTING PIT' TWICE THE DIAMETER OF BALL & 6" GREATER IN DEPTH.
- LOOSEN SUBSOIL W/PICK TO ENSURE POROSITY
- PLACE 6" PEAT MOSS IN 'PLANTING PIT' & TAMP
- SELECT BEST VIEWING ANGLE, LIFT STOCK BY BALL & PLACE IN 'PLANTING PIT'
- UNWRAP TOP HALF OF BALL BACK
- FILL W/MIXTURE 1/3 PEAT MOSS-2/3 TOP- SOIL & TAMP
- WRAP TRUNK W/PAPER TAPE TO FIRST BRANCH
- LAY-IN (POROUS) FABRIC WEED BARRIER FORM 3" SAUCER TO ENCIRCLE STOCK
- FILL W/3" PINE STRAW MULCH
- FLOOD IMMEDIATELY & WATER FREQUENTLY

PLANTING SCHEDULE

SYMBOL	BOTANICAL NAME	COMMON NAME	PLANTING			10 YEAR CANOPY	QUANTITY	REMARKS	SYMBOL
			CALIPER	HEIGHT	SPREAD				
IG	Ilex glabra	Inkberry Holly		± 18"			16	GROUPS, BORDER	
LF	Leucothoe fontanesiana	Drooping Leucothoe		± 18"			13	BORDER OR NATURALISTIC	
JV	Juniperus virginiana	Eastern Red Cedar	± 2"	± 8'-0"	24"-36"	100 SF	14	FULL, DENSE	
IO	Ilex opaca	American Holly	± 2"	± 8'-0"	24"-36"	100 SF	13	FULL, DENSE	
PE	Pinus echinata	Shortleaf pine	± 2"	± 8'-0"	24"-36"	150 SF	11	FULL, DENSE	

entrex
communication services, Inc.

6600 Rockledge Drive, Suite 550
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PHONE: (202)408-0960
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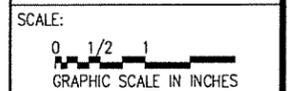
SUBMITTALS

DATE	DESCRIPTION	REV.
05-28-13	ZONING REVIEW	
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08-08-14	COUNTY COMMENTS	
09-17-14	COUNTY COMMENTS	

SEAL:

Milestone
COMMUNICATIONS

PROJECT NO: 1050.130
DESIGNER: M.A.
ENGINEER: M.M.



SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:
**LANDSCAPE PLAN,
DETAILS AND NOTES**

SHEET NUMBER:
Z-12

TRANSITIONAL SCREENING 3

EAST 50' WIDE

A PORTION OF PROPOSED SITE IS WITHIN 50' SCREENING WIDTH. ALSO, A PORTION OF EXISTING SUBSTATION, FEW UTILITY POLES WITH OVERHEAD UTILITY LINE ARE ALSO WITHIN 50' SCREENING WIDTH. BESIDE, NOVEC UTILIZES OPEN SPACE AS AN ACCESS TO SERVICE THE REAR OF SUBSTATION. MAXIMUM AVAILABLE SPACE WAS UTILIZED TO PLANT AS MANY TREES AND SHRUBS POSSIBLE WITHOUT DISTURBING EXISTING OR PROPOSED FACILITIES. BESIDE ADJOINING AREA IS HEAVILY WOODED. A TRANSITIONAL SCREENING MODIFICATION IS REQUESTED.

REQUIREMENTS	REQUIRED	EXISTING	PROPOSED	REMARKS
(1) A MIXTURE OF LARGE AND MEDIUM EVERGREEN TREES AND LARGE DECIDUOUS TREES THAT ACHIEVES A MINIMUM TEN (10) YEAR TREE CANOPY OF SEVENTY-FIVE (75) PERCENT OR GREATER	15,731	9,950	4,800	A TOTAL OF 28 EVERGREEN TREES AND 29 SHRUBS ARE PROPOSED WITH IN THE SPACE AVAILABLE.
(2) A MIXTURE OF TREES CONSISTING OF AT LEAST SEVENTY (70) PERCENT EVERGREEN TREES, AND CONSISTING OF NO MORE THAN THIRTY-FIVE (35) PERCENT OF ANY SINGLE SPECIES OF EVERGREEN OR DECIDUOUS TREE; AND	11,011	4,200	4,800	A TOTAL OF 28 EVERGREEN TREES OF 3 DIFFERENT SPICES ARE PROPOSED.
(3) A MIXTURE OF PREDOMINATELY MEDIUM EVERGREEN SHRUBS AT A RATE OF THREE (3) SHRUBS FOR EVERY TEN (10) LINEAR FEET FOR THE LENGTH OF THE TRANSITION YARD AREA. THE SHRUBS SHALL GENERALLY BE LOCATED AWAY FROM THE BARRIER AND STAGGERED ALONG THE OUTER BOUNDARY OF THE TRANSITION YARD.	150		29	A TOTAL OF 29 EVERGREEN SHRUBS ARE PROPOSED WITH IN THE SPACE AVAILABLE. DUE TO EXISTING VEGETATION AND EXISTING AND PROPOSED FACILITIES SHRUB REQUIREMENTS COULD NOT BE MET.

NORTH 50' WIDE

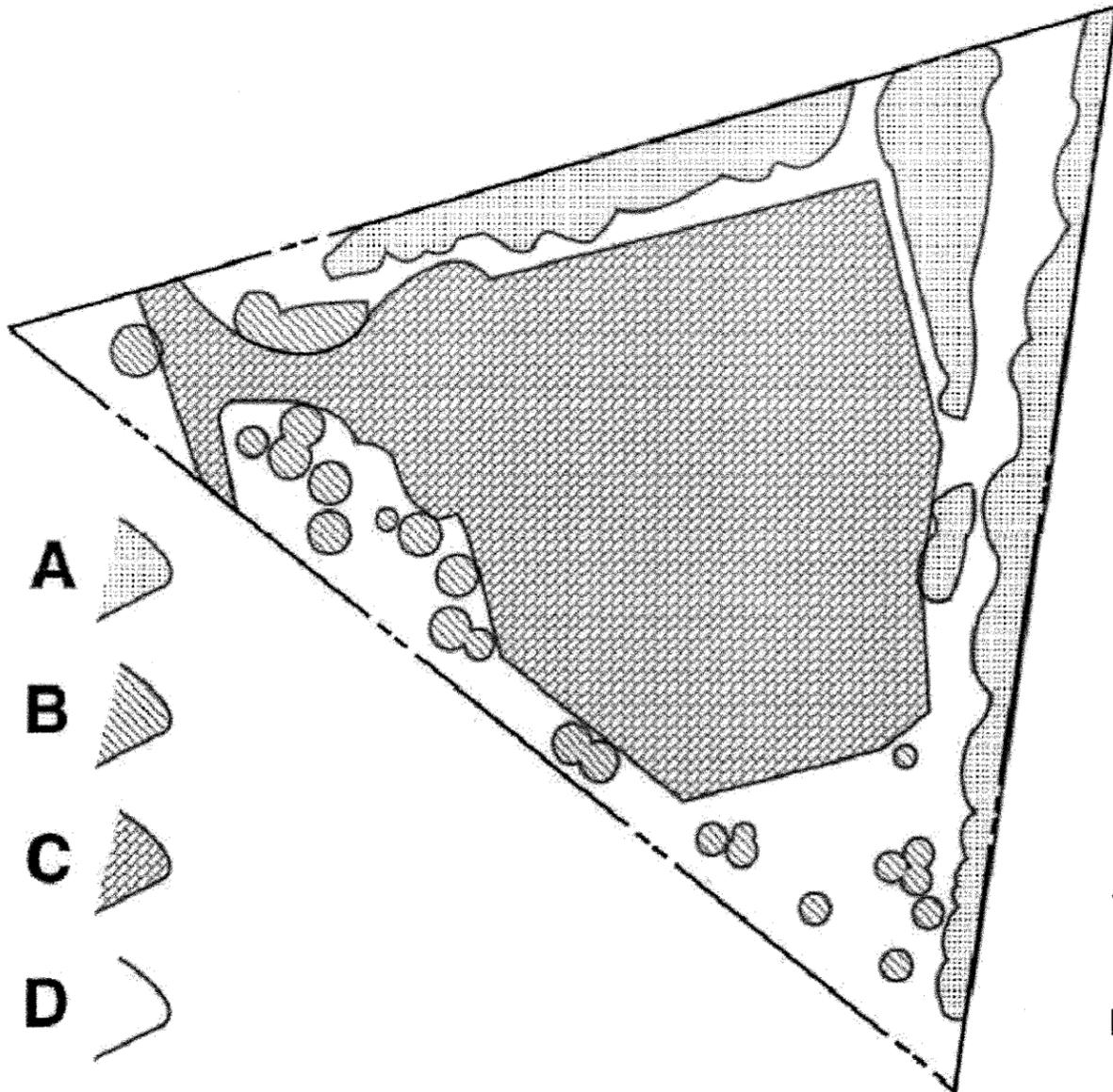
50' WIDE TRANSITIONAL SCREENING ON NORTH SIDE REQUIRES 18,215 SF OF 10 YEAR TREE CANOPY. THERE ARE EXISTING EVERGREEN AND DECIDUOUS TREES WHICH AMOUNTS TO 11,395 SF OF 10 YEAR TREE CANOPY. REMAINING AREA IS DEDICATED TO EXISTING SWM/BMP FACILITIES. A TRANSITIONAL SCREENING MODIFICATION IS REQUESTED.

SOUTHWEST

THE ADJACENT PARCEL IS A LIGHT PUBLIC UTILITY USED (ELECTRIC TRANSMISSION LINE AND NATURAL GAS PIPELINE) AND OWNED BY FAIRFAX COUNTY PARK AUTHORITY. THERE ARE EXISTING LANDSCAPING TREES ON THIS SIDE.

BARRIER REQUIREMENTS

A MODIFICATION TO THE BARRIER REQUIREMENTS FOR THIS SITE HAS BEEN REQUESTED. 8' HIGH CHAINLINK FENCE WITH GREEN SLATS AT ALL SIDES IS PROPOSED TO MINIMIZE IMPACT FROMT EH ABOVE REQUESTED TRANSITIONAL SCREENING MODIFICATION.



10-Year Tree Canopy

15001 Lee Hwy.
Centreville, VA

Cover Type	Canopy Area (sq. ft.)
A - Forested/Early Successional (1.5X)	20887
B - Developed/Free-standing trees	3273

10-year Tree Canopy Calculations	
Gross site area =	120,156
Site Zoning	R-C
Percentage of 10-year tree canopy required	30
Area of 10-year tree canopy required	36,047
Total of canopy area provided through tree preservation	30,200
Total of canopy area provided through tree planting	6,525
Total of 10-year Tree Canopy Provided	36,725

* PLEASE REFER TO ROW D11 OF ATTACHED TABLE 12.10

Prepared by:



June 23, 2014

Table 12.3 Tree Preservation Target Calculations and Statement	
A	Pre-development area of existing tree canopy (from Existing Vegetation Map) = 24,160
B	Percentage of gross site area covered by existing tree canopy = 29%
C	Percentage of 10-year tree canopy required for site (see Table 12.4) = 30
D	Percentage of the 10-year tree canopy requirement that should be met through tree preservation =
E	Proposed percentage of canopy requirement that will be met through tree preservation =
F	Has the Tree Preservation Target minimum been met? Yes
G	If No for line F, then a request to deviate from the Tree Preservation Target shall be provided on the plan that states one or more of the justifications listed in § 12-0508.3 along with a narrative that provides a site-specific explanation of why the Tree Preservation Target cannot be met. Provide sheet number where deviation request is located.
H	If step G requires a narrative, it shall be prepared in accordance with § 12-0508.4
I	Place this information prior to the 10-year Tree Canopy Calculations as per instructions in Table 12.10.

Table 12.10 10-year Tree Canopy Calculation Worksheet			
Step		Totals	Reference
A. Tree Preservation Target and Statement			
A 1	Place the Tree Preservation Target calculations and statement here preceding the 10-year tree canopy calculations		see § 12-0508.2 for list of required elements and worksheet
B. Tree Canopy Requirement			
B1	Identify gross site area =	120,156	§ 12-0511.1A
B2	Subtract area dedicated to parks, road frontage, and		§ 12-0511.1B
B3	Subtract area of exemptions =		§ 12-0511.1C(1) through § 12-0511.1C(6)
B4	Adjusted gross site area (B1 - B2) =		
B5	Identify site's zoning and/or use	R-C	
B6	Percentage of 10-year tree canopy required =	30	§ 12-0510.1 and Table 12.4
B7	Area of 10-year tree canopy required (B4 x B6) =	36,047	
B8	Modification of 10-year Tree Canopy Requirements requested?		Yes or No
B9	If B8 is yes, then list plan sheet where modification request is located		Sheet number
C. Tree Preservation			
C1	Tree Preservation Target Area =		
C2	Total canopy area meeting standards of § 12-0400 =	24,160	
C3	C2 x 1.25 =	30,200	§ 12-0510.3B
C4	Total canopy area provided by unique or valuable forest or woodland communities =		
C5	C4 x 1.5 =		§ 12-0510.3B(1)
C6	Total of canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees =		
C7	C6 x 1.5 to 3.0 =		§ 12-0510.3B(2)
C8	Canopy area of trees within Resource Protection Areas and 100-year floodplains =		
C9	C8 x 1.0 =		§ 12-0510.3C(1)
C10	Total of C3, C5, C7 and C9 =	30,200	If area of C10 is less than B7 then remainder of requirement must be met through tree planting - go to D
D. Tree Planting			
D1	Area of canopy to be met through tree planting (B7-C10) =	6,525	
D2	Area of canopy planted for air quality benefits =		
D3	D2 x 1.5 =		§ 12-0510.4B(1)
D4	Area of canopy planted for energy conservation =		
D5	D4 x 1.5 =		§ 12-0510.4B(2)
D6	Area of canopy planted for water quality benefits =		
D7	D6 x 1.25 =		§ 12-0510.4B(3)
D8	Area of canopy planted for wildlife benefits =		
D9	D8 x 1.5 =		§ 12-0510.4B(4)
D10	Area of canopy provided by native trees =	4,350	
D11	D10 x 1.5 =	6,525	§ 12-0510.4B(5)
D12	Area of canopy provided by improved cultivars and		
D13	D12 x 1.25 =		§ 12-0510.4B(6)
D14	Area of canopy provided through tree seedlings =		
D15	D14 x 1.0 =		§ 12-0510.4D(1)
D16	Area of canopy provided through native shrubs =		
D17	D15 x 1.0 =		§ 12-0510.4D(1)
D18	Percentage of D14 represented by D15 =		Must not exceed 33% of
D19	Total of canopy area provided through tree planting =	6,525	
D20	Is an off-site planting relief requested?		Yes or No
D21	Tree Bank or Tree Fund?		§ 12-0512
D22	Canopy area requested to be provided through off-site mechanism (D19) =		
D23	Amount to be deposited into the Tree Preservation and		
E. Total of 10-year Tree Canopy Provided			
E1	Total of canopy area provided through tree preservation (C10) =	30,200	
E2	Total of canopy area provided through tree planting (D17) =	6,525	
E3	Total of canopy area provided through off-site mechanism (D19) =		
E4	Total of 10-year Tree Canopy Provided = (E1+E2+E3)	36,725	Total of E1 through E3. Area should meet or exceed area required by B7



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09-17-14	COUNTY COMMENTS	

SEAL:



Milestone
COMMUNICATIONS

PROJECT NO: 1050.130
DESIGNER: M.A.
ENGINEER: M.M.

SCALE:



SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

TRANSITIONAL
SCREENING AND
TREE CANOPY
CALCULATION

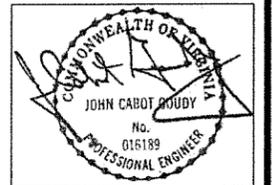
SHEET NUMBER:

Z-13

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SEAL:



Milestone
COMMUNICATIONS

PROJECT NO: 1050.130
DESIGNER: M.A.
ENGINEER: M.M.

SCALE:
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GRAPHIC SCALE IN INCHES

SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

SWM PLAN

SHEET NUMBER:

Z-14

Refer to the Stormwater
Design Narrative for more
information.

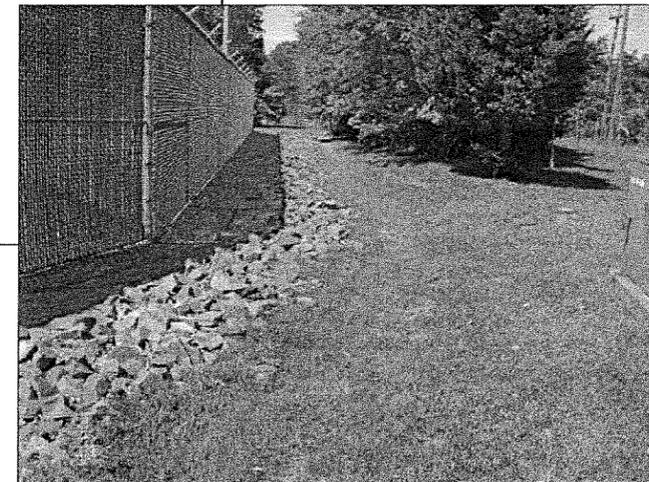
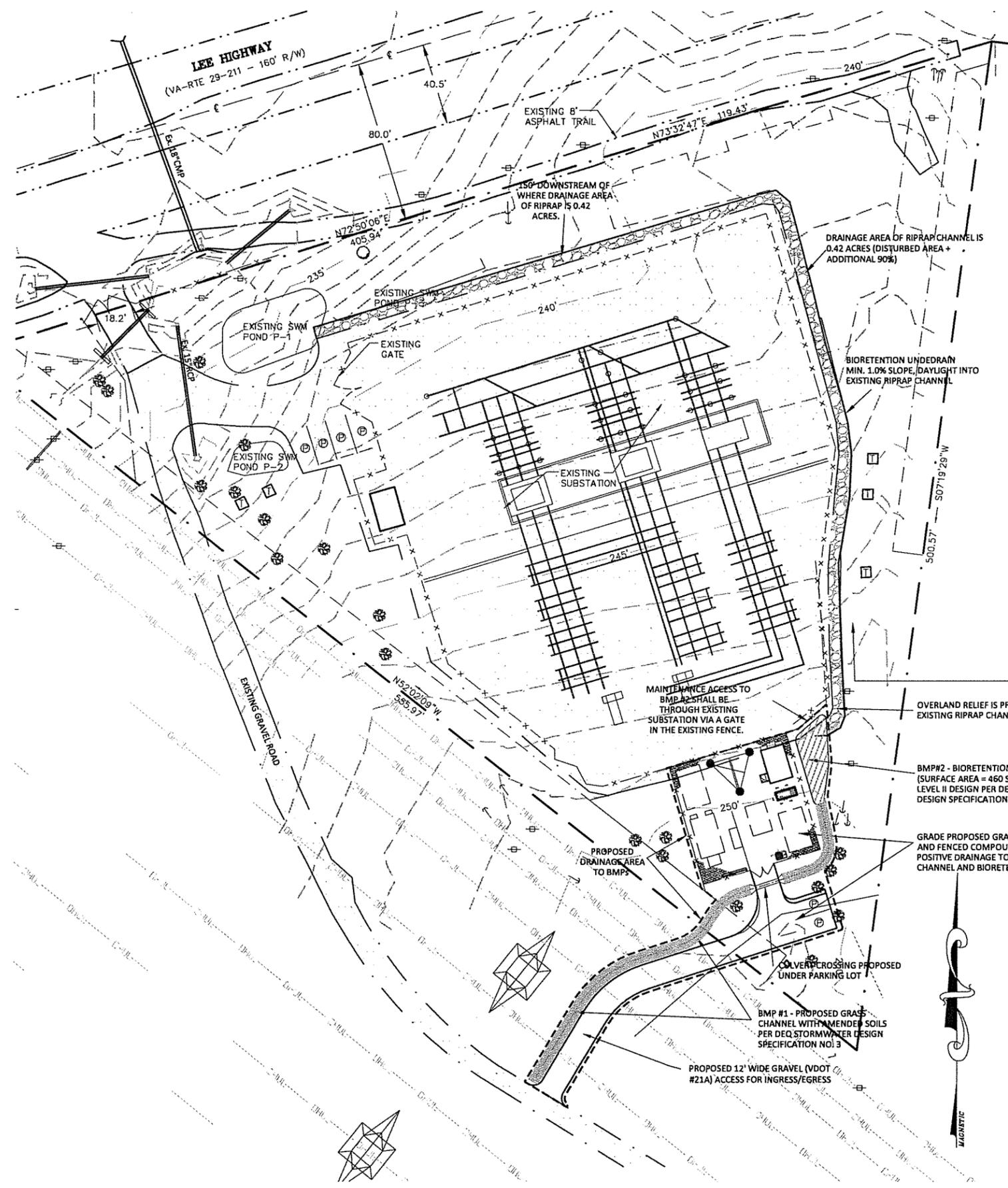
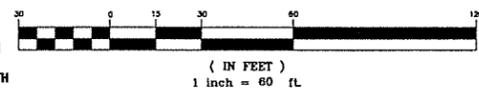


PHOTO 1: LOOKING DOWNSTREAM AT RIPRAP CHANNEL
ON EAST SIDE OF SUBSTATION.



GRAPHIC SCALE



SWM PLAN
SCALE: 1"=60'-0"



Design Narrative

I. Background & Outfall Narrative

The substation, henceforth referred to as the Site, is located at 15001 Lee Highway in Centerville, Virginia (refer to Sheet Z-1 for plan). Addition of a VDOT #57 gravel compound for telecommunication equipment and buildings, as well as a VDOT #21A gravel access road are proposed totaling 9,538 sf (0.22 ac) of disturbed area. Without stormwater Best Management Practice (BMP) technologies, the additional impervious area will increase nutrient loading from 0.03 lb/yr to 0.27 lb/yr and cause very minimal of 0.2, 0.1, and 0.2 cfs in stormwater runoff during the peak 1-, 2-, and 10-yr, 24-hr storm events, respectively (Table 1 and 2).

To prevent these increases, BMPs were conceptually designed to satisfy stormwater requirements utilizing Virginia Department of Environmental Quality (DEQ) Stormwater Design BMP Specifications. These BMPs will also prevent additional flows into the three existing stormwater ponds already onsite and associated with existing substation infrastructure. Details of the development of the stormwater BMP designs are discussed below.

The proposed development is 0.22 acres and stormwater runoff will now flow through 2 BMPs prior to connecting with the existing stormwater network (refer to the Stormwater Design Plan). The proposed outfall network includes drainage from a proposed grass channel (BMP #1) flowing into a proposed bioretention facility (BMP #2). The 1-yr, 24 hour storm will drain through the proposed bioretention facility and outlet into the existing riprap channel via an underdrain. The existing riprap channel also provides overland relief. This existing channel wraps around the substation, eventually flowing into the existing SWM Pond-3. Flow from SWM Pond-3 enters existing SWM Pond-1, then drains into the 18" culvert underneath Lee Highway (State Route 29) and off site.

The extent of downstream analysis was performed in accordance with Fairfax County Code (Ordinance) Section 124-4-4.6.C. The Energy Balance Method (EBM), as detailed in Ordinance Section 124-4-4.6.3 demonstrates compliance with channel and flood protection requirements.

II. Site Conditions

In the process of determining a design protocol, a review of existing and future site conditions was required.

A. Existing Site Conditions

The undeveloped portion of the Site intended for future construction consists of turf grass in good condition with a few individual trees. Soils within the site include two classifications: (95) Urban Land and (63B) Jackland and Haymarket. Both classifications belong to the Hydrologic Soil Group (HSG) D indicating low permeability. Refer to Exhibits 4 and 5 on Sheet 2 of this Design Narrative for Land Use and Soils Maps.

B. Future Site Conditions

The limits of disturbance (LOD) for future construction on the Site is 9,538 square feet which includes erection of several small buildings and structures within a 3,600 square foot compound. The proposed structures result in 1,283 square feet of impervious cover; the remaining area within the compound will be VDOT #57 stone gravel. VDOT #57 stone

is a clean, gap-graded gravel with 40 % void spaces with sufficient depth to store the 10-year, 24-hour storm event. A VDOT #21A gravel access path (2,681 sf) shall connect the existing gravel roadway to the proposed telecommunication compound. The available pore space in the #57A surface results in a lower Curve Number than the VDOT

#21A surface as shown on Sheet 2 of this design narrative.

C. Site Constraints

There are numerous easements, overhead and guy wires located within the site. Multiple utility boxes surrounding the substation indicate the presence of underground lines. All appropriate offsets must be maintained when designing for future site conditions, including

BMP locations.

III. Design: Water Quality

A. Basis for Design

To calculate nutrient loading due to the construction, as well as the nutrient loading reduction from BMPs, the Virginia Runoff Reduction Method (VRRM) and associated spreadsheets were utilized in accordance with the Ordinance Section 124-4-2 (PFM 6-0203-2). Refer to Sheet 2 of this Narrative for VRRM spreadsheets (Exhibits 1-3), soil data (Exhibit 4), and land cover (Exhibit 5). Refer to Stormwater Design Plan for conceptual layout.

Results indicate a post-development total phosphorus (TP) load is 0.27 lb TP/yr and the required TP load reduction is 0.18 lb/yr in order to not exceed the 0.41 lb TP/ac/yr requirement specified in the Ordinance (i.e. a maximum loading rate of 0.09 lb TP/yr from the 0.22 acre site). To achieve this load reduction, multiple BMP strategies were employed. This Site is also within the Water Supply Overlay District and must also comply with PFM 6-0401.2 which requires 50 percent reduction of post-construction nutrient loading.

B. BMP #1: Grass Channel

The first BMP strategy employed was a grass channel with compost amended soils per DEQ Stormwater Design BMP Specifications #3 and #4. Compost amended soils is appropriate due to D-type existing soils. The grass channel was designed along the northern edge of the gravel driveway. Treatment areas include 2,681 square feet of impervious surface (driveway).

C. BMP #2: Bioretention

The second BMP employed is a Level 2 Bioretention per DEQ Stormwater Design BMP Specification #9. Additional runoff from the grass channel flows into the bioretention cell, considered a treatment train. Additionally, the remaining site area including 1,283 square feet of impervious surface (i.e. remaining driveway and telecommunication structures) is also directed to BMP #2.

Maintenance access shall be through a gate installed in the existing substation fence.

D. BMP Treatment Results

With no stormwater BMPs, the post-development TP load is 0.27 lb/yr. Utilizing the two proposed BMP strategies, the phosphorus site loading reduces to 0.03 lb/yr, or 0.14 lb/yr/ac (which compares well to forested conditions for D-soils of 0.11 lb/yr/ac). This exceeds the 0.18 lb/yr reduction requirement per the Ordinance. This also exceeds the Water Supply Overlay District requirement to reduce the proposed phosphorus nutrient loading by one half.

IV. Design: Water Quantity

A. Basis for Design

The proposed BMPs also provide water quantity control. To confirm that the proposed technologies sufficiently prevent increases in runoff to the downstream existing riprap channel and stormwater management facilities, the pre-construction and post-construction

peak flow rates are compared using Technical Review 55 (TR-55) and the Energy Balance Method (EBM) in accordance with the Ordinance (and PFM Section 6-0203-2 and 3).

B. Channel Protection - Energy Balance Method

Post-construction hydrology mimics the forested hydrology as closely as possible to prevent downstream channel degradation (Ordinance Section 124-4-4.B.1.b). This is shown by utilizing the EBM to compare pre- and post-construction hydrology for the 1-year 24-hour storm event per the following condition for manmade stormwater conveyance:

$$Q_{post-construction} \leq Q_{forested} * R_{T55} / R_{V} \text{ post-construction}$$

C. Channel Protection - Energy Balance Method Results

Table 1 below shows variables and results for post-construction and forested site conditions. Refer to the second sheet of this design narrative for Weighted Curve Number

analysis. With the adjusted Curve Numbers, the above EBM channel protection condition

for manmade stormwater conveyance is satisfied.

Table 1: 1-Yr, 24-Hr Peak Flow Variables and Results

SITE	VARIABLES					1-YR 24-HR STORM	
	AREA (sq ft)	WEIGHTED CN*	S ²	Q _{site} (cfs)	R _V ² (cfs)	Q _{site} ¹ (cfs)	R _V ² (cfs)
Forested	9,538	77	3.0	0.9	498	0.3	0.3
Pre-Construction	9,538	80	2.5	1.0	827	0.3	0.3
Post-Construction (no BMPs)	9,538	85	1.7	1.4	1101	0.5	0.5
Post-Construction (with BMPs)	9,538	79	2.6	1.0	791	0.3	0.3

* Refer to Sheet 2 of this Design Narrative for Weighted Curve Number information.
¹ Inlet Abstraction (I) = 100% CN = 1.0
² Q_{site} = (P - 0.25) / (P - 0.85), where Precipitation (P) = precipitation per PFM Table 6.13, and
³ R_V = Q_{site} / (1.1) / (1.2) = Drainage Area (CA)
⁴ Q_{site} for each site condition was computed using the U.S. Soil Conservation Service (SCS) TR-55 hydrologic analysis model.

$$0.48 \text{ cfs} \geq 0.43 \text{ cfs} * \frac{991 \text{ cfs}}{1106 \text{ cfs}} = 0.38 \text{ cfs} \quad \checkmark$$

Ordinance Sections 124-4-4.B.4 and 124-4-4.B.6c, require that a defined channel exists to the point of analysis. In this instance, the point where an additional 0.20 acres contributes flow to the channel, plus and additional 150 ft is located within the riprap channel on the east side of the substation as shown on the Stormwater Design Plan. In summary, the extent of channel review is entirely contained within the length of the existing riprap channel. Photo 1 shows the existing riprap channel in this area.

Results demonstrate compliance with channel protection criteria. Beyond these requirements, peak rate of runoff (Q_{site}) from the proposed development with BMPs is reduced to mimic the respective peak rates of runoff of the site in good forested conditions.

D. Flood Protection

To confirm this development will not increase flow in the riprap channel, the 2- and 10-yr, 24 hour peak flow rate for pre and post construction site conditions was also compared in accordance with the Ordinance Sections 124-4-4.C.4 and 124-4-4.D (PFM 6-0203-3). Results are summarized in Table 2.

Table 2: 2- and 10-Yr, 24 hr Results

SITE	2-YR 24-HR		10-YR 24-HR	
	Q _{site} (cfs)	R _V ² (cfs)	Q _{site} (cfs)	R _V ² (cfs)
Forested	0.4	0.9	0.5	1.0
Pre-Construction	0.5	1.0	1.2	1.2
Post-Construction (no BMPs)	0.6	1.2	1.0	1.0
Post-Construction (with BMPs)	0.4	1.0	0.9	1.0

¹ Q_{site} for each site condition was computed using the U.S. Soil Conservation Service (SCS) TR-55 hydrologic analysis model. Refer to Table 1 for variables.

As shown, this site is in compliance with the Ordinance through utilization of the EBM to compare pre- and post-construction hydrology for the 2-year and 10-year 24-hour storm events as follows:

$$2\text{-yr, } 24\text{hr} \quad 0.4 \text{ cfs} \geq 0.4 \text{ cfs} * \frac{973 \text{ cfs}}{1063 \text{ cfs}} = 0.4 \text{ cfs} \quad \checkmark \text{ Acceptable}$$

$$10\text{-yr, } 24\text{hr} \quad 1.0 \text{ cfs} \geq 0.9 \text{ cfs} * \frac{2242 \text{ cfs}}{2493 \text{ cfs}} = 0.9 \text{ cfs} \quad \checkmark \text{ Acceptable}$$

Also, as shown in Table 1, the post construction peak flow rate for the 2-year and 10-year

24-hour storm events are less than pre development, thus satisfying detention requirements per Ordinance Sections 124-4-4.D.

V. Conceptual BMP Configuration

The grass channel (BMP#1) and the bioretention facility (BMP #2) will be designed according to DEQ Stormwater Design BMP Specification #3, #4, and #9 (Level 2). BMP #1 will treat the existing VDOT #21A gravel driveway and will then drain into BMP #2, which will also treat the proposed telecommunication compound. Due to the existing D soils and the required level of treatment, BMP #2 will require an underdrain, which will be out into the riprap channel as shown on the Stormwater Design Plan. Overland relief is also provided via the riprap channel.

VI. Summary

As proposed, the entire proposed development will be treated by BMPs to meet water quality and quantity requirements contained in the Ordinance. Water quality requirements are satisfied as the proposed BMPs reduce pollutant loading to 0.03 lb TP/yr (0.14 lb TP/yr/ac) - that is a 0.27 lb TP/yr reduction, which exceeds the 0.18 lb TP/yr requirement. This level of treatment is comparable to forested site conditions of D-soils (0.11 lb TP/yr/ac).

Water quantity (i.e. channel and flood protection) requirements are also satisfied. The 1-yr, 24-hr peak flow rate after the site is developed with the proposed BMP measures is equivalent to the existing peak flow rate at 0.3 cfs. The post development 2-yr, 24hr peak flow rate is less than the pre development (0.4 cfs vs. 0.5 cfs) and mimics forest site conditions. In addition, the 10-yr, 24 hr post and pre-development peak flow rates are equivalent at 1.0 cfs.



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SEAL:



PROJECT NO: 1050.130
 DESIGNER: M.A.
 ENGINEER: M.M.

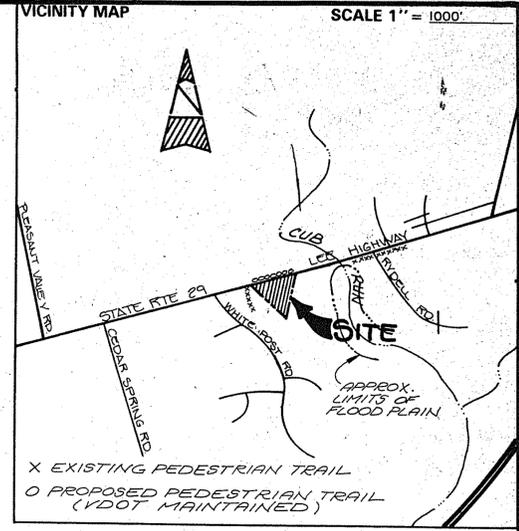
SCALE:

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SEA 90-S-021
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TITLE:
SWM
NARRATIVE

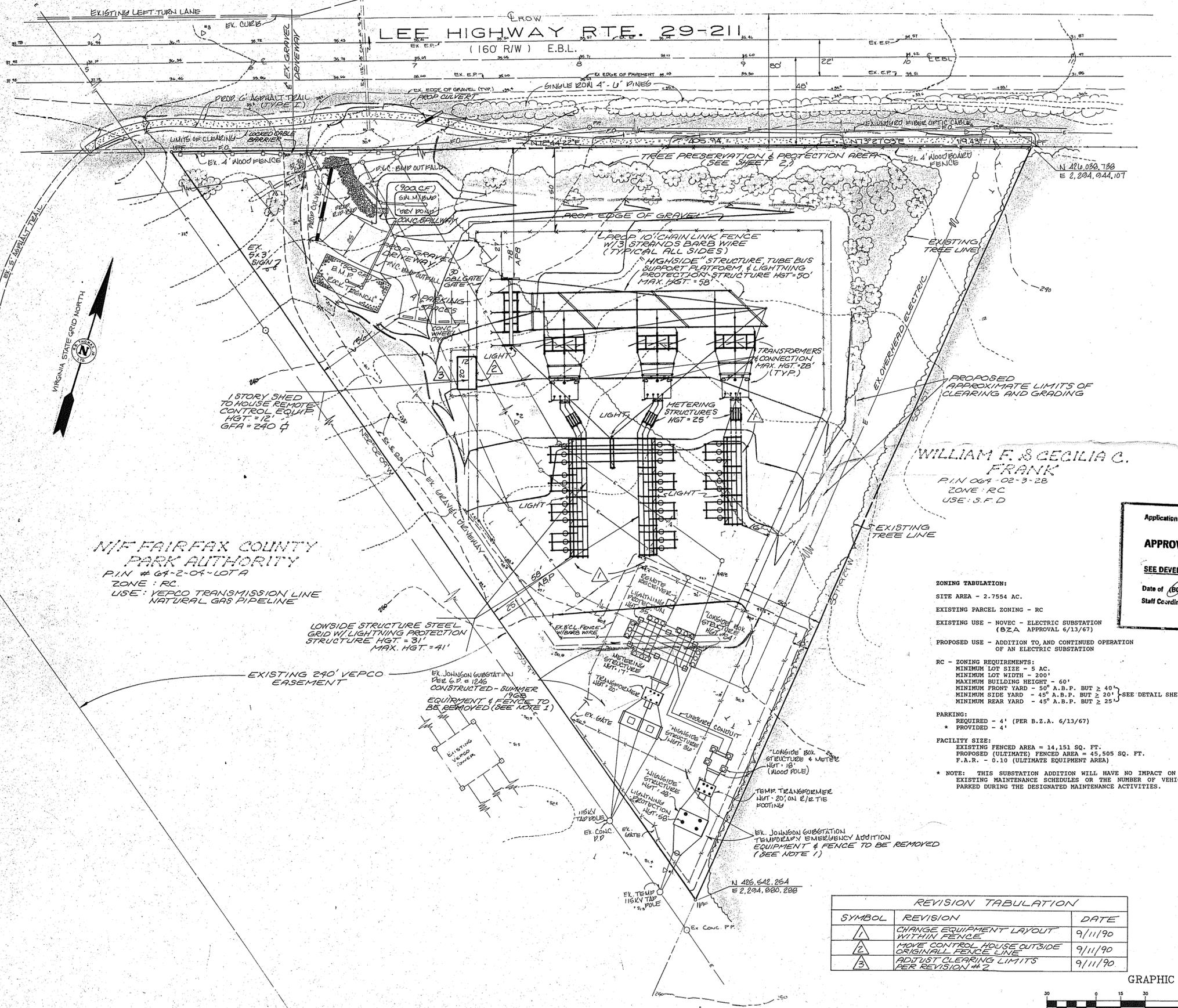
SHEET NUMBER:
Z-15



VIRGIL C. & GENEVA P. JONES
P.I.N. 64-2-03-0014
ZONE: R.C.
USE:

VIRGIL C. & GENEVA P. JONES
P.I.N. 64-2-03-0015
ZONE: R.C.
USE: S.F.D.

LEE HIGHWAY RTE. 29-211
(160' R/W) E.B.L.



N/FAIRFAX COUNTY
PARK AUTHORITY
P.I.N. # 64-2-04-107A
ZONE: R.C.
USE: VEPCO TRANSMISSION LINE
NATURAL GAS PIPELINE

WILLIAM F. & CECILIA C. FRANK
P.I.N. 64-02-3-28
ZONE: R.C.
USE: S.F.D.

Application No. SE 90-5-021
APPROVED SE/SP PLAT
SEE DEVELOPMENT CONDITIONS
Date of (BOS) (BZA) approval 1/14/91
Staff Coordinator CD
Sheet 1 of 3

ZONING TABULATION:
SITE AREA - 2.7554 AC.
EXISTING PARCEL ZONING - RC
EXISTING USE - NOVEC - ELECTRIC SUBSTATION (B.Z.A. APPROVAL 6/13/87)
PROPOSED USE - ADDITION TO AND CONTINUED OPERATION OF AN ELECTRIC SUBSTATION

RC - ZONING REQUIREMENTS:
MINIMUM LOT SIZE - 5 AC.
MINIMUM LOT WIDTH - 200'
MAXIMUM BUILDING HEIGHT - 60'
MINIMUM FRONT YARD - 50' A.B.P. BUT ≥ 40'
MINIMUM SIDE YARD - 45' A.B.P. BUT ≥ 20'
MINIMUM REAR YARD - 45' A.B.P. BUT ≥ 25'

PARKING:
REQUIRED - 4' (PER B.Z.A. 6/13/87)
* PROVIDED - 4'

FACILITY SIZE:
EXISTING FENCED AREA = 14,151 SQ. FT.
PROPOSED (ULTIMATE) FENCED AREA = 45,505 SQ. FT.
F.A.R. - 0.10 (ULTIMATE EQUIPMENT AREA)

* NOTE: THIS SUBSTATION ADDITION WILL HAVE NO IMPACT ON THE EXISTING MAINTENANCE SCHEDULES OR THE NUMBER OF VEHICLES PARKED DURING THE DESIGNATED MAINTENANCE ACTIVITIES.

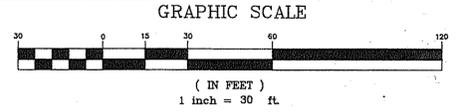
- GENERAL NOTES:**
- THE EXISTING JOHNSON SUBSTATION AND THE TEMPORARY EMERGENCY ADDITION EQUIPMENT AND FENCE WILL BE REMOVED WITHIN 12 MONTHS AFTER THE BEGINNING OF OPERATION OF THE PROPOSED SUBSTATION.
 - THE TEMPORARY EMERGENCY EQUIPMENT HAS BEEN INSTALLED ON WOOD RAILROAD TIE FOOTINGS, WHERE POSSIBLE, TO FACILITATE REMOVAL OPERATIONS.
 - THERE WILL BE NO EMPLOYEES STATIONED AT THIS SITE BECAUSE CONTROL IS MAINTAINED BY RADIO-REMOTE. ONCE COMPLETED, THE STATION WILL RECEIVE BI-MONTHLY MAINTENANCE AND INSPECTION VISITS. THIS AVERAGES TO APPROXIMATELY 0.2 VEHICLE TRIPS PER DAY.
 - NO WATER OR SANITARY SEWER PROVISIONS ARE NEEDED FOR THIS FACILITY.
 - IN THE UNLIKELY EVENT THAT TRASH IS GENERATED BY THIS SITE, IT SHALL BE REMOVED BY THE MAINTENANCE CREW AND TAKEN TO THE LOCAL DISTRICT OFFICE FOR PICKUP AND DISPOSAL IN APPROVED LAND FILLS.
 - THE EXISTING TREE LINE SHOWN REPRESENTS MATURE STANDS OF MIXED EVERGREENS WITH HEAVY UNDERGROWTH THAT WILL PROVIDE SUBSTANTIAL SCREENING. THE EXISTING TREES SHOWN TO BE SAVED ARE THE LARGER AND HEALTHIER SPECIMENS IN THAT AREA. ALL VEGETATION OUTSIDE THE LIMITS OF CLEARING SHALL BE RETAINED.
 - THE SUBSTATION FACILITY WILL BE LIGHTED BY (5) MANUALLY CONTROLLED SODIUM VAPOR LIGHTS MOUNTED ON THE STEEL STRUCTURE.
 - THE CONTOUR INTERVAL FOR THE TOPOGRAPHY SHOWN ON THIS PLAN IS 2 FEET AND WAS OBTAINED THROUGH FIELD SURVEYS.
 - SEE SHEET 2 FOR DETAIL OF EXISTING VEGETATION TO BE SAVED AND THE ULTIMATE PROPOSED JOHNSON SUBSTATION LAYOUT FOR THE PLANNED REMOVAL OF THE EXISTING FACILITIES.
 - AS PER THE FAIRFAX COUNTY ZONING ORDINANCE 9-104 PARAGRAPH 2 NO ONSITE STORAGE, VEHICLE REPAIR, OR PARKING BEYOND THAT WHICH IS REQUIRED FOR ROUTINE INSPECTION OR EMERGENCY SUBSTATION SERVICE, IS PROPOSED.
 - STORMWATER MANAGEMENT AND BEST MANAGEMENT PRACTICES SHALL BE ADDRESSED THROUGH CONSTRUCTION OF ONSITE MEASURES. AS SHOWN ON THE PLAN VIEW, A STORMWATER MANAGEMENT EXTENDED STORAGE "DRY" POND AND A ROCK TRENCH B.M.P. FACILITY WILL BE PROVIDED. THE CONTROLS ARE TO BE IN SERIES TO PROVIDE REQUIRED POLLUTANT REMOVAL RATES.
 - THE PROPOSED TRAIL IS AN EXTENSION OF THE EXISTING PATH AND IS INTENDED TO BE MAINTAINED BY THE VIRGINIA DEPARTMENT OF TRANSPORTATION.
 - THE EXISTING SUBSTATION AREA SHALL BE LANDSCAPED IN GENERAL CONFORMANCE WITH SHEET 2 LANDSCAPING SCHEMATIC AFTER REMOVAL OF THE EXISTING FACILITIES.

RECEIVED
OFFICE OF COMPREHENSIVE PLANNING
SEP 12 1990
ZONING EVALUATION DIVISION

- NOTE:**
THIS APPLICATION IS BEING FILED TO OBTAIN THE FOLLOWING PERMITS:
- SPECIAL EXCEPTION - TO ALLOW A CATEGORY 1, (ELECTRIC SUBSTATION), EXISTING USE TO BE UPGRADED TO MEET INCREASED DEMAND.
 - TRANSITIONAL SCREENING MODIFICATION - SEE LANDSCAPING DETAILS AND NARRATIVE, SHEET 2.
 - WAIVER OF SERVICE DRIVE AND TURNING LANE REQUIREMENTS.
 - SPECIAL PERMIT - TO ALLOW A GROUP 9, WAIVER OF REQUIREMENTS FOR USE OF A DUSTLESS SURFACE ON TRAVELED AREAS.

REVISION TABULATION

SYMBOL	REVISION	DATE
1	CHANGE EQUIPMENT LAYOUT WITHIN FENCE	9/11/90
2	MOVE CONTROL HOUSE OUTSIDE ORIGINAL FENCE LINE	9/11/90
3	ADJUST CLEARING LIMITS PER REVISION #2	9/11/90



" GENERALIZED DEVELOPMENT PLAN "

JOHNSON SUBSTATION
NORTHERN VIRGINIA ELECTRIC COOPERATIVE

SPECIAL EXCEPTION / SPECIAL PERMIT SCHEMATIC

MAG. DIST: SPRINGFIELD CITY/COUNTY: FAIRFAX

DESIGNED BY: SCT STATE: VIRGINIA

DATE: 3 / 9 / 90 W.O.

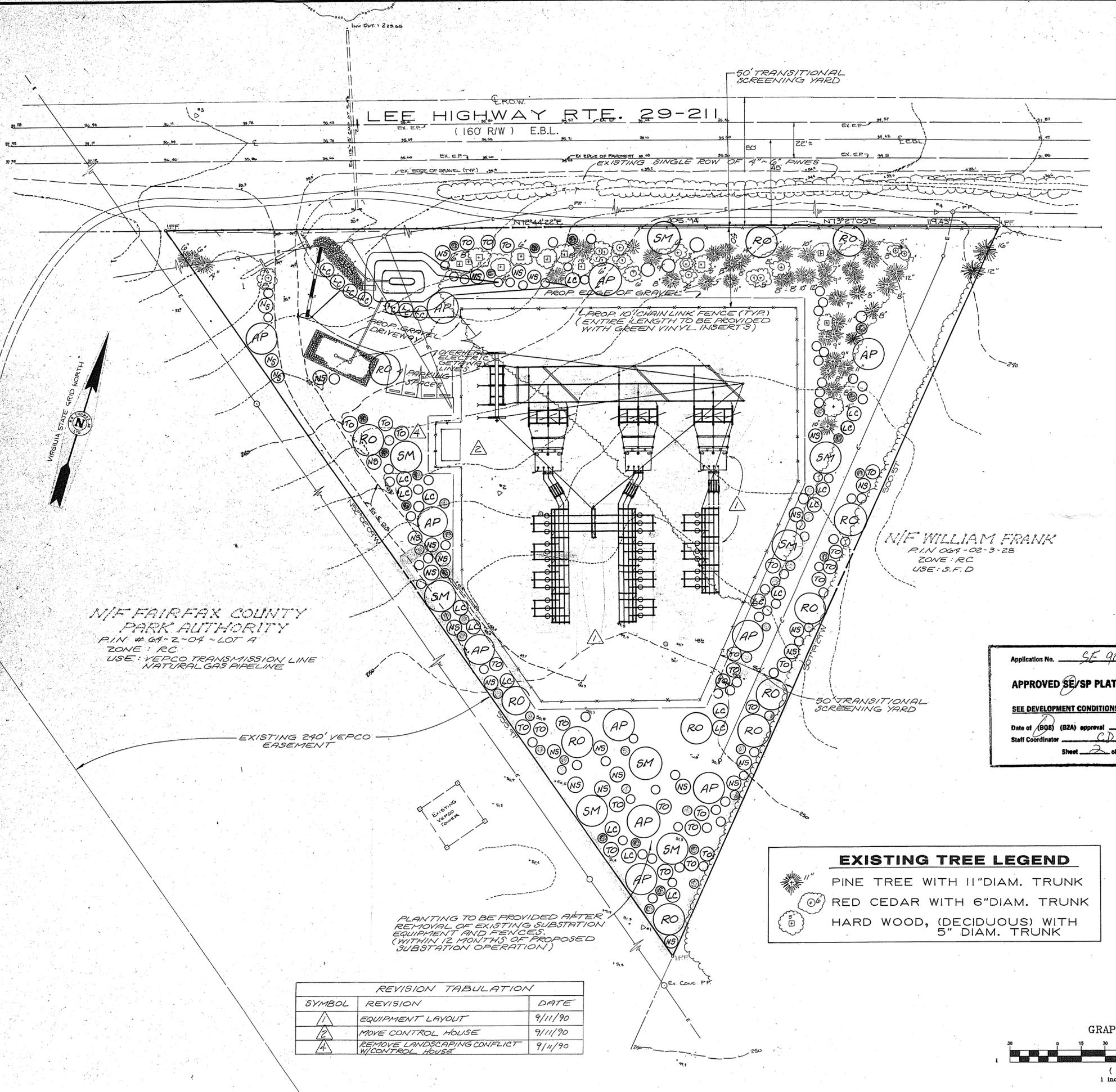
R. B. THOMAS, JR., LTD.
ENGINEERS, PLANNERS, SURVEYORS
9401 EAST ST., MANASSAS, VA 22110

REVISIONS
R. B. THOMAS
CERTIFICATE No. 4454
CREATED PROFESSIONAL ENGINEER

9/11/90 (SEE TABULATION)

SHEET 1 OF 3

LEE HIGHWAY RTE. 29-211
(160' R/W) E.B.L.



PLANT SCHEDULE

SYMB	QUAN	BOTANICAL NAME	COMMON NAME	ULTIMATE HEIGHT	PLANTING HEIGHT	REMARKS
AP	11	ACER PLATANOIDES	NORWAY MAPLE	65	6	B & B
RO	11	QUERCUS RUBRUM	RED OAK	50	6	B & B
LC	26	THUJA OCCIDENTALIS	AMERICAN ARBORVITAE	35	6	B & B
NS	26	CUPRESSOCYPARIS LEYLANDII	LEYLAND CYPRESS	40	6	B & B
SM	85	PINUS STROBUS	EASTERN WHITE PINE	30	6	B & B
TZ	45	JUNIPERUS VIRGINIANA	EASTERN RED CEDAR	12	2	B & B
NS	28	PICEA ABIES	NORWAY SPUCE	30	4	B & B
SM	8	ACER SACCHARUM	SUGAR MAPLE	50	6	B & B

NOTE:

- THE OWNER SHALL BE RESPONSIBLE FOR THE MAINTENANCE, REPAIR AND REPLACEMENT OF ALL LANDSCAPING MATERIALS AND BARRIERS AS SHOWN ON THIS PLAN.
- ALL PLANT MATERIAL SHALL BE TENDED AND MAINTAINED IN A HEALTHY GROWING CONDITION, REPLACE WHEN NECESSARY AND KEPT FREE OF REFUSE AND DEBRIS.

TRANSITIONAL YARD REQUIREMENT

EAST - THE FULL 50 FOOT TRANSITIONAL SCREENING YARD IS PROVIDED FROM THE PROPOSED FENCE TO THE PROPERTY LINE. VEGETATION - WHERE POSSIBLE, THE EXISTING VEGETATION SHALL BE RETAINED TO PROVIDE SCREENING. EXISTING TREES SHALL BE SUPPLEMENTED AS SHOWN. THE PLANTINGS AND EXISTING TREES SHALL PROVIDE FAIRFAX COUNTY STANDARD TRANSITIONAL SCREENING #3 (OPTION 1).
 MODIFICATION - A MODIFICATION IS HEREBY REQUESTED TO ALLOW THE CONTINUED OPERATION OF THE EXISTING OVERHEAD ELECTRIC LINE IN THE TRANSITION YARD AND USE OF SUPPLEMENTS TO EXISTING VEGETATION FOR SCREENING REQUIREMENTS.

NORTH - (RTE 29-211), 50' TRANSITIONAL SCREENING YARD IS PROVIDED FROM THE PROPOSED FENCE TO THE PROPERTY LINE. VEGETATION - WHERE POSSIBLE, THE EXISTING VEGETATION SHALL BE RETAINED AND SUPPLEMENTED AS SHOWN. THE EXISTING TREES AND ADDITIONAL PLANTINGS SHALL PROVIDE TRANSITIONAL SCREENING #3 (OPTION 1).
 MODIFICATION - A MODIFICATION IS HEREBY REQUESTED TO ALLOW THE CONTINUED OPERATION OF THE EXISTING OVERHEAD ELECTRIC CROSSING, RESTRICTED PLANTINGS AT THE INLET OF THE EXISTING CULVERT, THE ENTRANCE CROSSING, AND THE LOCATION OF THE STORMWATER MANAGEMENT POND.

SOUTHWEST - THE ADJACENT PARCEL IS A LIGHT PUBLIC UTILITY USE (VEPCO ELECTRIC TRANSMISSION LINE AND COLUMBIA NATURAL GAS PIPELINE) OWNED BY FAIRFAX COUNTY. VEGETATION - LANDSCAPING SHALL BE PROVIDED IN GENERAL CONFORMANCE TO THE SCHEMATIC WHERE CONFLICT WITH EXISTING OR PROPOSED ELECTRIC LINE CROSSING, DRIVEWAYS, OR OTHER FACILITIES WILL BE AVOIDED.

BARRIER REQUIREMENT

A MODIFICATION TO THE BARRIER REQUIREMENTS FOR THIS SITE IS HEREBY REQUESTED AS FOLLOWS: IN LIEU OF THE TYPE "D" REQUIREMENT FOR 42"-48" CHAINLINK FENCE BARRIERS TO THE EAST AND NORTH, IT IS REQUESTED THAT THE PROPOSED 10 FOOT CHAIN LINK FENCE AT THE SUBSTATION PAD BE PERMITTED AS A SUBSTITUTE. THE FENCE SHALL BE EQUIPPED WITH GREEN VINYL INSERTS AT ALL SIDES TO MINIMIZE IMPACT FROM THE ABOVE REQUESTED TRANSITIONAL SCREENING MODIFICATIONS.

" ULTIMATE PROPOSED VIEW "

JOHNSON SUBSTATION
NORTHERN VIRGINIA ELECTRIC COOPERATIVE

LANDSCAPE PLAN

MAG. DIST: SPRINGFIELD CITY/COUNTY: FAIRFAX

DRAWN BY: KMF DESIGNED BY: SCT STATE: VIRGINIA

SCALE: 1" = 30' DATE: 4/5/90 W.O.

R. B. THOMAS, JR., LTD.
ENGINEERS, PLANNERS, SURVEYORS
9401 EAST ST. MANASSAS, VA 22110
703-558-1166 METRO 681-1676

9/11/90 SEE TABULATION

REVISIONS

COMMISSIONER OF HEALTH OF VIRGINIA
R. B. THOMAS
CERTIFICATE No. 4454
REGISTERED PROFESSIONAL ENGINEER

SHEET 2 OF 3

Application No. CF 90-5-021

APPROVED SE/SP PLAT

SEE DEVELOPMENT CONDITIONS

Date of (BGS) (BZA) approval 4/14/91

Staff Coordinator CD

Sheet 2 of 3

EXISTING TREE LEGEND

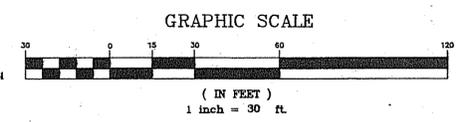
PINE TREE WITH 11" DIAM. TRUNK

RED CEDAR WITH 6" DIAM. TRUNK

HARD WOOD, (DECIDUOUS) WITH 5" DIAM. TRUNK

REVISION TABULATION

SYMBOL	REVISION	DATE
	EQUIPMENT LAYOUT	9/11/90
	MOVE CONTROL HOUSE	9/11/90
	REMOVE LANDSCAPING CONFLICT WITH CONTROL HOUSE	9/11/90



N/F FAIRFAX COUNTY PARK AUTHORITY
P.I.N # 64-2-04 - LOT A
ZONE: RC
USE: VEP CO. TRANSMISSION LINE
NATURAL GAS PIPELINE

N/F WILLIAM FRANK
P.I.N 06A-02-3-28
ZONE: RC
USE: S.F.D

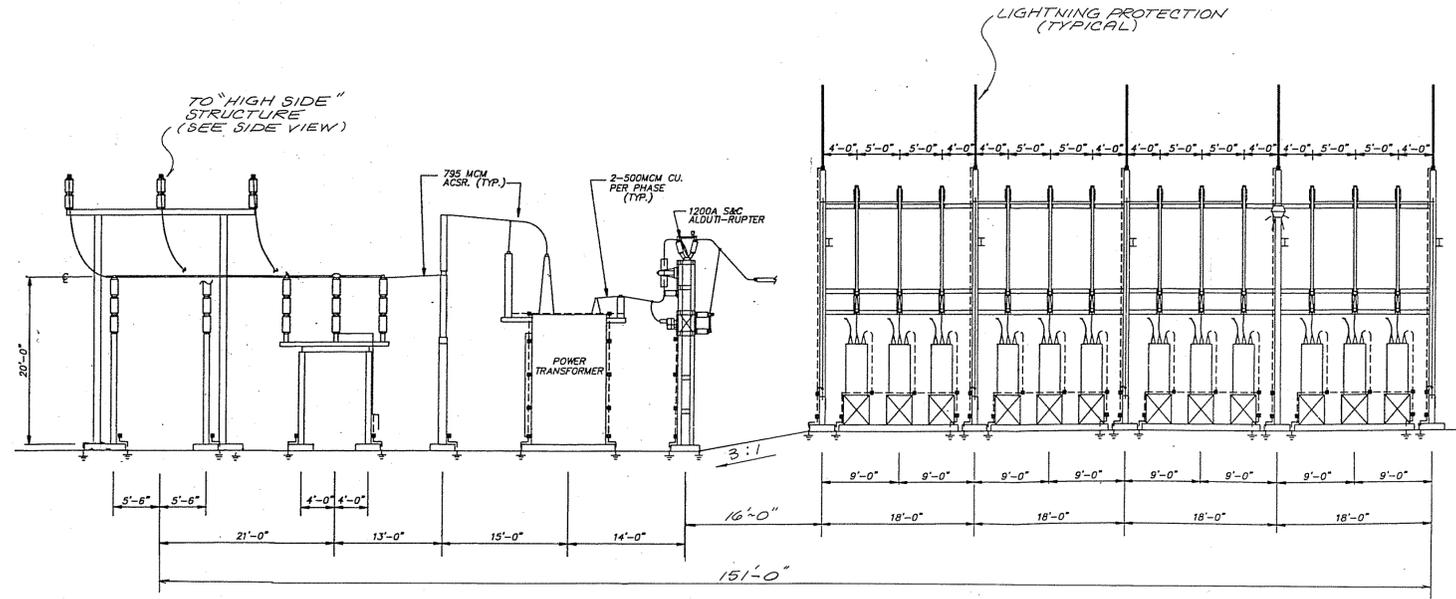
PLANTING TO BE PROVIDED AFTER REMOVAL OF EXISTING SUBSTATION EQUIPMENT AND SERVICES (WITHIN 12 MONTHS OF PROPOSED SUBSTATION OPERATION)

EXISTING 240' VEP CO EASEMENT

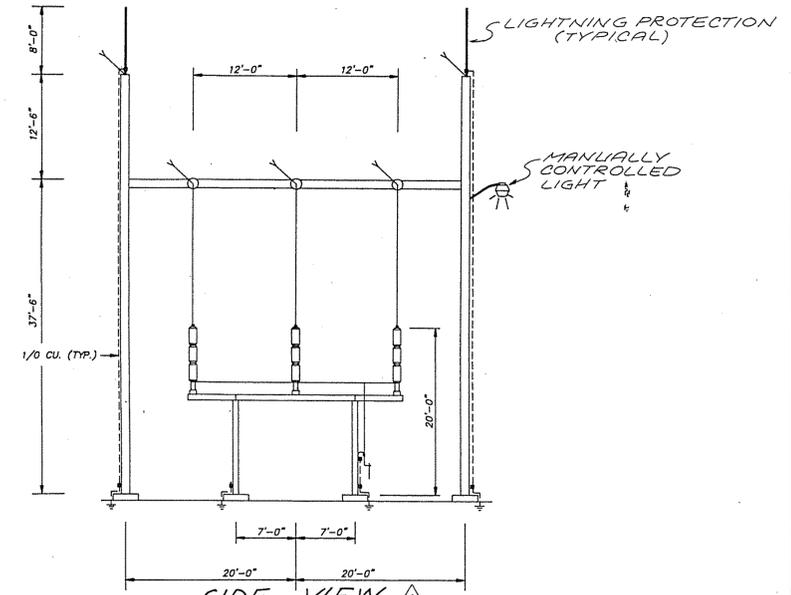
50' TRANSITIONAL SCREENING YARD

50' TRANSITIONAL SCREENING YARD

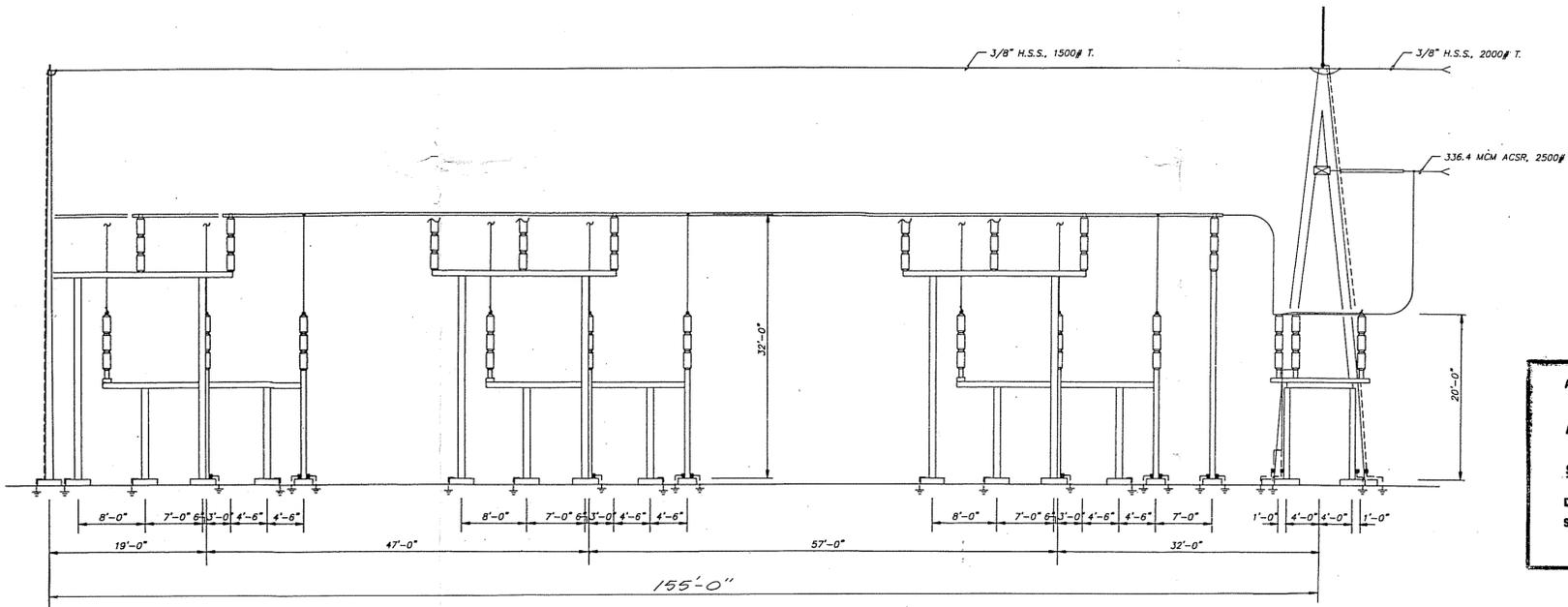




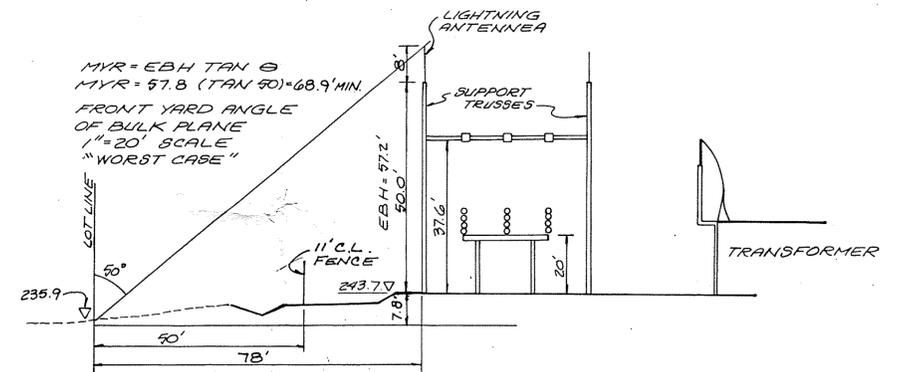
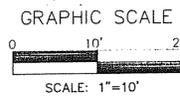
SIDE VIEW Δ
TRANSFORMER CONNECTION "LOW SIDE"
 1"=10'



SIDE VIEW Δ
"HIGH SIDE" SUPPORT STRUCTURE



FRONT VIEW Δ
"HIGH SIDE" SUPPORT STRUCTURE (TUBE BUS)
 1"=10'



Application No. SF 40-5-021

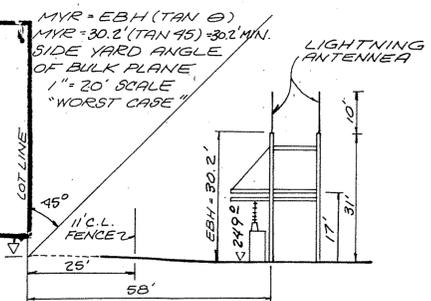
APPROVED SE/SP PLAT

SEE DEVELOPMENT CONDITIONS

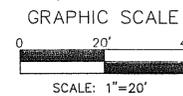
Date of (BOS) (BZA) approval 1/14/91

Staff Coordinator CT

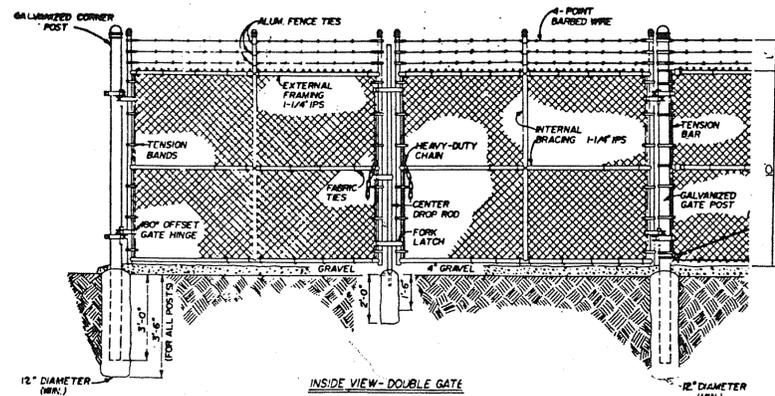
Sheet 3 of 3



DETAIL ANGLE BULK PLANE Δ
 SEE SHEET 1 FOR SECTION LOCATION
 1"=20'



REVISION TABULATION		
SYMBOL	REVISION	DATE
Δ	CHANGE EQUIPMENT	9/11/90
Δ	ADJUST ABP DETAIL PER NEAR LOCATIONS	9/11/90



FENCE DETAIL
 (N.T.S.)

NOTE:
 FENCE SHOWN ABOVE SHALL BE PROVIDED WITH GREEN VINYL INSERTS IN AREAS SPECIFIED ON SHEET 2.

JOHNSON SUBSTATION		9/11/90 SEE TABULATION	
NORTHERN VIRGINIA ELECTRIC COOPERATIVE		REVISIONS	
DETAILS			
MAG. DIST: SPRINGFIELD	CITY/COUNTY: FAIRFAX	R. B. THOMAS	
DRAWN BY: KMF	DESIGNED BY: SCT	STATE: VIRGINIA	
SCALE: AS NOTED	DATE: 3/9/90	W.O.	
R. B. THOMAS, JR., LTD. ENGINEERS, PLANNERS, SURVEYORS 9401 EAST ST. MANASSAS, VA. 22110 703-568-1168 METRO 631-1676		CERTIFICATE No. 4454 COMMONWEALTH OF VIRGINIA REGISTERED PROFESSIONAL ENGINEER	
SHEET 3 OF 3			

**A GLOSSARY OF TERMS FREQUENTLY
USED IN STAFF REPORTS WILL BE FOUND
AT THE BACK OF THIS REPORT**

DESCRIPTION OF THE APPLICATIONS

2232-Y13-10:

The applicants, Milestone Tower LP, III (Milestone Communications) and Cellco Partnership (Verizon Wireless), propose to construct a 130' tall lattice tower with an associated equipment compound designed to hold telecommunications antennas for Verizon Wireless and up to 4 future carriers. The installation is needed by Verizon Wireless to fill existing coverage gaps and provide service to residences and commuters along the Lee Highway, Stone Road, and Pleasant Valley corridors.

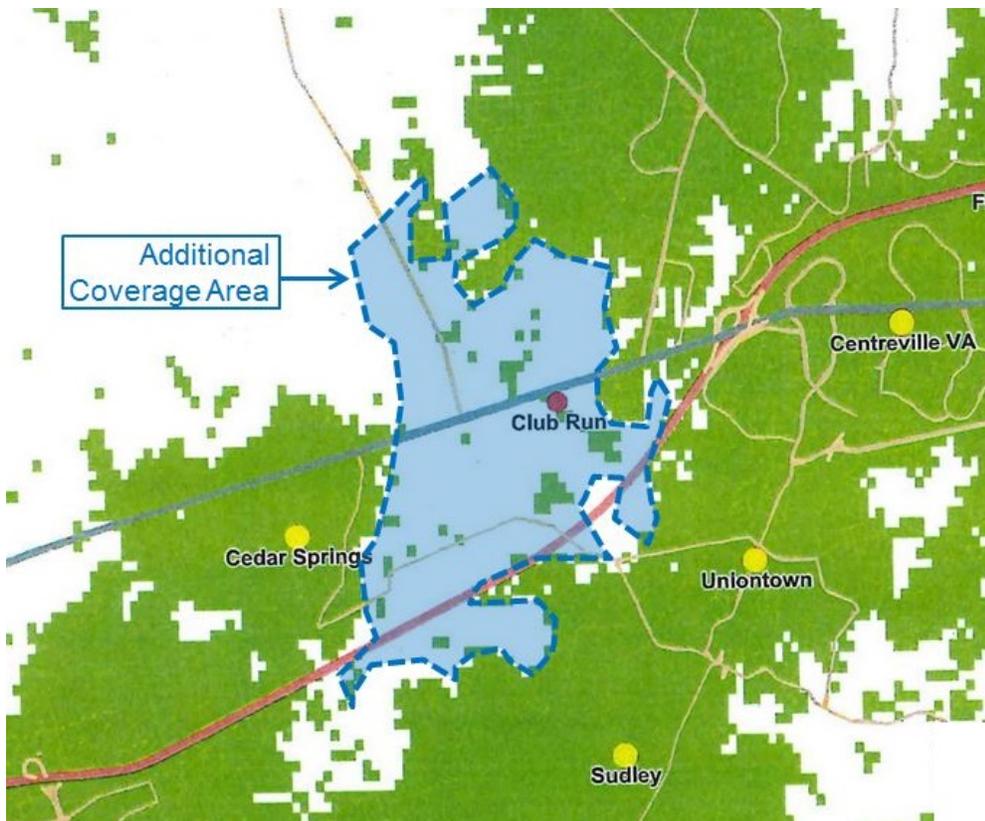


Figure 1: Projected additional service coverage.

The 2232 Review Application is attached as Appendix 3, and includes by reference the plat associated with SEA 90-S-021 (included at the front of the staff report).

SEA 90-S-021:

In conjunction with the above 2232 application, the applicant also requires a Special Exception Amendment to construct the proposed tower and equipment, which would be located within a 60-foot by 60-foot fenced area adjacent to, and on the same parcel as, the existing 45,505-square foot Johnson Electrical Substation facility, located at 15001 Lee Highway in Centreville, which is subject to a prior Special Exception approval (SE 90-S-021). No modifications to the existing substation facility or its operations are proposed.

Copies of the proposed development conditions, the affidavit, and the applicant's statement of justification are included in Appendices 1, 2 and 4, respectively

Proposed Facility:



Figure 2: Applicant's photo mockup of the proposed tower.

The proposed 130' lattice tower and equipment compound would be constructed in an undeveloped area immediately south of the existing substation. Verizon would be the initial carrier, and would install 12 panel antennas (4 per sector) located at 128 feet on the structure. Future providers will be located at 118 feet, 108 feet, 98 feet, and 88 feet respectively. The equipment compound would be 3,600 square feet, and contain the cell tower, a 2,022-cubic-foot equipment shelter and a 234-cubic-foot diesel generator. An approximately 170-foot gravel access drive is proposed, to connect to an existing drive on a neighboring parcel, and additional landscaping and stormwater facilities would be included to mitigate the impact of the proposed improvements on the site and surrounding properties.

LOCATION AND CHARACTER



Figure 3: Project location and adjacent uses.

Site Description:

The 2.76-acre triangular property is located on the south side of Lee Highway, west of its crossing of I-66, between White Post Road and Rydell Road/Prince Way. The site features an existing 45,505 sf electrical substation, owned by the Northern Virginia Electric Cooperative (NOVEC), that is located within a fenced area that features several large transformers and a 12’x20’ building. The facility is unmanned and operated 24-hours per day, seven days a week, with weekly to monthly inspections. The proposed expansion would not result in any changes to the operations of the current facility. Maintenance access is via a gravel drive off Lee Highway, and an existing stormwater management (SWM) pond is located near the entrance.

Zoning and Adjacent Uses

The parcel is zoned Residential Conservation (R-C), and subject to a Water Supply (WS) overlay district. The property adjoins a large single-family R-C lot and the Cub Run Stream Valley to the east, additional R-C parcels across Lee Highway to the north, and open space owned by the Fairfax County Park Authority (FCPA) to the west, over which major easements for Virginia Power (VEPCO) and Columbia Liquefied Natural Gas exist. A single-family neighborhood (of +/- 0.6-acre lots), also zoned R-C, exists to the southwest, across the Park Authority parcel from the site.

Figure 4: Surrounding Use Descriptions			
Direction	Use	Zoning	Comprehensive Plan Recommendation
North	(vacant)	R-C	Residential at 0.1 to 0.2 du/ac
East	Single-family residential	R-C	Residential at 0.1 to 0.2 du/ac
West	Public parkland, Power Lines, & Electrical Easement	R-C	Residential at 0.1 to 0.2 du/ac

SPECIAL EXCEPTION AMENDMENT PLAT (Copy at front of staff report)

Title: Novec-Johnson Substation
Prepared By: Entrex Communication Services, Inc.
Original and Revision Dates: May 28, 2013 as revised through
September 17, 2014
Number of Pages: 18

The Special Exception Amendment (SEA) Plat includes land-use and site-related information, as well as telecommunications details. The Plat is organized as follows:

SHEET INDEX	
T-1	TITLE SHEET
Z-1	SPECIAL EXCEPTION PLAT
Z-2	EROSION AND SEDIMENT CONTROL PLAN AND DETAILS
Z-3	COMPOUND PLAN
Z-4	TOWER ELEVATION
Z-5	SITE PROFILES
Z-6	CIVIL MAPS
Z-7	SITE DETAILS
Z-8	ANTENNA SCHEDULE AND DETAILS
Z-9	RRH AND DISTRIBUTION BOX DETAILS
Z-10	SHELTER PLANS AND GENERATOR DETAILS
Z-11	SHELTER ELEVATIONS
Z-12	LANDSCAPE PLAN, DETAILS AND NOTES
Z-13	TRANSITIONAL SCREENING AND TREE CANOPY CALCULATION
Z-14	SWM MAP
Z-15	SWM NARRATIVE
ADDENDUM (SE 90-S-021 PLAT):	
• SHEET 1 OF 3	
• SHEET 2 OF 3	
• SHEET 3 OF 3	

Sheet Z-1: contains the overall SEA Plat, depicting the location and orientation of the proposed improvements in relation to existing site features and topography. The proposed tower footprint and associated structures, to be located within a 60-foot by 60-foot fenced area, are shown in the southernmost portion of the site. The proposed access drive, which would tie into an existing gravel roadway on adjacent Park Authority property, would include a turn-around area and parking for two vehicles adjacent to the proposed improvements.

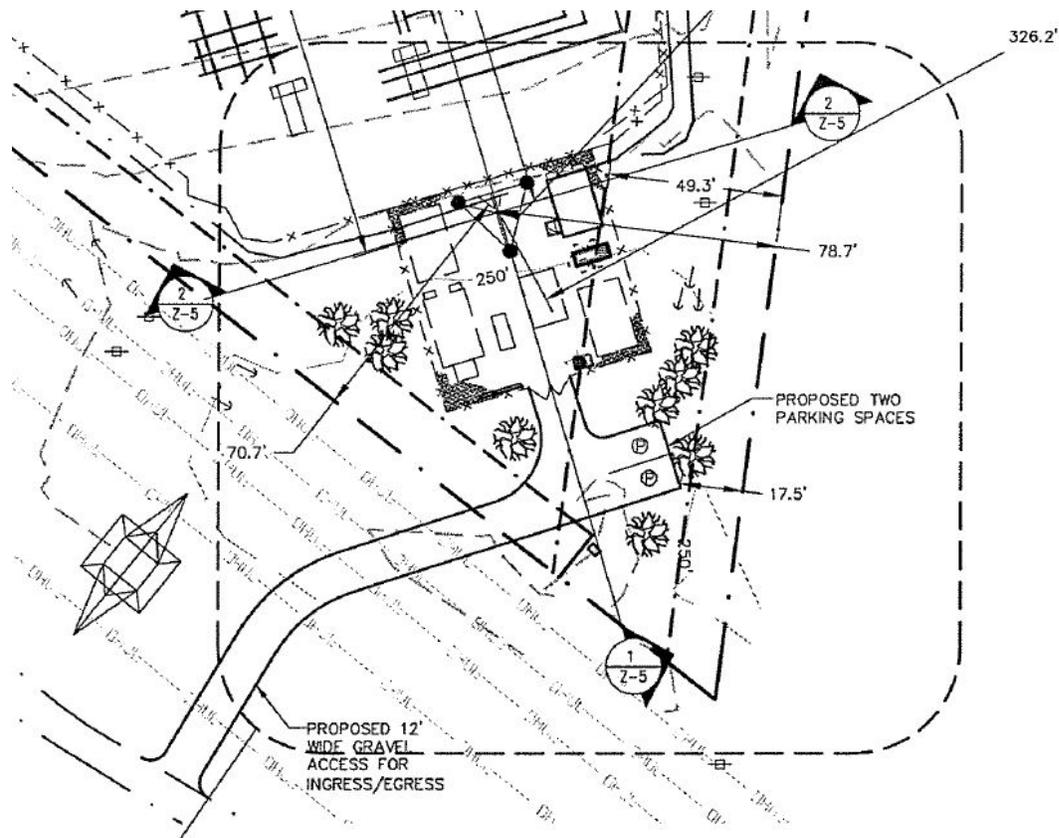


Figure 5: Proposed SEA Improvements.

Sheet Z-2: Included an erosion and sediment control plan and stormwater management (SWM) information which became obsolete with revised plans, and has been deleted from the SEA application.

Sheet Z-3: Contains a detailed layout of the core compound area, including the footprint of the tower supports and location of equipment structures. Only the Verizon Wireless structure, and associated infrastructure, would initially be built, though locations of structures for four additional carriers are included for future expansion of the facility.

Sheets Z-4 and Z-5: Contain elevation views of the proposed 130-foot high lattice tower, with accommodation for up to five carriers (with only the Verizon Wireless antenna currently proposed). The elevation view depicts the tower in the context of the neighboring power line structures, which reach a height of approximately 125-feet.

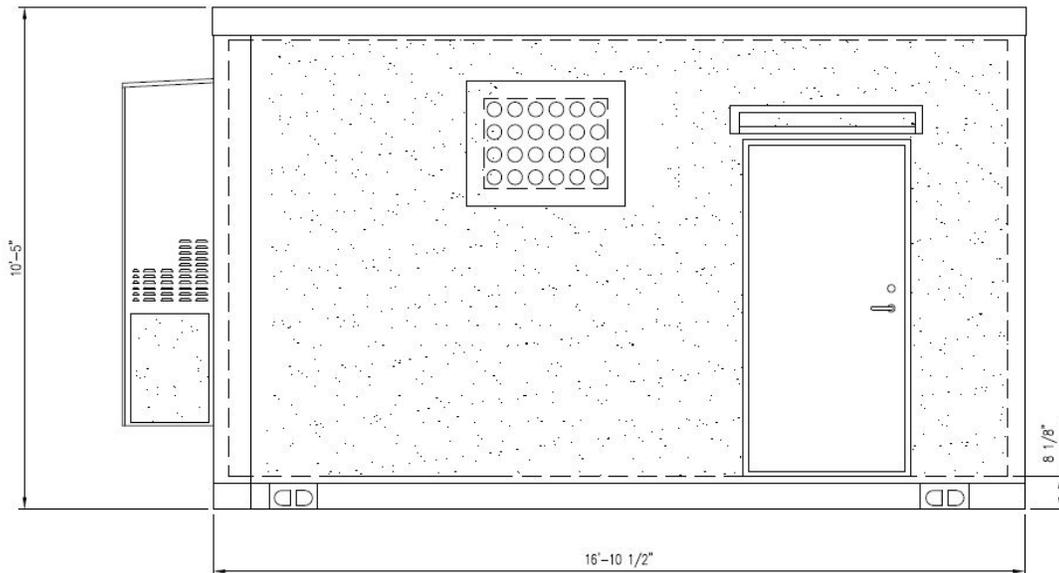


Figure 7: Proposed shelter elevation.

Addendum - The three sheets of the previous SE Plat (SE 90-S-021) have been incorporated as an addendum to the current SE Plat. The existing electrical substation would remain subject to the specifications and details depicted on the prior SE Plat (unless superseded by more current information).

STAFF ANALYSIS - 2232-Y13-10 (Appendix 7)

COMPREHENSIVE PLAN GUIDANCE

(Fairfax County Comprehensive Plan, Area III, 2013 Edition, Bull Run Planning District, Amended through 4-29-2014)

Plan Area:	III
Planning District:	Bull Run
Planning Sector:	BR-5 – Stone Bridge
Plan Map:	Residential at 0.1-0.2 du/ac
Area Plan:	NOVEC Substation identified as an existing public utility in Sector BR5 (page 17, figure 6).

Conformance with the Comprehensive Plan

Va. Code Sec. 15.2-2232, as amended, requires the Planning Commission to determine whether the general location or approximate location, character, and extent of the proposed facility, as amended, are substantially in accord with the adopted Comprehensive Plan, with regards to:

Location

The location of the proposed telecommunications facility - adjacent to an electrical Substation to the north, a power easement with tall utility poles to the south and west, and the Cub Run stream valley to the east - is consistent with Comprehensive Plan objectives to provide the greatest opportunity to locate new facilities that provide the greatest opportunity to conceal the facility and minimize its visual impact on surrounding areas. Providing room for up to four additional service providers also aligns with Plan guidelines to co-locate mobile and land-based telecommunication facilities operated by different service providers on single sites and/or structures wherever possible.

Character

The proposed 130' tall lattice tower is adjacent to utility easement electrical transmission poles approximately 125' in height. This meets Comprehensive Plan objectives that new structures are of comparable form and style to establish a grouping that complements a camouflaged telecommunication facility and supports its design, location, and appearance. It is also consistent with Plan guidelines to blend proposed telecommunication facilities with an existing pattern of tall structures, and meets Plan guidance for a Special Exception that the use is of a size and scale that will not adversely impact the character of the area in which it is located.

The equipment cabinet compound at the base of the proposed tower is screened by an 8' tall chain link fence with dark green concealment slats. This matches the screening of the adjacent power Substation. Also, substantial buffering is provided by the existing Substation to the north, the power and gas easements to the south and west, and the natural buffering provided by the Cub Run stream valley to the east. The applicant also proposes to add tree cover and transitional screening as required by the Urban Forest Management Division. Therefore, this meets Plan objectives to design, site and/or landscape the proposed facility to minimize impacts on the character of the area, and another plan requirement to obscure or block the views of proposed telecommunication facilities with other existing structures, vegetation, tree cover, or topographic features to the maximum extent feasible.

Extent

The proposed installation is in general proximity to residences along the Lee Highway, Stone Road and Pleasant Valley Road corridors. The nearest residential property (single family dwelling) is over 300' to the east, with a substantial intermediate buffer of trees. The nearest multi-family dwellings are over 1000' to the east beyond the Cub Run stream valley, and single family homes are over 300' to the west buffered by the power and gas easements. The proposed expansion is consistent with Comprehensive Plan guidance to ensure that when new structures are necessary to meet the service area requirements for the residential neighborhood(s), the height and mass of any appropriate co-location of the telecommunication facility is in character with the surrounding residential area and mitigates the visual impact of the facility on the surrounding residential area. All access to the proposed site is via a gravel driveway off of Lee Highway, which meets Plan requirements for a Special Exception that access for the use is oriented to an arterial roadway. Finally, the proposed facility will remain an unmanned facility with minimal traffic impact.

STAFF ANALYSIS – SEA 90-S-021

ZONING BACKGROUND

June 13, 1967: The Board of Zoning Appeals approved a permit for the construction of an electric substation, subject to five conditions: construction of a fence along an adjoining property, provision of a fence barrier across the entrance road, provision of as narrow a road as possible, leaving as many trees as possible, and provision of four parking spaces.

February 14, 1968: The Board of Supervisors approved a waiver of the service drive and turn lane requirements, subject to the condition that the applicant execute and record an agreement guaranteeing the dedication and construction of the service drive and turn lane at such time as similar improvements are constructed on either adjoining property.

September 24, 1990: The Zoning Administrator determined that the proposed 11-foot high fence, surrounding the substation, should be considered a part of the principal substation structure and the height limitation of 7-feet (Sect. 10-104) does not apply. Therefore, a variance of that section was not required.

January 14, 1991: SE 90-S-021 was approved by the Board of Supervisors, permitting the renovation and expansion of the electric substation, subject to an SE Plat and development conditions (Appendix 5), including requirements for landscaping/barriers, stormwater management practices, and four parking spaces. There are no modifications currently proposed to the existing substation equipment or operations, and the existing facility would remain subject to the specifications and details depicted on the prior SE Plat (unless superseded by more current information). The current SEA Plat has been appended to include the previous SE Plat (3 Sheets) as an addendum; all previous development conditions have been incorporated into the current proposed development conditions.

ZONING ORDINANCE PROVISIONS (APPENDIX 6)

The proposed use is permissible as a Category 1 Special Exception use in the R-C District (per Sect. 3-C04, Par. 1), subject to additional evaluation standards for Category 1 uses (Sect. 9-104), for Mobile and Land Based Telecommunication Facilities (Sect. 9-105), and General Standards for all Special Exceptions (Sect. 9-006). The Water Supply Protection Overlay (WS) District places additional stormwater management regulations on properties within its boundary, in order to protect the water quality of the Occoquan Reservoir. Standard Zoning Ordinance provisions and Public Facility Manual (PFM) requirements also apply, including those pertaining to Parking and Loading, Landscaping and Screening, Tree Cover, and Stormwater Management, among others.

Lot Size and Bulk Regulations

In accordance with Paragraph 1 of Sect. 9-104 of the Zoning Ordinance, a Category 1 Special Exception use is not required to comply with the lot size requirements or the bulk regulations set forth for the zoning district in which it is located.

Accessory Uses and Structures (Article 10)

Prior zoning interpretations have established that fencing surrounding a telecommunications facility is subject to Sect. 10-104, Par. 3D, which allows a fence or wall not exceeding eight feet in height in any yard of an industrial use. Therefore, the proposed eight-foot screening fence would meet Ordinance requirements. As mentioned above in the zoning history of this property, a 1990 zoning interpretation found that the existing 11-foot high substation fence should be considered a part of the principal substation structure and no fence height limitation should apply to that structure.

Parking and Loading Requirements (Article 11)

Per Sect. 11-106, Par. 21, parking requirements for the proposed use (and existing substation) would be determined by the Director of DPWES, based on the specifics of the particular facilities. The existing substation use includes four parking spaces, near the driveway entrance from Lee Highway, and the proposed improvements include an additional two parking spaces adjacent to the entrance of the proposed compound area. The Ordinance includes no specific loading space requirement for light public utility uses, leaving a determination to the Zoning Administrator. Staff feels that the proposed parking accommodations would be sufficient for service trucks to park during inspections and maintenance of the facility, and that loading/unloading of equipment or materials would be easily accomplished within the space provided.

Transitional Screening and Barrier Requirements (Article 13)

Transitional screening and barriers are required along the north and east boundaries of the property, to screen the light public utility use from the parcels zoned for residential use. The western boundary adjoins another light public utility use, which requires no screening or barrier; however, the area to the west of the application property is also planned for low-density residential uses and is zoned R-C. The property is visible from the Gate Post Estates subdivision (located across the 240-foot power line easement) and would benefit from additional screening vegetation along that frontage to further minimize the off-site visual impact of the use.

Figure 8: Transitional Screening and Barrier Requirements.		
Direction	Transitional Screening; & Barrier Requirements	Provided
North (R-C zoning)	Screening 3; Barrier D, E or F	Existing vegetation; Existing 11-Foot tall chain link fence with slats.
East (R-C zoning)	Screening 3; Barrier D, E or F	Existing vegetation & supplemental plantings; Proposed 8-Foot tall chain link fence with slats.
West (Major Utility Corridor)	No screening or barrier required to public utility use. Underlying R-C zoning would require screening.	Additional plantings as shown on plat; 8-Foot tall chain link fence with slats.

The Transitional Screening 3 requirement consists of an unbroken strip of open space, a minimum of fifty feet (50) feet wide planted with a mixture of evergreen and deciduous trees, to achieve a 10-year canopy of 75 percent or greater, and a variety of shrubs at the rate of three per 10 linear feet of the transition yard area. Barrier D, E or F would require a screening fence along the subject property line (either chain-link, wood, or brick/block).



Figure 9: Required Screening Buffers.

The Landscape Plan associated with the previous SE approval of the substation included 23,655 sf of proposed plantings, to result in an overall tree canopy of 35,855 sf (0.82 ac). It appears, from reviewing prior site plan material, that planting of the eastern and northern portions of the site occurred with construction of the current substation equipment, and the southern and western portions of the site were to be included in Phase II of construction, that was to occur after prior substation equipment (located in the vicinity of the currently proposed tower) was removed from the site. It is questionable whether Phase II planting ever occurred, as there is no such site plan on

file, and currently existing vegetation in those areas is sparse and not in conformance with the intent of the prior SE approval.

The required northern transitional screening area does feature existing vegetation that provides screening in that direction. There are several portions of the eastern transitional screening area that cannot be planted as required, due to existing overhead power lines, conservation easements, and other site constraints. In addition, proposed site improvements must encroach on that buffer area to accommodate the current design. Staff recognizes the constraints inherent along that frontage, and also recognizes that, although the neighboring property to the east contains a single-family residential use, the large size and existing tree cover of that large R-C zoned lot would minimize any visual impact in that direction

Requested Modifications - The applicant has requested a modification of the transitional screening requirements, in accordance with Sect. 13-305 of the Zoning Ordinance, to consider the proposed landscaping shown on the SEA Plat as meeting screening requirements, and requests that the existing 11-foot chain-link fence (with slats), surrounding the existing substation, and the proposed 8-foot chain-link fence (with slats), to surround the telecommunications compound, be accepted in lieu of required barrier fences along the property lines. The proposed Landscape Plan and calculations (Sheets Z-12 and Z-13) identify the required screening buffer areas, and further describe the modifications requested. The proposed 8-foot enclosure fencing is detailed on Sheet Z-7. Similar modification requests were approved with the prior SE (in 1995).

Staff feels that the existing vegetation along the north property boundary provides sufficient screening, and that the additional vegetation proposed on the SEA Plat in the eastern transitional screening area and directly west of the telecommunications enclosure would be adequate to screen the use(s) in those areas.

STAFF ISSUE - The areas farther north on the property, along the west side of the existing substation, do not feature adequate screening vegetation (as was the intent of the previous SE Plat), and the substation infrastructure is visible from the residential neighborhood across the Park Authority property (and utility corridor). The applicant proposes four new trees in the northwest portion of the site, but staff feels that additional screening material is necessary to provide adequate screening along the west boundary. A development condition is proposed that would require the applicant, at the time of site plan review, to specify additional landscaping along the western site boundary, as determined necessary by the Urban Forest Management Division (UFMD)

of the Department of Public Works and Environmental Services (DPWES) to meet the intent of both the prior SE Plat and the current SEA Plat to screen the use.

Subject to the proposed condition, staff is comfortable with the requested Transitional Screening and Barrier modifications.

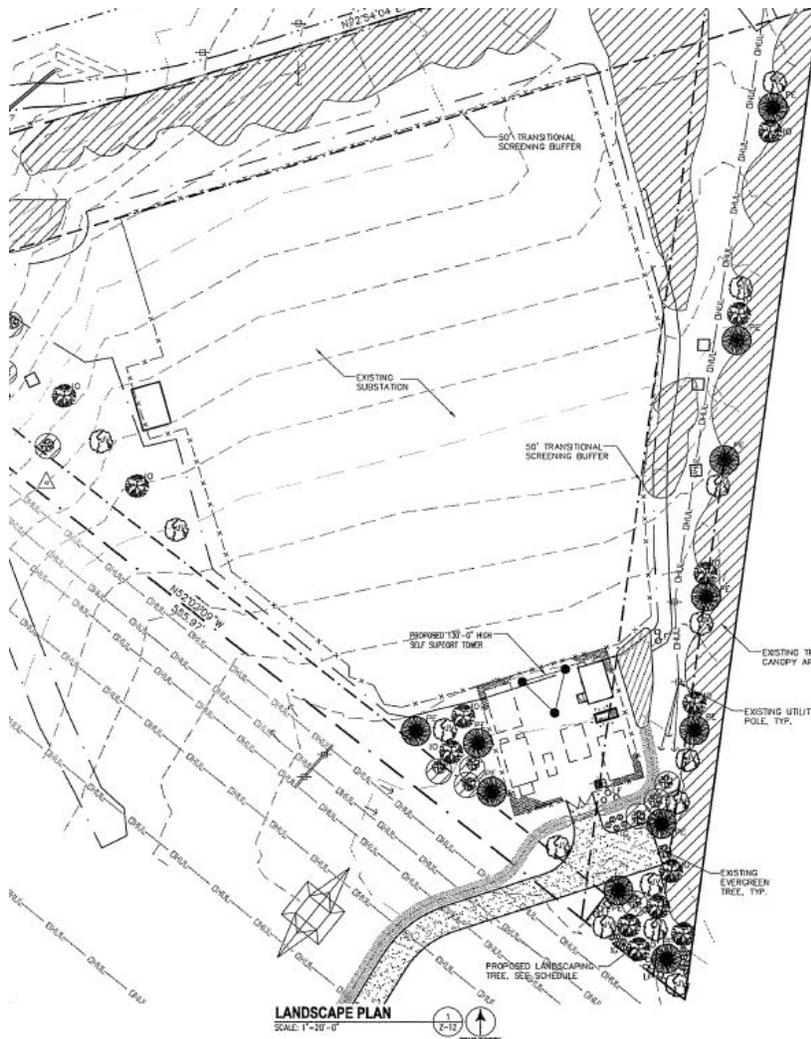


Figure 10: Proposed landscape plan.

Tree Canopy and Preservation Requirements (Sect. 12 of PFM)

In addition to screening requirements, PFM requirements for tree preservation and minimum 10-year tree canopy must also be addressed on the SEA Plat, to ensure that those requirements would be met by the proposed plan at site plan stage.

10-year Tree Canopy Requirements

The Public Facilities Manual requires that any development project in an R-C District achieve 10-year tree canopy coverage of 30% of the entire site. According to the landscape calculations on Sheet Z-13 of the SEA Plat, the proposed plan would result in a 10-year canopy coverage of 30%, thus satisfying the requirement.

Tree Preservation Target

In addition to overall tree canopy requirements, the PFM requires a certain percentage of that canopy be achieved through tree preservation, based on the amount of pre-development tree coverage on the site. According to the values included on the Existing Vegetation Map (EVM) on Sheet Z-13, approximately 20% of the site features existing tree canopy (incorrectly listed as 29% on Table 12.3) , thus requiring 20% of the required 10-year tree canopy be achieved via tree preservation (the tree preservation “target”). The Tree Preservation table indicates a proposed tree preservation value which equals 84% of the full canopy requirement, thus exceeding the 20% target.

Stormwater Management (Sect. 6 of PFM)

PFM requirements for stormwater management (SWM) must also be addressed sufficiently on the SEA Plat to demonstrate that PFM requirements for runoff volume control (detention), water quality, and adequate outfall may be met by the proposed plan at the time of site plan review. The current proposal would be evaluated according to the recently revised Stormwater Ordinance (Chapter 124 of the County Code, and reflected in Article 6 of the PFM), which was adopted on July 1, 2014.

The Ordinance requires the current proposal to control the volume and rate of runoff leaving the site, and requires projects to include Best Management Practices (BMPs) sufficient to meet certain phosphorus removal targets. The Water Supply Protection (WS) Overlay District (Sect. 7-808) subjects this site to a higher water quality standard than the base Ordinance, requiring the proposal to reduce by 50% the projected phosphorus runoff pollution for the proposed use.

Installation of the existing substation infrastructure included a detention pond (labeled Pond P-1 on the SEA Plat), as well as two upstream BMPs (Ponds P-2 and P-3) to meet detention and water-quality requirements, at that time. The currently proposed improvements would result in additional impervious surface area, which would require stormwater control and treatment sufficient to meet current regulations.

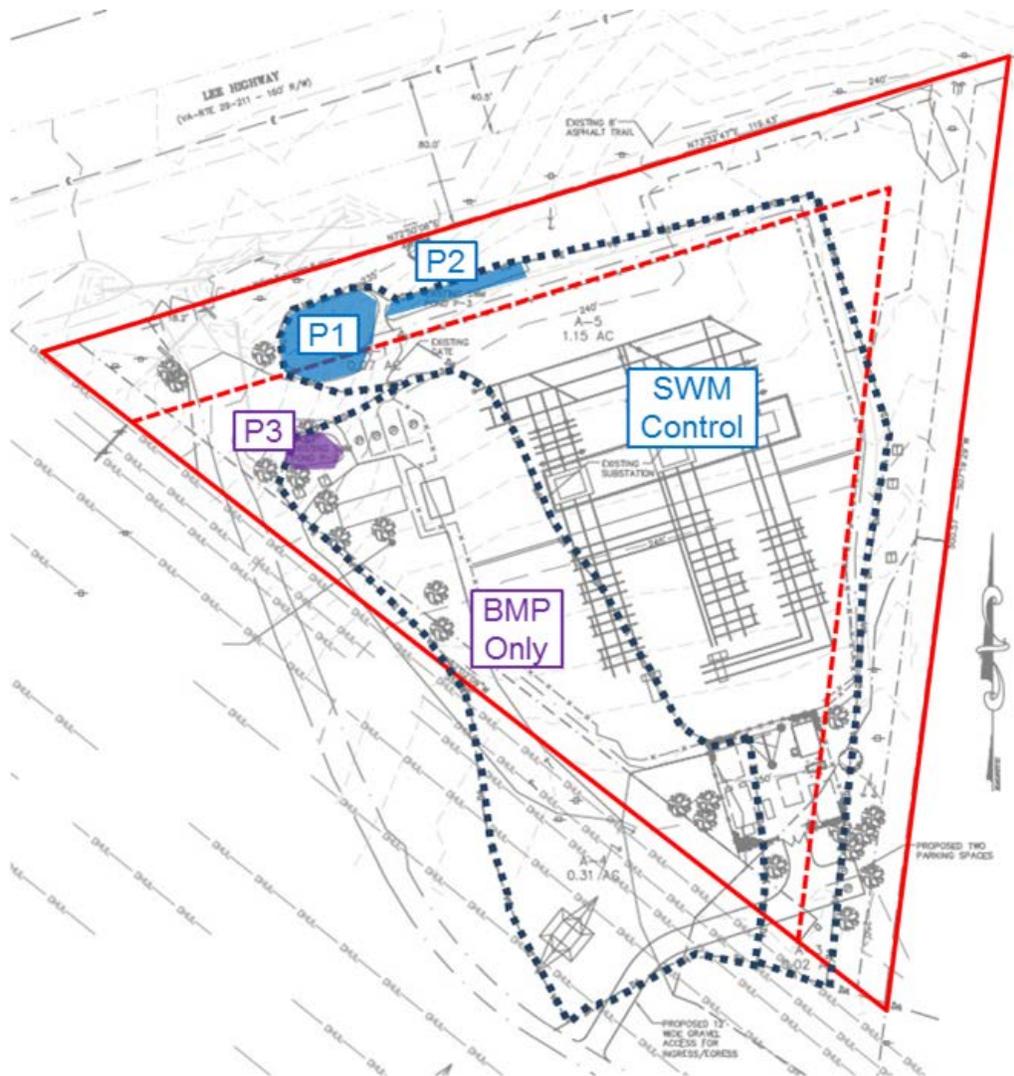


Figure 11: Existing stormwater management features.

Initial submittals of the SEA Plat included no proposed SWM features and indicated that waivers would be pursued at site plan stage, which staff did not support. Subsequent revisions to the SEA Plat have addressed SWM requirements on Sheets Z-14 and Z-15, though Sheet Z-1 still references outdated information indicating a lack of proposed SWM facilities. Staff has proposed a development condition that clarifies that SWM facilities, in conformance with County Ordinances, will be required at the time of site plan review.

The current SWM proposal (as depicted on Sheet Z-14, and described on Sheet Z-15) consists of a grass-lined channel, adjacent to the proposed access drive, which would

convey all runoff from the impervious areas to a bioretention facility for treatment. Overland relief would be provided via an existing rip-rap channel on the site.

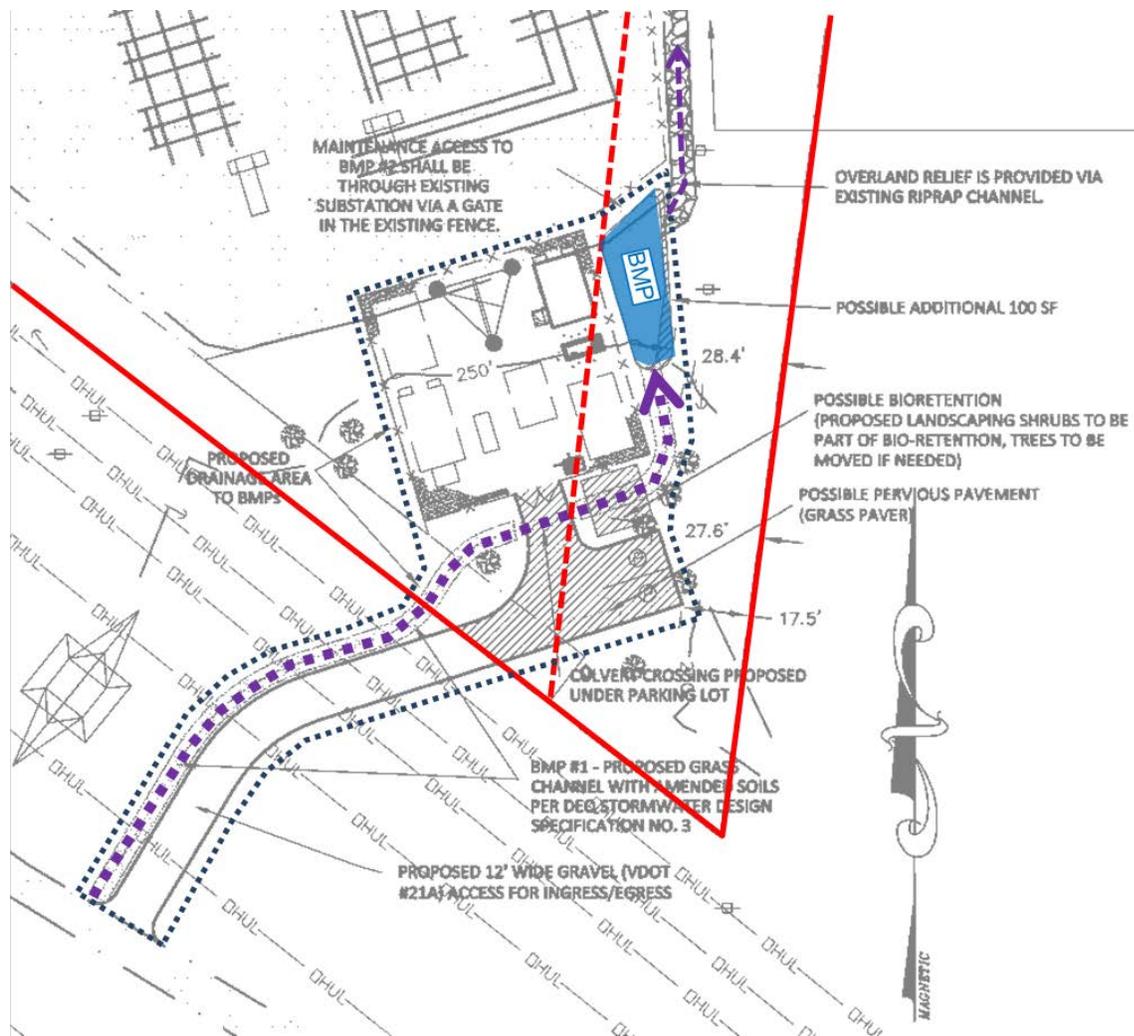


Figure 12: Proposed stormwater management facilities.

STAFF ISSUE - Staff supports the general concept of intercepting and treating runoff from the proposed new impervious areas upstream from the existing site infrastructure, so as not to adversely impact the existing SWM facilities onsite, but questions aspects of the SWM Design Narrative (Sheet Z-15) appearing to claim gravel areas as being pervious, and utilizing “void” areas of the gravel for stormwater storage. County SWM regulations, would generally treat all gravel areas as completely impervious, which might result in a higher runoff volume than what is projected, and the requirement for additional treatment facilities at the time of site plan review.

The proposed telecommunications infrastructure, access drive, and landscaping leave very little room on the site to accommodate additional SWM facilities, and already require a Board modification of a required transitional screening buffer area to accommodate. Staff encouraged the applicant to include additional “optional” SWM areas and/or facilities on the SEA Plat, to retain the flexibility to provide additional facilities at site plan stage, if needed. The final revision to the SEA Plat did not include additional SWM facilities; however, the applicant subsequently submitted an additional SWM exhibit including additional areas for possible bioretention and/or pervious pavement. Staff proposes a development condition that would incorporate the features shown on the exhibit in the SEA approval.

Staff is satisfied that the proposed condition would provide the applicant additional design flexibility at site plan stage. Any major modifications to the proposed SWM or additional transitional screening area modification would, however, require an amendment to the Special Exception, as clarified in an additional development condition.

General Special Exception Standards (Sect. 9-006)

In addition to specific standards for particular uses, all special exception uses shall satisfy the following general standards:

Standard 1: *The proposed use at the specified location shall be in harmony with the adopted Comprehensive Plan. As stated in the Land Use/2232 Analysis, staff concludes that the proposal is in harmony with the Comprehensive Plan.*

Standard 2: *The proposed use shall be in conformance with the general purpose and intent of the applicable zoning district regulations. The R-C District permits light public utility uses as a special exception use, and the proposed landscaping and SWM measures would ensure that the site continues to meet the intent of both the R-C and WS Overlay Districts to protect forest cover, ecological habitat, and water resources.*

Standard 3: *The proposed use shall be such that it will be harmonious with and will not adversely affect the use or development of neighboring properties in accordance with the applicable zoning district regulations and the adopted Comprehensive Plan. The location, size, and height of buildings, structures, walls, and fences, and the nature and extent of screening, buffering, and landscaping shall be such that the use will not hinder or discourage the appropriate development and use of adjacent or nearby land and/or buildings or impair the value thereof. As stated in the Land Use/2232 Analysis, the proposed 130-foot tower, while a substantial structure, would not be out of scale with*

the existing 125-foot power line structures located on the neighboring property and, subject to proposed conditions, the proposed utility compound would be adequately screened by landscaping and a privacy fence, in order to minimize any visual impact of both the proposed and existing site facilities from neighboring properties. It is staff's opinion that the proposed expansion will not hinder future development of adjacent parcels, owing to the existing vegetation, supplemental plantings proposed, and the distance to residential units.

Standard 4: The proposed use shall be such that pedestrian and vehicular traffic associated with such use will not be hazardous or conflict with the existing and anticipated traffic in the neighborhood. The existing substation features an access directly on Lee Highway, which also serves to access a gravel road that runs along the utility corridor on the neighboring Park Authority property. The proposed facility would be located on the rear portion of the subject parcel, and would be accessed via a gravel drive connecting to the road on Park Authority property. An access easement plat has been generated to provide authority for such access, and has been preliminarily reviewed by both the Park Authority and VEPCO, who holds a utility easement over that property (Appendix 15). A proposed condition would require an access easement be recorded and all necessary permissions received to ensure legal access to the site, prior to site plan approval for SEA. Staff is satisfied that the proposed access would be adequate, and the limited need to access the site would result in no additional hazards or conflicts.

Standard 5: In addition to the standards which may be set forth in this Article for a particular category or use, the Board shall require landscaping and screening in accordance with the provisions of Article 13. As discussed earlier in the Zoning Analysis, the proposal would satisfy landscaping and screening requirements, subject to the proposed conditions and approval of the requested modifications, which staff recommends be approved. Staff concludes that this standard has been met.

Standard 6: Open space shall be provided in an amount equivalent to that specified for the zoning district in which the proposed use is located. The Ordinance includes no open space requirement for any R-C District use other than for cluster development.

Standard 7: Adequate utility, drainage, parking, loading and other necessary facilities to serve the proposed use shall be provided. Parking and loading requirements shall be in accordance with the provisions of Article 11. As discussed previously in the report, staff feels that the proposal includes adequate provisions for drainage, parking, loading, and other necessary facilities to serve the use.

Standard 8: *Signs shall be regulated by the provisions of Article 12; however, the Board may impose more strict requirements for a given use than those set forth in this Ordinance.* There are no signs proposed with this application.

Category 1 Special Exception Standards for all Category 1 Uses (Sect. 9-104)

Standard 1: *Category 1 special exception uses shall not have to comply with the lot size requirements or the bulk regulations set forth for the zoning district in which located.* Requires no staff comment.

Standard 2: *No land or building in any district other than the I-5 and I-6 District shall be used for the storage of materials or equipment, or for the repair or servicing of vehicles or equipment, or for the parking of vehicles except those needed by employees connected with the operation of the immediate facility.* The proposal meets these stipulations.

Standard 3: *If the proposed location of a Category 1 use is in an R district, there shall be a finding that there is no alternative site available for such use in a C or I district within 500 feet of the proposed location; except that in the case of electric transformer stations and telecommunication central offices, there shall be a finding that there is no alternative site available in a C or I district within a distance of one (1) mile, unless there is a substantial showing that it is impossible for satisfactory service to be rendered from an available location in such C or I district.* There are no C or I districts within 500 feet of the facility.

Standard 4: *Before establishment, all uses, including modifications or alterations to existing uses, shall be subject to the provisions of Article 17, Site Plans.* The applicant expects to submit a site plan following the special exception review process.

Additional Standards for Mobile and Land Based Telecommunications Facilities (Sect. 9-105)

Standard 1: *Except for antennas completely enclosed within a structure, all antennas and their supporting mounts shall be of a material or color that closely matches and blends with the structure on which it is mounted.* The color and materials of the antennas and mounts are not apparent on the SEA Plat, so a development condition has been included requiring the color and materials of antennas and mounts to blend with the tower structure.

Standard 2: *Except for a flag mounted on a flagpole as permitted under the provisions*

of Par. 2 of Sect. 12-203, no commercial advertising or signs shall be allowed on any monopole, tower, antenna, antenna support structure, or related equipment cabinet or structure. No advertising or signs are proposed on the SEA Plat, and a development condition is included to ensure that no advertising or signs are placed on any structures in the future.

Standard 3: If any additions, changes or modifications are to be made to monopoles or towers, the Director shall have the authority to require proof, through the submission of engineering and structural data, that the addition, change, or modifications conforms to structural wind load and all other requirements of the Virginia Uniform Statewide Building Code. A development condition has also been proposed that includes the above language.

Standard 4: No signals, lights or illumination shall be permitted on an antenna unless required by the Federal Communications Commission, the Federal Aviation Administration or the County, provided, however, that on all antenna structures which exceed 100 feet in height, a steady red marker light shall be installed and operated at all times, unless the Zoning Administrator waives the red marker light requirement upon a determination by the Police Department that such marker light is not necessary for flight safety requirements for police and emergency helicopter operations. All such lights shall be shielded to prevent the downward transmission of light. A request for waiver of the above red light requirement was approved by the Deputy Zoning Administrator on June 17, 2014 (attached as Appendix 14).

Standard 5: All antennas and related equipment cabinets or structures shall be removed within 120 days after such antennas or related equipment cabinets or structures are no longer in use. A proposed development condition includes the above language.

In conclusion, staff finds that the application, subject to proposed development conditions (as outlined above), would satisfy the Additional Standards for Mobile and Land Based Telecommunications Facilities.

REQUESTED WAIVERS AND MODIFICATIONS

- Modification of transitional screening requirements (per Sect. 13-305, Par. 3) to consider existing vegetation and proposed vegetation, as depicted on the SEA Plat, and as conditioned, as satisfying requirements.

- Modification of barrier requirements to consider the existing 11-foot chain-link fence with slats, and the proposed 8-foot chain-link fence with slats, as depicted on the SEA Plat, as satisfying requirements.

As previously discussed in the analysis of Article 13 requirements, staff supports these two modification requests subject to the proposed conditions.

- Continuation of a waiver of the service drive requirement along Lee Highway,
- Direction to the Director of DPWES to continue a waiver of the dustless surface requirement of the PFM, to allow the gravel driveway and parking areas shown on the SEA Plat.

Staff supports the requests to continue these previous waivers.

CONCLUSIONS AND RECOMMENDATIONS

Staff Conclusions

Staff concludes that the subject proposal by Milestone Communications and Verizon Wireless, to install a telecommunications facility at 15001 Lee Highway, Centreville, VA 20121, satisfies the criteria of location, character, and extent as specified in Virginia Code Sect. 15.2-2232, as amended.

It is also staff's opinion that, subject to the adoption of the proposed development conditions, the Special Exception Amendment application would be in harmony with the Comprehensive Plan and in conformance with all applicable Zoning Ordinance provisions.

Staff Recommendations

- Staff recommends that the Planning Commission find the subject Application **2232-Y13-10**, as amended, substantially in accord with provisions of the adopted Comprehensive Plan.
- Staff recommends approval of **SEA 90-S-021**, subject to the proposed development conditions in Appendix 1.
- Staff recommends approval of a modification of transitional screening requirements (per Sect. 13-305, Par. 3) to consider existing vegetation and proposed vegetation, as depicted on the SEA Plat, and as conditioned, as satisfying requirements.
- Staff recommends approval of a modification of barrier requirements to consider the existing 13-foot chain-link fence with slats, and the proposed 8-foot chain-link fence with slats, as depicted on the SEA Plat, as satisfying requirements.

- Staff recommends continuation of a waiver of the service drive requirement along Lee Highway,
- Staff recommends direction to the Director of DPWES to continue a waiver of the dustless surface requirement of the PFM, to allow the gravel driveway and parking areas shown on the SEA Plat.

It should be noted that it is not the intent of staff to recommend that the Board, in adopting any development conditions, relieve the applicant/owner from compliance with the provisions of any applicable ordinances, regulations, or adopted standards.

It should be further noted that the content of this report reflects the analysis and recommendation of staff; it does not reflect the position of the Board of Supervisors.

The approval of this Special Exception Amendment does not interfere with, abrogate, or annul any easement, covenant, or other agreement between parties, as they may apply to the property subject to this application.

APPENDICES

1. Proposed SEA Development Conditions
2. Affidavit
3. 2232 Application
 - 3.1. Statement of Justification
 - 3.2. Coverage Maps
 - 3.3. Photo Simulations
4. SEA Statement of Justification
5. SE 90-S-021 Conditions
6. Zoning Ordinance Provisions
7. DPZ - 2232 Analysis
8. DPZ - Environmental Analysis
9. FCDOT - Transportation Analysis
10. UFMD - Urban Forest Management Analysis
11. DPWES - Stormwater Management Analysis
12. FCPA - Park Authority Analysis
13. Equipment Specifications
14. Red Light Waiver
15. Access Easement Exhibit / Memo
16. Glossary of Terms

PROPOSED DEVELOPMENT CONDITIONS
SEA 90-S-021
October 15, 2014

If it is the intent of the Board of Supervisors to approve SEA 90-S-021, located at 15001 Lee Highway, Tax Map 64-2((03))-26A, for a telecommunications tower and associated equipment, pursuant to Sect. 3-C04 of the Fairfax County Zoning Ordinance, the staff recommends that the Board condition the approval by requiring conformance with the following development conditions. These conditions supersede all previous conditions on the property. Previous conditions carried forward, or with only minor updates are marked with an asterisk (*). Entirely new conditions are noted.

1. This Special Exception Amendment is granted for and runs with the land indicated in this application and is not transferable to other land.*
2. This Special Exception Amendment is granted only for the purpose(s), structure(s) and/or use(s) indicated on the special exception plat approved with the application, as qualified by these development conditions.*
3. This Special Exception Amendment is subject to the provisions of Article 17, Site Plans. Any plan submitted pursuant to this Special Exception Amendment shall be in conformance with the approved Special Exception Amendment Plat (SEA Plat), entitled "Novex-Johnson Substation", prepared by Entrex Communications, and dated May 28, 2013 as revised through September 17, 2014, consisting of 15 sheets, and these conditions (Sheet Z-2 has been intentionally deleted from the SE Plat).

Since this SEA proposes no modifications to the existing Johnson Electrical Substation facility, the existing electrical substation facility itself shall remain subject to the specifications and details depicted on the prior SE Plat (SE 90-S-021), consisting of three sheets entitled "Johnson Substation", prepared by R.B. Thomas Jr., Ltd., and dated March 9, 1990 as revised through September 11, 1990, except where specifically superseded by information on the current SEA Plat.

4. Landscaping shall be provided and maintained in good condition as shown on the SEA Plat, and as conditioned. Additional landscaping shall be provided along the western site boundary, as determined necessary by the Urban Forest Management Division of DPWES, at the time of site plan review, to provide screening adequate to meet the general intent of both the prior SE Plat and the SEA Plat.*
5. Six parking spaces shall be provided on the site, as depicted on the SEA Plat (four to serve the electrical substation and two to serve the telecommunications facility).*

6. As determined by the Department of Public Works and Environmental Services (DPWES) at the time of site plan review, on-site Stormwater Management (SWM) and Best Management Practice (BMP) facilities shall be provided, in conformance with the SEA Plat, to satisfy all applicable County Stormwater Ordinance requirements. The applicant shall be allowed the flexibility to include additional treatment facilities, as depicted on Exhibit A of these conditions. Any major modification necessary to satisfy Ordinance requirements, or any further encroachment into the required transitional screening areas shall require an amendment to this SEA.*
7. Erosion and sediment control practices shall be implemented, if determined needed by DPWES, to protect the pond area located on the north side of Lee Highway.*
8. Information concerning the specific content of hazardous materials in the three transformers and an emergency response plan for containing potential spills or leaks shall be on file with the Fairfax County Fire and Rescue Department for implementation during emergencies.*
9. The location of the existing natural gas pipeline within the adjacent Columbia Gas line easement shall be provided on the site plan at time of submission to DPWES to protect the line from damage during construction.*
10. Prior to site plan approval, an access easement shall be recorded and all necessary permissions received to ensure legal access to the site through neighboring Park Authority property, as depicted on the SEA Plat. [new condition]
11. All antennas and supporting hardware mounted on the telecommunications tower shall be of a material or color that closely matches and blends with the tower structure. [new condition]
12. Prior to the installation of landscape material to meet requirements of the approved landscape plan, the Contractor/Developer shall coordinate a pre-installation meeting on site with the landscape contractor and a representative of the County Urban Forest Management Division (UFMD). Any proposed changes to the location of planting, size of trees/shrubs, and any proposed plant substitutions for species specified on the approved plan shall be reviewed at this time and must be approved prior to planting. The installation of plants not specified on the approved plan, and not previously approved by UFMD, may require submission of a revision to the landscape plan or removal and replacement with approved material, prior to bond release. UFMD shall be contacted (703-324-1770) a minimum of three (3) days prior to the meeting on site. [new condition]
13. Field location of planting material, when required by the approved plan, shall be reviewed at the pre-installation meeting. The Landscape Contractor shall stake

proposed individual planting locations in consultation with the Contractor/Developer prior to the pre-installation meeting, for review by UFMD staff. Stakes shall be adjusted, as needed, during the course of the meeting as determined by UFMD staff based on discussion with the Contractor/Developer and the Landscape Contractor.
[new condition]

14. No commercial advertising or signs shall be allowed on any telecommunications tower or equipment on the site. [new condition]
15. If any additions, changes or modifications are to be made to the proposed tower, the Director of DPWES shall have the authority to require proof, through the submission of engineering and structural data, that the addition, change, or modifications conform to structural wind load and all other requirements of the Virginia Uniform Statewide Building Code. [new condition]

The above proposed conditions are staff recommendations and do not reflect the position of the Board of Supervisors unless and until adopted by that Board.

This approval, contingent on the above noted conditions, shall not relieve the applicant from compliance with the provisions of any applicable ordinances, regulations, or adopted standards.

Pursuant to Section 9-015 of the Zoning Ordinance, this special exception shall automatically expire, without notice, thirty (30) months after the date of approval unless the use has been established as outlined above.

SPECIAL EXCEPTION AFFIDAVIT

DATE: September 25, 2014
(enter date affidavit is notarized)

I, Frank W. Stearns, do hereby state that I am an
(enter name of applicant or authorized agent)

(check one) applicant
 applicant's authorized agent listed in Par. 1(a) below

125046b

in Application No.(s): SEA 90-S-021
(enter County-assigned application number(s), e.g. SE 88-V-001)

and that, to the best of my knowledge and belief, the following information is true:

1(a). The following constitutes a listing of the names and addresses of all **APPLICANTS, TITLE OWNERS, CONTRACT PURCHASERS, and LESSEES** of the land described in the application,* and, if any of the foregoing is a **TRUSTEE**,** each **BENEFICIARY** of such trust, and all **ATTORNEYS** and **REAL ESTATE BROKERS**, and all **AGENTS** who have acted on behalf of any of the foregoing with respect to the application:

(NOTE: All relationships to the application listed above in **BOLD** print are to be disclosed. Multiple relationships may be listed together, e.g., **Attorney/Agent, Contract Purchaser/Lessee, Applicant/Title Owner**, etc. For a multiparcel application, list the Tax Map Number(s) of the parcel(s) for each owner(s) in the Relationship column.)

NAME (enter first name, middle initial, and last name)	ADDRESS (enter number, street, city, state, and zip code)	RELATIONSHIP(S) (enter applicable relationships listed in BOLD above)
Cellco Partnership dbaVerizon Wireless Brian A. Stover	9000 Junction Drive Annapolis Junction, MD 20701	Applicant for Tax Map No. 0642 03 0026A
Milestone Tower LP, III dba Milestone Communications Leonard NMI Forkas, Jr.	12110 Sunset Hills Road, Suite 100 Reston, VA 20190	Applicant for Tax Map No. 0642 03 0026A
Northern Virginia Electric Cooperative	10323 Lomond Drive Manassas, VA 20109	Owner for Tax Map No. 0642 03 0026A
Donohue & Stearns, PLC Frank W. Stearns Edward L. Donohue	201 Liberty Street Leesburg, VA 20175	Attorneys/Agents Attorney/Agent Attorney/Agent
Entrex Communication Services, Inc. Ravi C. Shrestha	6600 Rockledge Drive, Suite 550 Bethesda, MD 20817	Engineers Engineer
Wetland Studies and Solutions, Inc. Kelly Petrey, P.E.	5300 Wellington Branch Dr., Suite 100 Gainesville, VA 20155	Engineers Engineer

(check if applicable) There are more relationships to be listed and Par. 1(a) is continued on a "Special Exception Attachment to Par. 1(a)" form.

* In the case of a condominium, the title owner, contract purchaser, or lessee of 10% or more of the units in the condominium.
** List as follows: Name of trustee, Trustee for (name of trust, if applicable), for the benefit of: (state name of each beneficiary).

SPECIAL EXCEPTION AFFIDAVIT

DATE: September 25, 2014
 (enter date affidavit is notarized)

for Application No. (s): SEA 90-S-021
 (enter County-assigned application number(s))

125046 b

1(b). The following constitutes a listing*** of the **SHAREHOLDERS** of all corporations disclosed in this affidavit who own 10% or more of any class of stock issued by said corporation, and where such corporation has 10 or less shareholders, a listing of all of the shareholders:

(NOTE: Include SOLE PROPRIETORSHIPS, LIMITED LIABILITY COMPANIES, and REAL ESTATE INVESTMENT TRUSTS herein.)

CORPORATION INFORMATION

NAME & ADDRESS OF CORPORATION: (enter complete name and number, street, city, state, and zip code)
 Bell Atlantic Mobile Systems, LLC
 One Verizon Way
 Basking Ridge, NJ 07920-1097

DESCRIPTION OF CORPORATION: (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
 There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
 There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF SHAREHOLDERS: (enter first name, middle initial and last name)

MCI Communications Services, Inc.

(check if applicable) There is more corporation information and Par. 1(b) is continued on a "Special Exception Affidavit Attachment 1(b)" form.

*** All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. *In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.* Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

Special Exception Attachment to Par. 1(b)DATE: September 25, 2014
(enter date affidavit is notarized)for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))125046 b**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)MCI Communications Services, Inc.
One Verizon Way
Basking Ridge, NJ 07920-1097**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

MCI Broadband Solutions, Inc.

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)MCI Broadband Solutions, Inc.
901 International Parkway
Lake Mary, FL 32746**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Terremark Worldwide, Inc.

(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)DATE: September 25, 2014
(enter date affidavit is notarized)for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))

125046b

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)Terremark Worldwide, Inc.
One Biscayne Tower
2 South Biscayne Boulevard, Suite 2800
Miami, FL 33131**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Verizon Business Network Services, Inc.

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)Verizon Business Network Services, Inc.
One Verizon Way
Basking Ridge, NJ 07920**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

MCI Communications Corporation

(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)

DATE: September 25, 2014
 (enter date affidavit is notarized)

for Application No. (s): SEA 90-S-021
 (enter County-assigned application number (s))

125046b

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)

MCI Communications Corporation
 One Verizon Way
 Basking Ridge, NJ 07920

DESCRIPTION OF CORPORATION: (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
 There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
 There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Verizon Business Global, LLC

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)

Verizon Business Global, LLC
 One Verizon Way
 Basking Ridge, NJ 07920

DESCRIPTION OF CORPORATION: (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
 There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
 There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Verizon Communications, Inc.

(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)DATE: September 25, 2014
(enter date affidavit is notarized)for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))

125046b

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)Verizon Communications, Inc.
140 West Street
New York, NY 10007**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)GTE Wireless Incorporated
One Verizon Way
Basking Ridge, NJ 07920**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)MFS Globenet Inc.
GTE Corporation(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)DATE: September 25, 2014
(enter date affidavit is notarized)for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))

1250466

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)GTE Corporation
140 West Street
New York, NY 10007**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)Verizon Communications Inc.
NYNEX LLC
Verizon Ventures LLC**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)NYNEX LLC
140 West Street
New York, NY 10007**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Verizon Communications Inc.

(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)DATE: September 25, 2014
(enter date affidavit is notarized)for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))125046b**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)Verizon Ventures LLC
One Verizon Way
Basking Ridge, NJ 07920**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Verizon Communications Inc.

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)MFS Globenet Inc.
One Verizon Way
Basking Ridge, NJ 07920**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

MCI International Services, Inc.

(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)DATE: September 25, 2014
(enter date affidavit is notarized)for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))

1250466

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)MCI International Services, Inc.
One Verizon Way
Basking Ridge, NJ 07920**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)MCI International, Inc.
Verizon Business Network Services, Inc.**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)MCI International, Inc.
One Verizon Way
Basking Ridge, NJ 07920**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

MCI Communications Corporation

(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)DATE: September 25, 2014
(enter date affidavit is notarized)for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))

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NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)JV PartnerCo, LLC
One Verizon Way
Basking Ridge, NJ 07920**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Verizon Americas Inc.

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)Verizon Americas Inc.
One Verizon Way
Basking Ridge, NJ 07920**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Verizon Americas Holdings, Inc.

(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)DATE: September 25, 2014
(enter date affidavit is notarized)for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))1250466**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)Verizon Americas Holdings Inc.
901 International Parkway
Lake Mary, FL 32746**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Verizon Americas Finance 2 Inc.

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)Verizon Americas Finance 2 Inc.
One Verizon Way
Basking Ridge, NJ 07920**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Verizon Americas Finance 1 Inc.

(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)DATE: September 25, 2014
(enter date affidavit is notarized)for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))1250466**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)Verizon Americas Finance 1 Inc.
One Verizon Way
Basking Ridge, NJ 07920**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Verizon Communications Inc.

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)Verizon Holdings LLC
One Verizon Way
Basking Ridge, NJ 07920**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Verizon Americas Inc.

(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)

DATE: September 25, 2014
 (enter date affidavit is notarized)

for Application No. (s): SEA 90-S-021
 (enter County-assigned application number (s))

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NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)

Milestone Communications Management III, Inc.
 12110 Sunset Hills Road, Suite 100
 Reston, VA 20190

DESCRIPTION OF CORPORATION: (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
 There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
 There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

Leonard NMI Forkas, Jr.

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)

Northern Virginia Electric Cooperative
 5399 Wellington Road
 Gainesville, VA 20155-1616

DESCRIPTION OF CORPORATION: (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
 There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
 There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

NONE - There are no shareholders in a cooperative

(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)DATE: September 25, 2014
(enter date affidavit is notarized)for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))

125046b

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)Donohue & Stearns, PLC
117 Oronoco Street
Alexandria, VA 22314**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)Edward L. Donohue
Frank W. Stearns**NAME & ADDRESS OF CORPORATION:** (enter complete name, number, street, city, state, and zip code)Entrex Communications Services, Inc.
6600 Rockledge Drive, Suite 550
Bethesda, MD 20817**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)Marc A. Marzullo
Camille F. Shabshab
John Cabot Goudy(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

Special Exception Attachment to Par. 1(b)DATE: September 25, 2014
(enter date affidavit is notarized)for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))

1250466

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)Wetland Studies and Solutions, Inc.
5300 Wellington Branch Drive, Suite 100
Gainesville, VA 20155**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)

The Davey Tree Expert Company

NAME & ADDRESS OF CORPORATION: (enter complete name, number, street, city, state, and zip code)The Davey Tree Expert Company
1500 N. Mantua Street
Kent, OH 44240**DESCRIPTION OF CORPORATION:** (check one statement)

- There are 10 or less shareholders, and all of the shareholders are listed below.
- There are more than 10 shareholders, and all of the shareholders owning 10% or more of any class of stock issued by said corporation are listed below.
- There are more than 10 shareholders, but no shareholder owns 10% or more of any class of stock issued by said corporation, and no shareholders are listed below.

NAMES OF THE SHAREHOLDERS: (enter first name, middle initial, and last name)Reliance Trust Co. as Trustee for the
Davey 401K SOP and ESOP
1100 Abernathy Road
North Park Building 500, Suite 400
Atlanta, GA 30382(check if applicable) There is more corporation information and Par. 1(b) is continued further on a "Special Exception Attachment to Par. 1(b)" form.

SPECIAL EXCEPTION AFFIDAVIT

DATE: September 25, 2014
(enter date affidavit is notarized)

for Application No. (s): SEA 90-S-021
(enter County-assigned application number(s))

125046b

1(c). The following constitutes a listing*** of all of the **PARTNERS**, both **GENERAL** and **LIMITED**, in any partnership disclosed in this affidavit:

PARTNERSHIP INFORMATION

PARTNERSHIP NAME & ADDRESS: (enter complete name, and number, street, city, state, and zip code)

Cellco Partnership d/b/a Verizon Wireless
One Verizon Way
Basking Ridge, NJ 07920-1097

(check if applicable) The above-listed partnership has no limited partners.

NAMES AND TITLE OF THE PARTNERS (enter first name, middle initial, last name, and title, e.g.

General Partner, Limited Partner, or General and Limited Partner)

- Bell Atlantic Mobile Systems LLC	General Partner
- GTE Wireless Incorporated	General Partner
- PCS Nucleus, L.P.	General Partner
- JV PartnerCo, LLC	General Partner

(check if applicable) There is more partnership information and Par. 1(c) is continued on a "Special Exception Affidavit Attachment to Par. 1(c)" form.

*** All listings which include partnerships, corporations, or trusts, to include the names of beneficiaries, must be broken down successively until: (a) only individual persons are listed or (b) the listing for a corporation having more than 10 shareholders has no shareholder owning 10% or more of any class of stock. *In the case of an APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land that is a partnership, corporation, or trust, such successive breakdown must include a listing and further breakdown of all of its partners, of its shareholders as required above, and of beneficiaries of any trusts. Such successive breakdown must also include breakdowns of any partnership, corporation, or trust owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land. Limited liability companies and real estate investment trusts and their equivalents are treated as corporations, with members being deemed the equivalent of shareholders; managing members shall also be listed.* Use footnote numbers to designate partnerships or corporations, which have further listings on an attachment page, and reference the same footnote numbers on the attachment page.

Special Exception Attachment to Par. 1(c)

DATE: September 25, 2014
(enter date affidavit is notarized)

125046 b

for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))

PARTNERSHIP NAME & ADDRESS: (enter complete name & number, street, city, state & zip code)

PCS Nucleus, L.P.
One Verizon Way
Basking Ridge, NJ 07920

(check if applicable) The above-listed partnership has no limited partners.

NAMES AND TITLES OF THE PARTNERS: (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

Verizon Holdings LLC	General Partner
JV PartnerCo, LLC	General Partner

(check if applicable) There is more partnership information and Par. 1(c) is continued further on a "Special Exception Attachment to Par. 1(c)" form.

Special Exception Attachment to Par. 1(c)

DATE: September 25, 2014
(enter date affidavit is notarized)

125046b

for Application No. (s): SEA 90-S-021
(enter County-assigned application number (s))

PARTNERSHIP NAME & ADDRESS: (enter complete name & number, street, city, state & zip code)

Milestone Tower LP, III
12110 Sunset Hills Road, Suite 100
Reston, Va 20190

(check if applicable) The above-listed partnership has no limited partners.

NAMES AND TITLES OF THE PARTNERS: (enter first name, middle initial, last name, and title, e.g., **General Partner, Limited Partner, or General and Limited Partner**)

Milestone Communications Management General Partner
III, Inc.

(check if applicable) There is more partnership information and Par. 1(c) is continued further on a "Special Exception Attachment to Par. 1(c)" form.

SPECIAL EXCEPTION AFFIDAVIT

DATE: September 25, 2014
 (enter date affidavit is notarized)

125046b

for Application No. (s): SEA 90-S-021
 (enter County-assigned application number(s))

1(d). One of the following boxes **must** be checked:

In addition to the names listed in Paragraphs 1(a), 1(b), and 1(c) above, the following is a listing of any and all other individuals who own in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE*** of the land:

Other than the names listed in Paragraphs 1(a), 1(b), and 1(c) above, no individual owns in the aggregate (directly and as a shareholder, partner, and beneficiary of a trust) 10% or more of the **APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE*** of the land.

2. That no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household owns or has any financial interest in the subject land either individually, by ownership of stock in a corporation owning such land, or through an interest in a partnership owning such land.

EXCEPT AS FOLLOWS: (**NOTE:** If answer is none, enter "NONE" on the line below.)

NONE

(check if applicable) There are more interests to be listed and Par. 2 is continued on a "Special Exception Attachment to Par. 2" form.

Application No.(s): SEA 90-S-021
(county-assigned application number(s), to be entered by County Staff)

SPECIAL EXCEPTION AFFIDAVIT

DATE: September 25, 2014
(enter date affidavit is notarized)

1250466

3. That within the twelve-month period prior to the public hearing of this application, no member of the Fairfax County Board of Supervisors, Planning Commission, or any member of his or her immediate household, either directly or by way of partnership in which any of them is a partner, employee, agent, or attorney, or through a partner of any of them, or through a corporation in which any of them is an officer, director, employee, agent, or attorney or holds 10% or more of the outstanding bonds or shares of stock of a particular class, has, or has had any business or financial relationship, other than any ordinary depositor or customer relationship with or by a retail establishment, public utility, or bank, including any gift or donation having a value of more than \$100, singularly or in the aggregate, with any of those listed in Par. 1 above.

EXCEPT AS FOLLOWS: (NOTE: If answer is none, enter "NONE" on line below.)

During the twelve month period Frank W. Stearns, Esq., a partner in the law firm of Donohue & Stearns, PLC, made a contribution in excess of \$100 to Supervisor Pat Herry.

NOTE: Business or financial relationships of the type described in this paragraph that arise after the filing of this application and before each public hearing must be disclosed prior to the public hearings. See Par. 4 below.)

(check if applicable) [] There are more disclosures to be listed and Par. 3 is continued on a "Special Exception Attachment to Par. 3" form.

4. That the information contained in this affidavit is complete, that all partnerships, corporations, and trusts owning 10% or more of the APPLICANT, TITLE OWNER, CONTRACT PURCHASER, or LESSEE* of the land have been listed and broken down, and that prior to each and every public hearing on this matter, I will reexamine this affidavit and provide any changed or supplemental information, including business or financial relationships of the type described in Paragraph 3 above, that arise on or after the date of this application.

WITNESS the following signature:

(check one)

[] Applicant

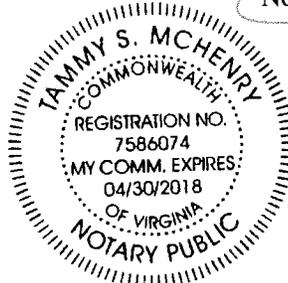
[x] Applicant's Authorized Agent

Frank W. Stearns, Attorney

(type or print first name, middle initial, last name, and & title of signee)

Subscribed and sworn to before me this 25th day of September 2014, in the State/Comm. of Virginia County/City of Herndon

My commission expires: 4/30/18





**COUNTY OF FAIRFAX, VIRGINIA
APPLICATION FOR DETERMINATION
PURSUANT TO VIRGINIA CODE SECTION 15.2-2232**

*** This area to be completed by staff ***

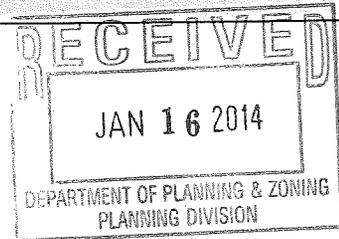
APPLICATION NUMBER 2232-413-10

Date application received 9/20/13 by DPZ

Date(s) Revised 11/4/13 thru 4/23/14

Date application accepted 3/31/14 by DH

(Please Type or Clearly Print)



PART I: APPLICATION SUMMARY

LOCATION OF PROPOSED USE

Address 15001 Lee Highway

City/Town Centreville Zip Code 20121

Place Name (example: Dale High School) NOVEC Substation

Tax Map I.D. Number(s) 0642 03 0026A

Fairfax County Supervisor District Sully

APPLICANT(S)

Name (Company or Agency) Milestone Communications and Verizon Wireless

Agent Name Frank W. Stearns

(Note: Failure to notify County of a change in agent may result in application processing delays)

Agent's Mailing Address 201 Liberty St.

City/Town Leesburg State VA Zip Code 20175

Telephone Number (703) 726-2547 Fax (703) 737-3793

E-mail fwstearns@donohuestearns.com

Secondary Contact Christian Winkler, Milestone Communications

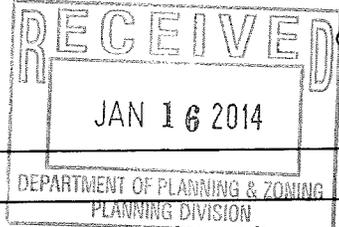
Telephone Number (703) 620-2555 E-mail cwinkler@milestonecorp.com

BRIEF DESCRIPTION OF PROPOSED USE

Construction of a 130 feet tall lattice tower and an associated fenced equipment compound to accommodate up to five telecommunications providers on a property currently used for an electrical transmission substation. Verizon Wireless will be the initial carrier on the facility and up to four more carriers will collocate at the site in the future.

Telecommunications Facility

2232 Review Application



6/2013

Total Area of Subject Parcel(s) 2.7584 acres/120,156 sq. ft.

Zoning District Residential Conservation R-C

Applicant's previous Zoning Approvals for all uses on site (proffered conditions, special permits, special exceptions, variances, development plans)

SE 90-S-021*

*Applicant has submitted an SEA application to the Zoning Evaluation Division concurrent with submission of this 2232 Review application.

PROPERTY OWNER(S) OF RECORD

Owner Northern Virginia Electric Cooperative (formerly named Prince William Electric Cooperative)

Street Address 10323 Lomond Drive

City/Town Manassas State VA Zip Code 20109

Has property owner been contacted about this proposed use? YES NO

SIGNATURE

The undersigned acknowledges that additional Fairfax County land use review requirements may be identified during the review of this 2232 Review application and the fulfillment of such requirements is the responsibility of the applicant. The undersigned also acknowledges that all Fairfax County Zoning Ordinance requirements pertaining to this project shall be fulfilled.

In the event a new agent is assigned responsibility for this application, the applicant agrees to provide a letter to the Department of Planning and Zoning authorizing the transfer of responsibility for the application and providing all new contact information. In the event the applicant fails to notify County staff of a change in agent, the application may be subject to processing delays.

Signature of Applicant or Agent Frank W Stearns (Signature)

Date January 14, 2014

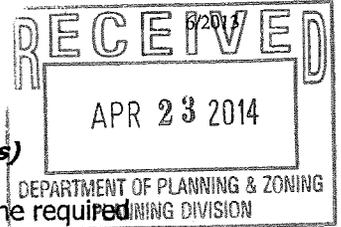
Submit completed application to:

**Chris Caperton, Chief, Facilities Planning Branch
Fairfax County Department of Planning and Zoning
12055 Government Center Parkway, Suite 730
Fairfax, Virginia 22035-5507
(703) 324-1380**

PART II: STATEMENT OF JUSTIFICATION

Telecommunications Facility

2232 Review Application



PART IV: TELECOMMUNICATION USES
(Do not submit for non-telecommunications public facility uses)

A. TYPE OF PROPOSED FACILITY Check the appropriate box(es) and provide the required information

	Yes	No
New monopole* or tower	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Collocation on existing monopole or tower	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Collocation on building facade or rooftop	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Collocation on replacement light pole or utility pole	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Located in utility or transportation easement and/or right-of-way	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Modification to approved telecommunications facility	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Collocation on other structure _____	<input type="checkbox"/>	<input checked="" type="checkbox"/>

**Including treepoles, flagpoles and other freestanding stealth structures.*

B. CALCULATION OF FACILITY MODIFICATIONS for modifications to an approved telecommunications facility, provide the following:

1. Application number(s) (456-, 2232-, FS-, FSA-) for all applicant's prior telecommunications uses on site:

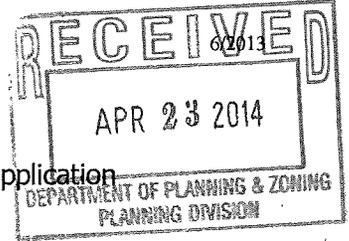
2. Calculate the surface area, in square inches (height x width **or** height x diameter), of the applicant's antennas organized in the following categories:

- a. approved _____ N/A
- b. existing _____ N/A
- c. proposed _____ 9,092 square inches (12 antennas detailed on P. 7)

3. Calculate the volume (height x width x depth) of the applicant's equipment cabinets (in cubic inches) and/or shelter (in cubic feet) organized in the following categories:

- a. approved _____ N/A
- b. existing _____ N/A
- c. proposed _____ 1,961 cu. ft. (shelter)/234 cu. ft. (generator)

2022



C. ANTENNA(S) Provide a separate page for each provider listed as part of the application

Provider Verizon Wireless

Model # or name	Type Panel, Dish, Omni	Quantity	Height	Width	Thickness DEPTH	Location height on the structure
BXA-70063-8CF	Panel	2	94.7"	11.2"	5.2"	128' center line agl
BXA-70080-8CF	Panel	2	94.6"	8.0"	5.9"	128' center line agl
BXA-171085-12CF	Panel	2	72.5"	6.1"	4.1"	128' center line agl
CSS-X7C-FRO-860	Panel	2	96.0"	14.6"	8.0"	128' center line agl
BXA-171063-12CF	Panel	4	72.5"	6.1"	4.1"	128' center line agl

Existing structure color: Grey Antenna color: Grey

Is antenna painted to match existing structure? Yes No

If No, please explain: Antnna will not be painted but will be consistent with tower material.

Will the antennas be screened? Yes No If Yes, describe the screening to be provided:

Will the antennas be flush-mounted to the structure on which they are located? Yes No

If No, please explain: Antennas to be mounted on "stand-off" frames as shown on drawing Z-4.

Additional information:

D. EQUIPMENT

Model # or name	Type cabinet or shelter	Quantity	Height	Width	Depth	Location
Verizon Shelter	Shelter	1	10'5"	16'-10.5"	11'6"	Inside equipment compound
Onsite Energy	Generator	1	7'8"	9'2"	3'4"	Inside equipment compound

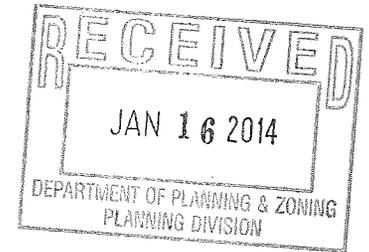
How will the equipment cabinet or shelter be screened? 8' tall chain link fence topped w/barbed wire.

Screen material: 8' tall chain link fence topped w/barbed wire and dark green slats. Screen color: Galvanized steel w/dark green slats.

Additional information:

**Application for Determination
Pursuant to
Section 15.2-2232, Code of Virginia**

Part II: Statement of Justification



Applicants:

Milestone Communications, Inc. 12110 Sunset Hills Road Suite 100 Reston, Virginia 20190	Cellco Partnership d/b/a Verizon Wireless 9000 Junction Drive Annapolis Junction, Maryland 20701
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Site Location

NOVEC Johnson Substation
15001 Lee Highway
Centreville, Virginia 20121
Parcel Number: 0642 03 0026A
Zoning District: Residential Conservation R-C
Planned Use: Residential at .1 - .2 du/ac
Supervisor District: Sully

Description of Proposed Use

Pursuant to Section 15.2-2232 of the Code of Virginia, Milestone Communications and Cellco Partnership Verizon Wireless ("Applicant") respectively requests that a proposed 130' telecommunications facility lattice tower structure with a supporting equipment compound at the base be approved at the NOVEC Johnson Substation, 15001 Lee Highway, Centreville, VA 20121.

The facility is designed for up to five telecommunications carriers. Verizon Wireless will be located at the top position on the 130' lattice tower and the facility will accommodate up to four additional future carriers. A detailed description of the telecommunications facility is provided on the Site Plan entitled "NOVEC – Johnson Substation" prepared by Entrex Communications Services, Inc. dated May 28, 2013 and included as part of this application. The Property consists of 2.76 acres, is zoned R-C (Residential Conservation), and is owned by the Prince William Electric Cooperative. The substation property was approved under special exception SE 90-S-021 on January 14, 1991. A special exception amendment application has been submitted with the Zoning Evaluation Division of the Department of Planning and Zoning for the new telecommunications facility.

Verizon Wireless will have 12 panel antennas at a rad center of 128' above ground level. Space for the antennas of four future carriers is available at rad centers of 118', 108', 98' and 88'. The types and sizes of the Verizon antennas are detailed on Page 7 of the application form and on the engineering drawings, Sheet Z-8.

At the base of the proposed tower will be a lease area for the equipment compound measuring 60' long and 60' wide with a total area of 3,600 square feet. An eight (8) foot high chain link fence topped with barbed wire and dark green slats to create a solid visual barrier will enclose the compound area and conceal the equipment from view. The compound area will contain all equipment and shelters of Verizon and of all future carriers as well as the lattice tower. The Verizon equipment will consist of a shelter building measuring 16'-10.5" long by 11'6" wide by 10'5" tall located within the compound adjacent to the tower. Verizon will also locate a diesel generator in the compound area. Full details of the compound area are detailed on the Compound Plan, Sheet Z-3 of the zoning drawings. The dimensions of Verizon shelter and generator are detailed on Sheet Z-10 of the engineering drawings and can also be found on page 7 of the 2232 Review application forms.

The proposed equipment structure and equipment cabinets will be unmanned and will operate around the clock 365 days per year. All facilities are monitored off site by the providers' 24-hours a day 7-days a week in order to ensure that they are operating properly and that there is no unauthorized tampering with the facilities. Routine maintenance does occur for each of the equipment structures or cabinets once or twice a month as performed by a service technician driving a standard size vehicle to the site. There are no customers, employees or other personnel at the site.

The facility will operate as a cellular base station in the wireless telecommunications networks of Verizon and up to four additional providers. Attached to the application are Verizon's propagation maps that show the area to be covered by the new facility and the existing network coverage.

The proposed use is benign and will not generate noise, lights, dust, glare, vibrations, fumes or odors. Minimum noise will be generated when the back-up generator is tested or there is an outage. The traffic generated will be minimal. The proposed use does not present a threat to the public health, safety or welfare and will not impact radio, television or telephone reception. It will have no negative impact upon the air and water quality, nor will it impact any existing environmental features on the subject property.

Requirement of Proposed Use

The area served by the proposed telecommunications use is depicted on Verizon Wireless' radio frequency coverage maps included in the application package. The maps show the area presently covered by Verizon Wireless in this vicinity and the projected improvement anticipated after installation of the proposed telecommunications use at the Johnson Substation site. Verizon Wireless' objective for this site is to fill existing service gaps and provide services to residences and commuters along the corridors of Lee Highway (Route 29), Stone and Pleasant Valley Roads and adjoining neighborhoods. The site will not only fill gaps but will enhance 4G-LTE data service to all users in the surrounding area.

To achieve the desired coverage and capacity within the intended geographical area, each antenna facility must be strategically located so as to ensure maximum coverage and a minimum overlap with each other facility. Because of the low power of the system, the antennas are

effective only within a limited geographical area. Thus, each facility site is subject to technical and geographical constraints in order to provide reliable and efficient service. The proposed facility is necessary to meet Verizon Wireless' objectives for the area and will further satisfy similar needs of other wireless telecommunications carriers in the future. Moreover, the proposed height of the tower allows placement of the antennas at a sufficient height so as to permit radio signals to clear any obstructions such as trees and structures while simultaneously providing coverage to the intended service area and allowing for the collocation of up to four (4) additional wireless carriers at the site.

Verizon Wireless chose this proposed location as it meets coverage objectives and will improve telecommunications coverage to clients. The telecommunications lattice tower facility at this location will serve additional carriers and is suitable to the site, its setting, and the nature of the existing public use on the property.

Since one of the primary benefits of the wireless communication system is the ability to communicate to and from any location, a network of facilities that provide seamless coverage is essential. The location and design of each facility in the network is therefore critical to the overall functioning of the entire network. Without a facility at or near this location, Verizon Wireless will be unable to provide reliable coverage to its users in the area.

Anticipated Impacts On Adjoining Properties

The tower will be located on an electrical substation property totaling 2.76 acres. Immediately adjacent and to the west and south of the substation is a major utility easement with two rows of overhead utility lines supported by existing tall lattice towers and poles. The easement also contains a liquefied natural gas line. This extensive easement provides a buffer to residences in those directions located along White Post Road. To the east the Cub Run stream valley, a wooded open space area owned by the Fairfax County Park Authority serves as an extensive buffer to properties to the east. This stream valley park area also extends to the north across Lee highway and buffers the substation site in that direction from residential units. As detailed on Drawing Z-1, the proposed structure will be approximately 327 feet from the nearest off site building with the setbacks of the structure 307 feet from the front property line, and approximately 72 feet from the side property lines.

The proposed facility will have no impact on traffic or parking as the facility will be unmanned and does not generate vehicular traffic other than the once or twice a month for a technician to visit to ensure everything is in proper working order. The technician uses a standard vehicle and will have access to the structure and compound via an access drive and turnaround area from Lee Highway and totally on the substation property. There is no perceptible noise generated by the facility unless it is being tested or during power outages. In addition, there will be no interference with electronic equipment for telephone, television, radio or other electronic uses.

Alternative Sites Considered for the Proposal

The proposed lattice tower will be located to fill an existing service void and address capacity issues. The overall area is characterized by existing large lot single-family residential development and collocation on tall existing tall buildings or structures in the area is not an option. Other non-residential properties in the immediate search area include the Virginia Power/Columbia Liquified Gas Easements, the Cub Run Stream Valley Park, the New Life Christian Church, the Bull Run Elementary School, the Centreville Baptist Church, and Assemblies of God Church.

The Virginia Power/Columbia Liquified Gas Easements contains large structures but which were determined to lack the structural ability to accommodate telecommunication uses. The three church sites and the Bull Run Elementary School are extensively developed properties that would require stand alone, solitary structures that would be prominent to the site and have greater visibility than at the selected location. The selected substation property is a well-buffered site that provides the opportunity to visually mix the new tower structure with other existing tall tower and poles used for the transmission of electrical power, reducing its prominence and visual presence.

Relationship of the Proposed Facility to the Comprehensive Plan

Mobile and Land-Based Telecommunication Services provide for the wireless transmission of voice and data and include cellular and personal communications services (PCS), paging and wireless internet services and mobile radio. These services operate from wireless networks that are dependent on antenna devices and related equipment to transmit from a sender to one or more receivers. Such services are viewed as a public necessity that benefits the community and its economic growth and vitality.

The property is located in the Bull Run Planning District, Stone Bridge Community Planning Sector (BR5), Planning Area III, and is planned for residential use at .1 - .2 dwelling units per acre. On Figure 6, "Existing Public Facilities", page 17 of the "Overview: Bull Run Planning District", the "NOVEC Substation" is identified in Sector BR5 under the "Public Utilities" Column. On page 79 of the Bull Run Planning District, Stone Bridge Community Planning Sector (BR5), under "Recommendations: Public Facilities," Recommendation 2 states: "Provide two substations for the Northern Virginia Electric Cooperative in Sector BR5."

The proposed meets the requirements of Policy Plan's Public Facilities element for Mobile and Land Based Telecommunication uses as addressed in the following:

General Guidelines

Objective 42: In order to provide for the mobile and land-based telecommunication network for wireless telecommunication systems licensed by the Federal Communications Commission, and to achieve opportunities for the co-location of related facilities and the reduction or elimination

of their visual impact, locate the network's necessary support facilities which include antennas, monopoles, lattice towers and equipment buildings in accordance with the following policies.

Policy a. Avoid the construction of new structures by locating proposed telecommunication facilities on available existing structures such as rooftops, telecommunication and broadcast support structures, electrical utility poles and towers, and water storage facilities when the telecommunication facilities can be placed inconspicuously to blend with such existing structures.

Applicants' Response: There are no existing structures in the vicinity of the property that can structurally accommodate the proposed telecommunications use. The applicant explored the use of existing Virginia Power transmission poles and towers in the adjacent transmission easement but collocation on these structures was rejected by Virginia power due to structural or foundation issues. Construction of a new tower is, therefore, needed to respond to the growing need in the area.

Policy b. When existing structures are not available for co-location, or co-location is not appropriate because of adverse visual impacts or service needs, locate new structures that are required to support telecommunication antennas on properties that provide the greatest opportunity to conceal the telecommunication facilities and minimize their visual impact on surrounding areas.

Applicants' Response: The proposed tower and compound will be located on property developed with a electrical power substation and adjacent to an existing major electrical transmission corridor. The proposed tower will be compatible and blend with existing tall structures in the area and have minimal visual impact on surrounding areas.

Policy c. When new structures or co-locations are required to serve residential neighborhoods, consider minimizing visual impacts on the surrounding area by utilizing camouflage structure design and/or micro-cell technologies or similar miniaturization technologies, such as distributed antenna systems (DAS), if feasible.

Applicants' Response: The proposed structure will not have a camouflaged design but will be located on a public utility site and will blend with existing tall structures approximately 50' to 125' in height used for electrical transmission purposes in the immediate area.

Policy d. When multiple sites provide similar or equal opportunity to minimize impacts, public lands shall be the preferred location.

Applicants Response: There are no public sites in the immediate area with an equal opportunity to locate the structure and minimize impacts.

Policy e. Locate mobile and land-based telecommunication facilities on public property only after a lease agreement between the County, or related board or authority, and the service provider has been established.

Applicants Response: The structure will not be located on a public use site.

Policy f. Ensure that the use of public property by mobile and land-based telecommunication facilities does not interfere with the existing or planned operational requirements of the public use and complies with adopted policies and plans to protect natural resources.

Applicants Response: The proposed structure will not be located on a public use site.

Policy g. Co-locate mobile and land-based telecommunication facilities operated by different service providers on single sites and/or structures whenever appropriate. Locate single-use structures on a property only when a co-location structure for multiple service providers is not desirable or feasible due to technological differences, site limitations or visual impact concerns.

Applicants' Response: The proposed tower will accommodate up to five telecommunication providers, including the co-applicant Verizon Wireless.

Policy h. Ensure that the height of the proposed telecommunication facility is no greater than necessary to allow for co-location on the telecommunication facility based on its service area requirements while still mitigating the visual impact of the facility.

Applicants' Response: The 130' height of the proposed tower is the minimum extent feasible to meet wireless coverage objectives and accommodate up to five telecommunication carriers. The height is consistent with adjacent utility transmission structures and will not have a visual impact on surrounding areas.

Policy i. When new structures, co-locations and/or technologies (such as distributed antenna systems, micro-cell technology or miniaturization technology) are necessary to meet the service area requirements for the residential neighborhood(s), ensure that the height and mass of any appropriate co-location on the telecommunication facility is in character with the surrounding residential area and mitigates the visual impact of the facility on the surrounding residential area.

Applicants' Response: The 130' height of the proposed structure is in keeping with other large poles and towers on the adjacent power transmission easement approximately 50' to 125' in height and is designed to accommodate up to five telecommunication carriers in an integrated placement of antennas at ten-foot intervals.

Policy j. Design, site and/or landscape proposed telecommunication facilities to minimize impacts on the character of the property and surrounding areas. Demonstrate the appropriateness of the design through facility schematics and plans which detail the type, location, height, and material of the proposed structures and their relationship to other structures on the property and surrounding areas.

Applicants' Response: The 130' tall tower is of similar height and scale to the electrical transmission lattice towers, approximately 125' in height, on adjoining property and is consistent with the electrical substation facility. The new structure will be in context with its immediate surroundings; established wooded areas and distance will serve to screen it from nearby

residential communities. The appropriateness of the design and site is demonstrated by the elevations of the proposed structure and its relationship to nearby structures and trees provided on the Zoning Drawings, sheets Z-1 and Z-4, and on the attached photo-simulations of the structure taken from different vantage points throughout the area.

Policy k. Demonstrate that the selected site for a new telecommunication facility provides the least visual impact on residential areas and the public way, as compared with alternate sites. Analyze the potential impacts from other vantage points in the area, especially from residential properties, to show how the selected site provides the best opportunity to minimize its visual impact on the area and on properties near the proposed site.

Applicants' Response: The selected site is located in a residentially zoned area and is used for non-residential / electrical substation purposes. The site's relationship to an existing pattern of large electrical transmission structures in the area mitigates visual impacts by providing context and the opportunity to blend the new structure with those existing. Other non-residential properties in the search area are used for elementary schools and places of worship and a new structure on these properties would be more solitary and prominent and of lesser context as compared to the substation site. The application contains a set of photo-simulations taken from 10 vantage points in nearby residential areas that demonstrate the appropriateness of the design and any visual impacts on surrounding areas.

Policy l. A key concept in assessing telecommunication facilities is mitigation which is defined as actions taken to reduce or eliminate negative visual impacts. Mitigate the visual impact of proposed telecommunication facilities and their equipment, by using effective design options appropriate to the site such as:

- Design, site and/or landscape the proposed facility to minimize impacts on the character of the area;
- Locate proposed telecommunication facilities near or within areas of mature vegetation and trees that effectively screen or provide an appropriate setting for the proposed structure provided such location does not adversely impact sensitive resources or cause fragmentation of forested communities. When viewed in context, consider perspective views, relative topography and other factors, to mitigate the visual presence and prominence of the structure;
- Blend proposed telecommunication facilities with an existing pattern of tall structures;
- Obscure or block the views of proposed telecommunication facilities with other existing structures, vegetation, tree cover, or topographic features to the maximum extent feasible; and
- Replace existing telecommunication facilities with taller structures or extend their overall height to reduce the need for another structure when such height increases or structure replacements are visually appropriate to the site, including the surrounding area and are consistent with the type, style and pattern of the existing structure.

Applicants' Response: The structure is located on an established non-residential use property that contains electrical transmission equipment and is of an industrial character. The tower will blend with an existing pattern of tall structures approximately 50' to 125' in height in the existing transmission corridor that are of a consistent height and design. To the east, the site is bordered by the Cub Run Stream Valley Park with extensive woodland vegetation to screen the facility from the nearest residential units along Rydell Road. To the north, the site is

buffered by the Lee Highway (Route 29) corridor and also by the portion of the Cub Run Stream Valley Park north of the highway. To the west and south, residences along White Post Road border the existing electrical transmission corridor and any views of the new telecommunications structure from this location will be through and obscured by the large structures and associated wires in the existing transmission corridor. Considerable mature vegetation in the rear of these properties also will serve to screen and obscure the new structure.

Policy m. Locate proposed telecommunication facilities to ensure the protection of historically significant landscapes and cultural resources. The views of and vistas from architecturally and/or historically significant structures should not be impaired or diminished by the placement of telecommunication facilities.

Applicants' Response: The proposed facility will not adversely impact historically significant landscapes and cultural resources nor impair or diminish views and vistas from such resources.

Policy n. Site proposed telecommunication facilities to avoid areas of environmental sensitivity, such as steep slopes, floodplains, wetlands, environmental quality corridors, and resource protection areas.

Applicants' Response: The facility will avoid areas of environmental sensitivity.

Policy o. Site proposed telecommunication facilities to allow for future expansion and with corresponding levels of screening to accommodate expansion.

Applicants' Response: Both the tower and equipment compound area will be designed to accommodate up to five telecommunication providers while maintaining current levels of screening.

Policy p. Design and site proposed telecommunication facilities to preserve areas necessary for future right-of-way dedication and ancillary easements for construction of road improvements.

Applicants' Response: The facility will be located so as not to impede on any areas necessary for future right-of-way or road improvements

Policy q. Locate and construct antennas used for purposes other than mobile and land-based telecommunication services in accordance with the same guidelines established in this "Mobile and Land-Based Telecommunications Services" section.

Applicants' Response: The proposed tower is for mobile and land based purposes.

Objective 43: Design proposed telecommunication facilities to mitigate their visual presence and prominence, particularly when located in residential areas, by concealing their intended purpose in a way that is consistent with the character of the surrounding area. (See Figures 11 and 12.)

Policy a. Disguise or camouflage the appearance of proposed telecommunication facilities to resemble other man-made structures and natural features (such as flagpoles, bell towers, and trees) that are typically found in a similar context and belong to the setting where placed.

Applicants' Response: The proposed structure will not be of a camouflaged design but will be consistent and in context with the other structures on the substation and adjoining electrical transmission line easement.

Policy b. Design proposed telecommunication facilities that are disguised and camouflaged to be of a bulk, mass and height typical of and similar to the feature selected.

Applicants' Response: The proposed 130' tall structure will be of a mass and height similar to other large towers and poles used for electric transmission purposes on the adjacent power line easement.

Policy c. Use other new and existing structures and vegetation of comparable form and style to establish a grouping that complements a camouflaged telecommunication facility and supports its design, location and appearance.

Applicants' Response: The design and height of the 130' tall tower is of comparable form and style as the towers in the electrical transmission easement. The new tower will be supported by and blend with the other existing towers and poles on the adjacent utility easement.

Conclusions

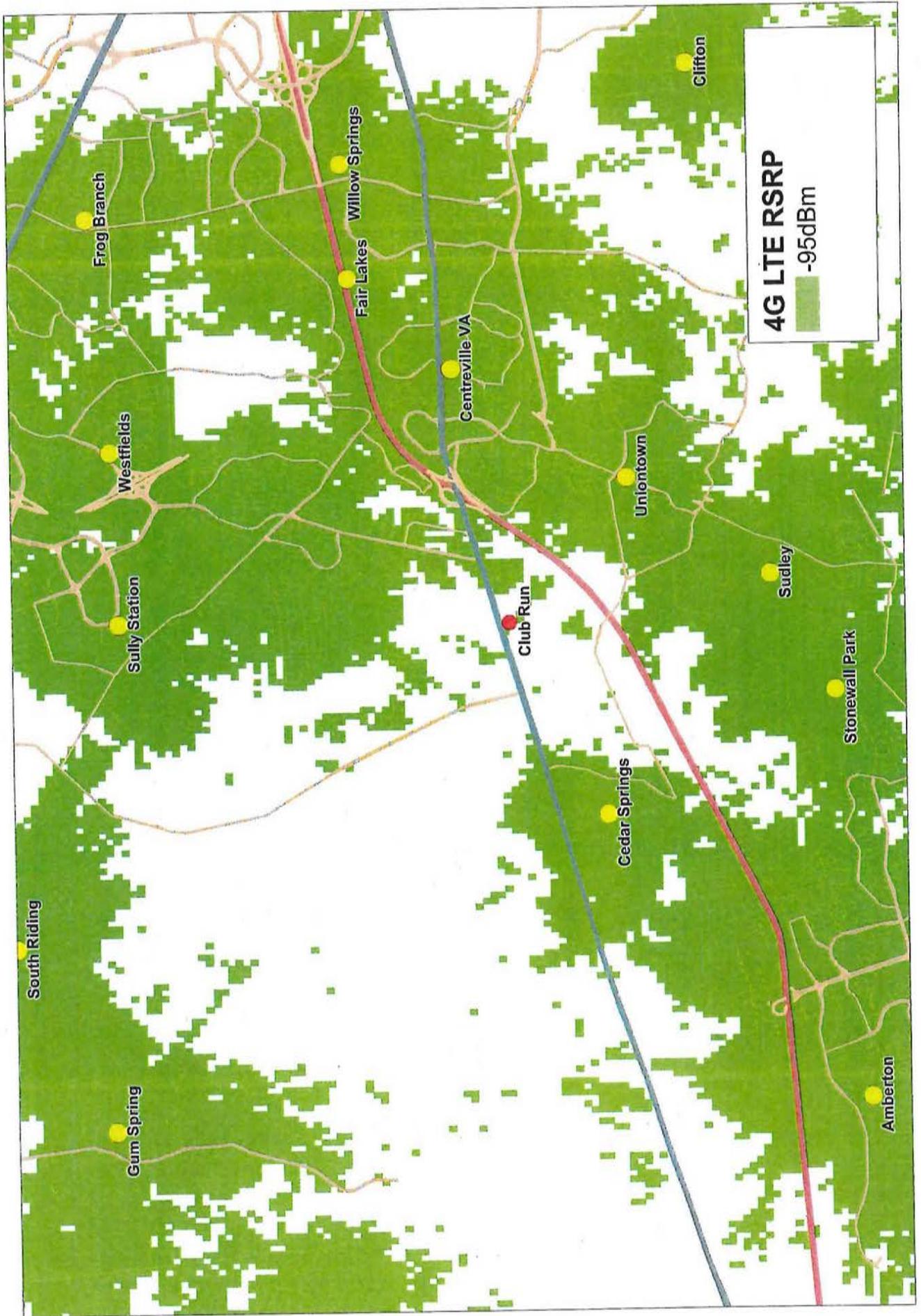
In light of the foregoing and the reasons stated, Milestone Communications, Inc. and Verizon Wireless hereby submit that this proposal is in compliance with the Fairfax County Comprehensive Plan and respectfully requests that the 2232 Review Application be approved.

Frank W Stearns

WJ (AD)

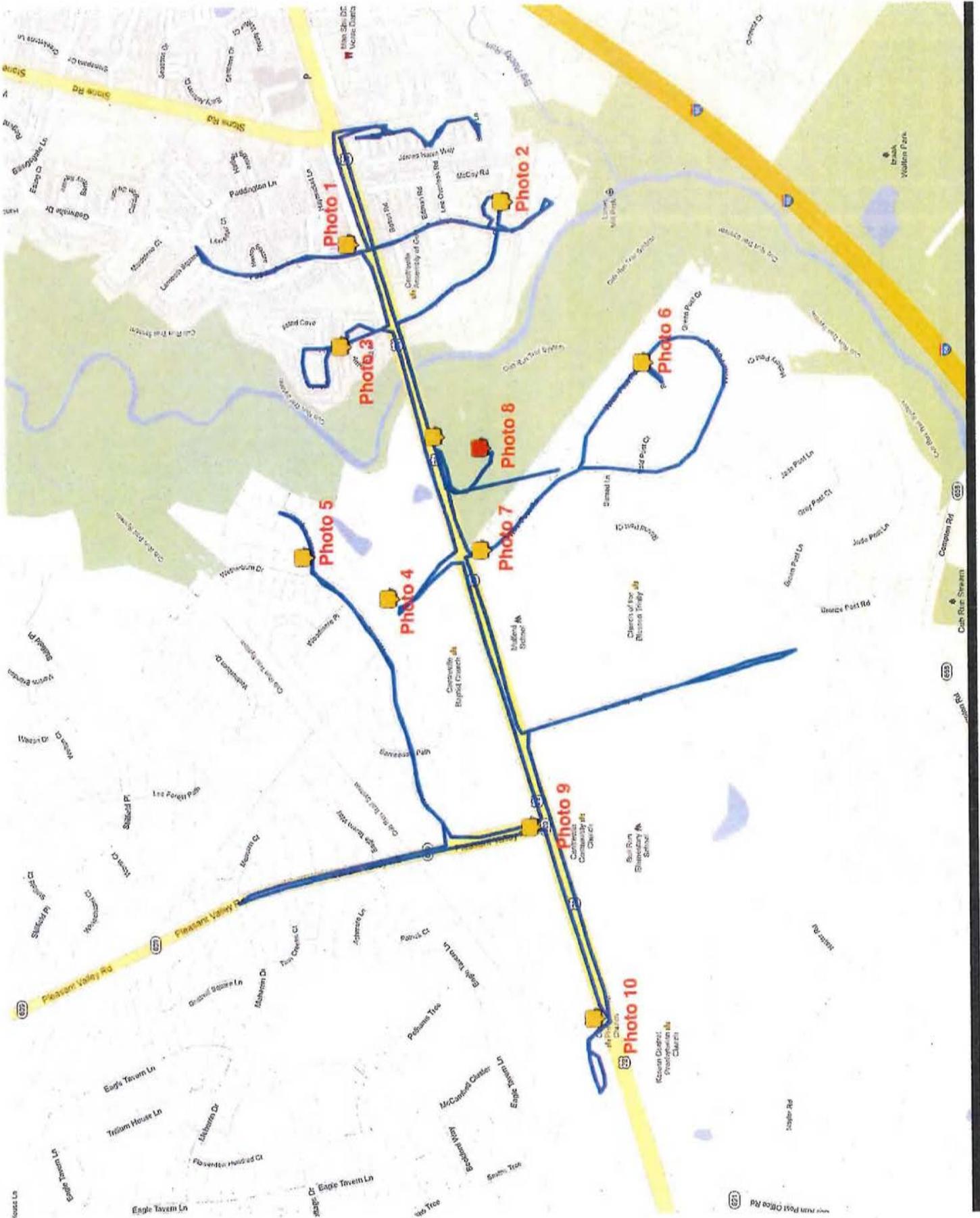
Frank W. Stearns
Donohue and Stearns, PLC
Agent for Applicant

VZW - 4G LTE Coverage - Without the Club Run Site



VZW - 4G LTE Coverage - With the Club Run Site





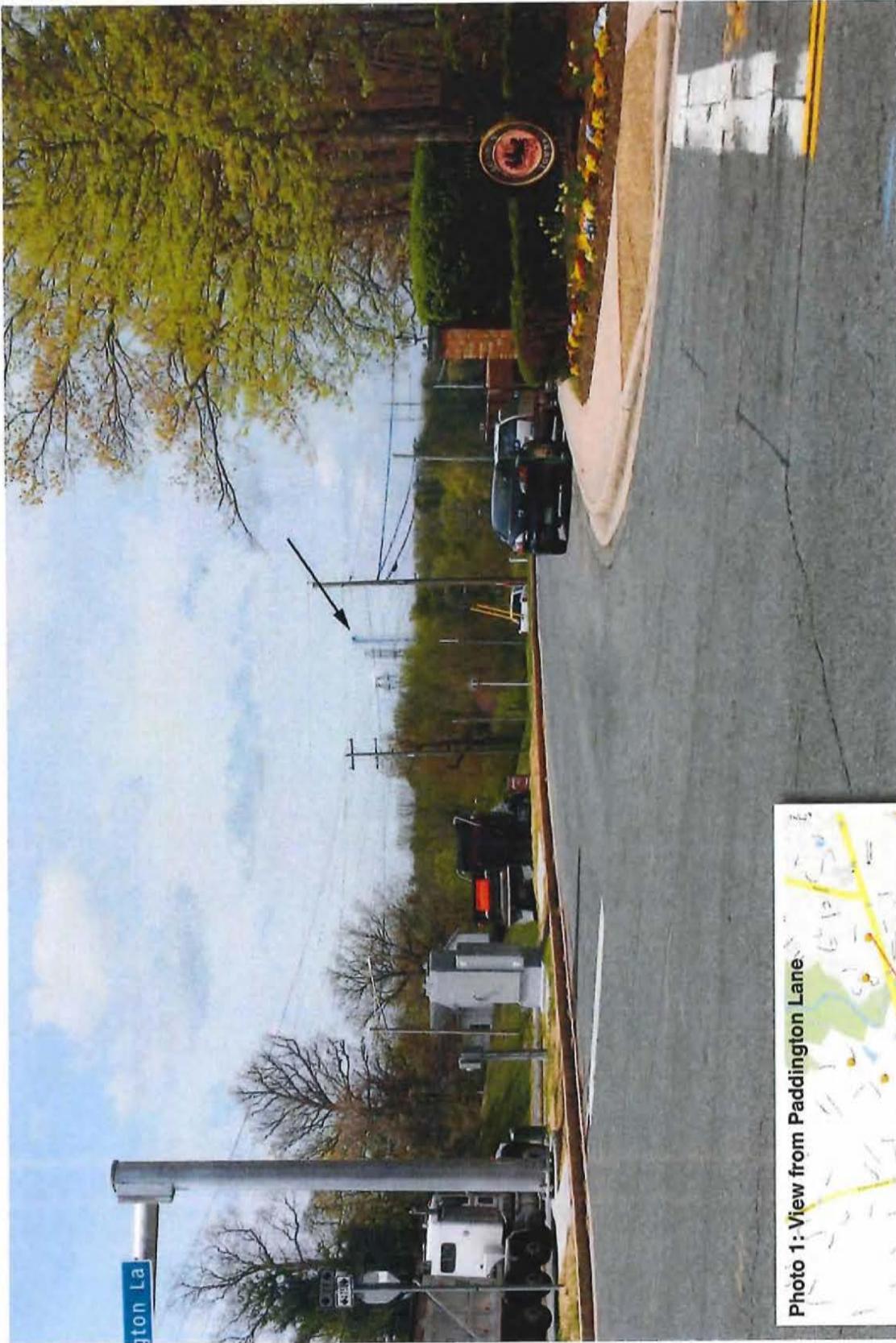
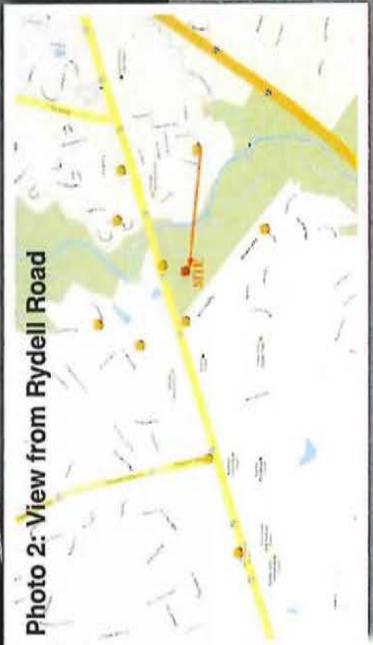
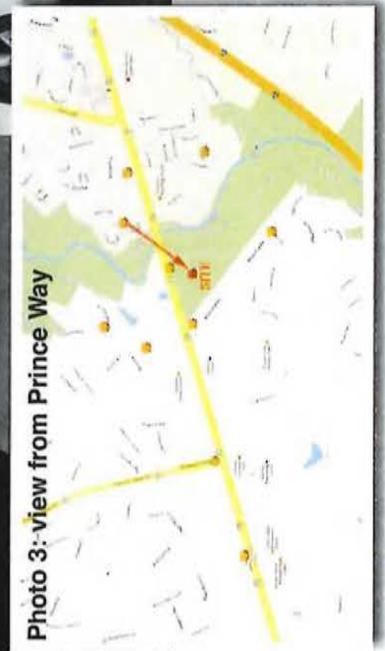
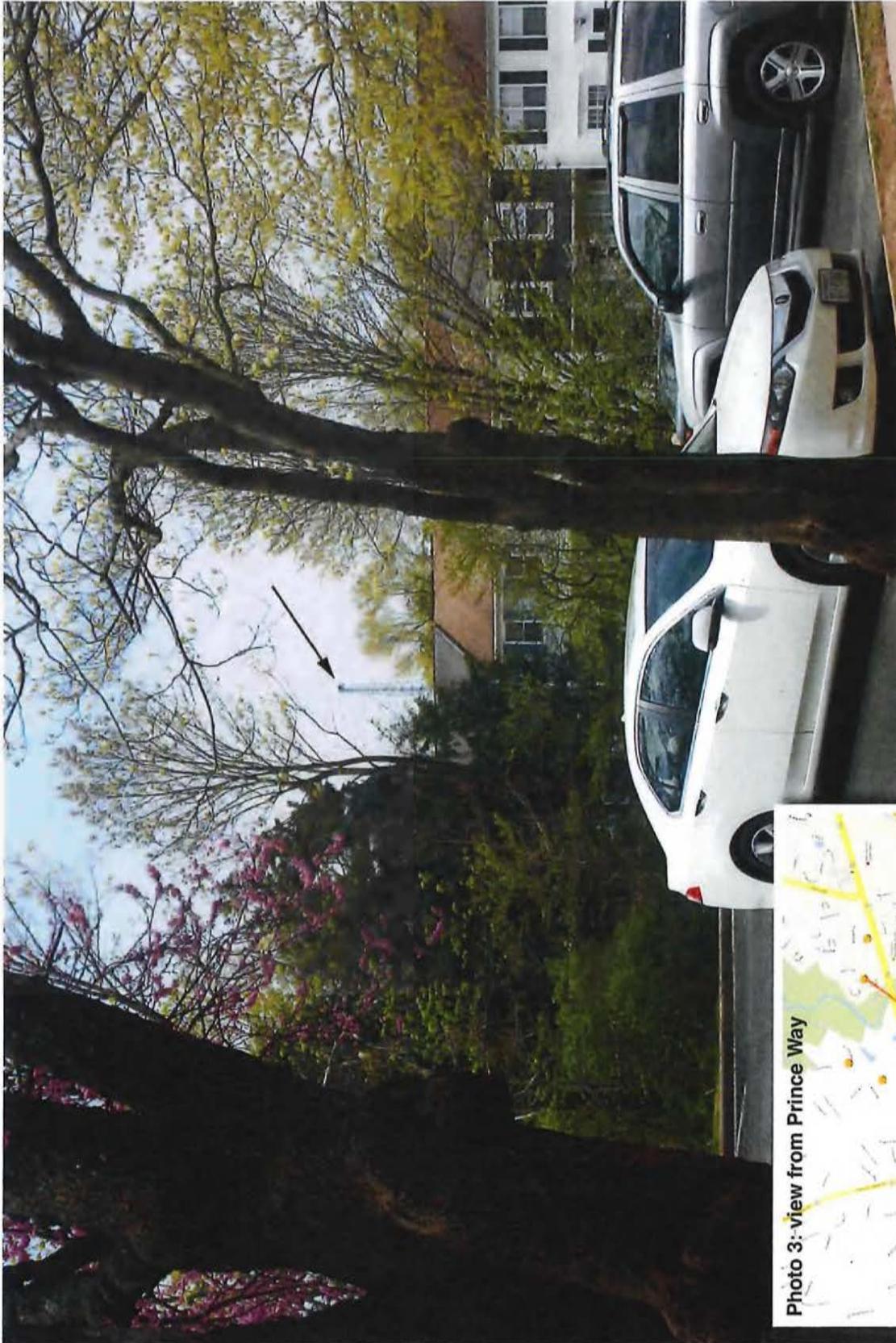


Photo 1:-View from Paddington Lane

MILESTONE
JOHNSON SUBSTATION
PROPOSED LATTICE TOWER



MILESTONE
JOHNSON SUBSTATION
PROPOSED LATTICE TOWER



MILESTONE
JOHNSON SUBSTATION
PROPOSED LATTICE TOWER

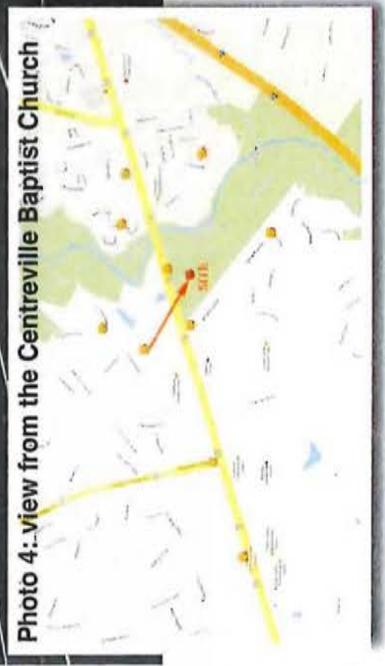


Photo 4: view from the Centreville Baptist Church

MILESTONE
JOHNSON SUBSTATION
PROPOSED LATTICE TOWER

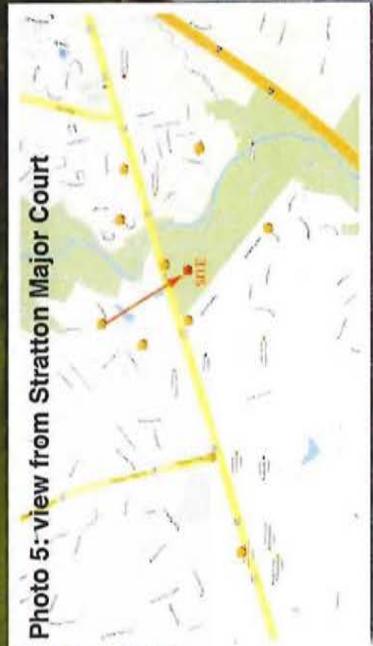


Photo 5: view from Stratton Major Court

MILESTONE
JOHNSON SUBSTATION
PROPOSED LATTICE TOWER

MILESTONE
JOHNSON SUBSTATION
PROPOSED LATTICE TOWER



Photo 6: view from White Post Road and Red Post Court



MILESTONE
JOHNSON SUBSTATION
PROPOSED LADDACE TOWER

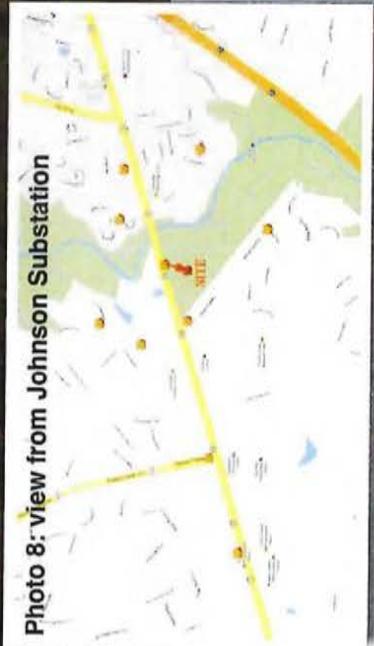


Photo 8: view from Johnson Substation

MILESTONE
JOHNSON SUBSTATION
PROPOSED LATTICE TOWER

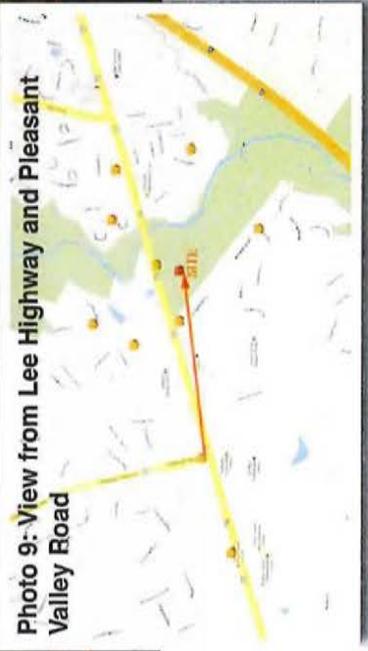


Photo 9: View from Lee Highway and Pleasant Valley Road

MILESTONE
JOHNSON SUBSTATION
PROPOSED LATTICE TOWER



Photo 10: view from Lee Highway and the Korean Central Presbyterian Church

MILESTONE
JOHNSON SUBSTATION
PROPOSED LATTICE TOWER

SEP 25 2014

Zoning Evaluation Division

Statement of Justification

Applicants: Milestone Tower LP, III d/b/a Milestone Communications and Cellco Partnership d/b/a Verizon Wireless
Site Name: Johnson Substation
Property Address: 15001 Lee Highway, Centreville, Virginia 20121 (the "Property")
Supervisor District: Sully
Parcel ID No: 064 2 03 26A
Zoning Classification: Residential-Conservation District, R-C
Property Owner: Northern Virginia Electric Cooperative

Applicants, Milestone Tower LP, III d/b/a Milestone Communications and Cellco Partnership d/b/a Verizon Wireless ("Verizon"), together as the "Applicants" request a Special Exception Amendment to allow for the modification of existing Special Exception SE 90-S-021 for the construction and operation of a wireless telecommunications facility. The facility will consist of a 130 feet tall lattice tower structure, and associated equipment located in a lease area measuring 60 feet by 60 feet (3,600 square feet) screened by an 8 feet tall chain link fence with slats.

Current Improvements on and Description of Subject Property

The subject Property totals approximately 2.76 acres and is zoned R-C (WS) and planned for Residential Use at .1 - .2 dwelling units per acre. Adjoining properties are zoned RC and R-8 to the North, PDH-8 to the east, R-1 to the South, and R-C to the south and west.

The Property is owned by the Northern Virginia Electric Cooperative (formerly known as the Prince William Electric Cooperative) ("Owner") and is currently improved with an electric substation and is adjacent to and connects with utility structures located in major electrical transmission corridor to the west. The existing use consists of a 45,505 square feet substation within a fenced area with three transformers, supporting equipment and a 12' by 20' building that houses control and communications equipment. The facility is unmanned with only routine service visits and operates 24 hours per day and connects with an adjacent major electrical transmission easement to the west. Access to the substation property is via a controlled access drive off of Lee highway (Route 29) on the northwest edge of the property. The existing substation is bordered by vegetation to the north along Route 29 and to the east along the Cub Run Stream Valley Park.

The substation was originally approved under special permit by the Board of Zoning Appeals on June 13, 1967. Renovation and expansion of the substation and establishment of the existing site development was approved under Special Exception SE 90-S-021 approved by the Board of Supervisors on January 14, 1991.

Statement Describing the Proposed Use

The following section corresponds to the requirements contained in the Special Exception Application Information package and pursuant to Section 9-011, Paragraph 7, of the Fairfax County Zoning Ordinance, and fully describes the proposed use:

Type of operation.

The property is currently used for an unmanned electric substation that borders a major utility corridor containing two electrical transmission lines supported by a combination of lattice and pole structures, and an underground-liquefied natural gas pipeline. The existing lattice towers in this utility corridor are approximately 125' in height, and the poles are approximately 50' in height. The applicant requests a Special Exception to construct a one hundred thirty foot (130') tall lattice tower and associated equipment to house a telecommunications use. The use will be designed to accommodate a minimum of five (5) wireless telecommunications carriers, including the co-applicant, Verizon. The use will be located in the southern section of the substation property approximately 345' south of Lee Highway (Route 29).

Milestone will enter into a lease agreement with the Owner, pursuant to which Verizon Wireless will install and operate a wireless telecommunications facility on the Property. Verizon will install up to twelve (12) antennas in three sectors at a rad center elevation of one hundred twenty-eight feet (128'). Verizon's twelve antennas measure up to ninety-four point seven inches (94.7") in height and up to fourteen point six inches (14.6") in width and are detailed with all measurements on Sheet Z-8 of the Zoning Drawings. The tower is designed to accommodate four additional telecommunication carriers at heights of one hundred eighteen feet (118'), one hundred eight feet (108'), ninety-eight feet (98') and eighty-eight feet (88').

Verizon will install one (1) equipment shelter that will be 16'-10.5" wide by 11'6" deep by 10'5" in height within the equipment compound's sixty feet (60') feet by sixty feet (60') fenced lease area. Verizon will also locate a diesel generator measuring nine feet two inches (9'2") by three feet four inches (3'4") by seven feet eight inches (7'8") tall within the compound. The equipment compound will also house the equipment of all future telecommunication carriers locating at the site. The total disturbed area for the telecommunications facility is 4,096 square feet. The Partial Site Plan, Sheet Z-2 of the Zoning Drawings, and the Compound Plan, Sheet Z-3, show the placement of the tower and equipment and the limits of the use. Specific details of Verizon's shelter and generator are shown on Sheet Z-10.

The installation proposed by Verizon will not interfere with radio, television or telephone reception and the radio frequency emissions will comply with all applicable EPA and FCC emission requirements. Furthermore, neither the antennas nor the related equipment will produce any noise, fumes, dust, odors, lights, glare or vibrations.

Hours of operation.

The existing electrical sub-station is an unmanned use that operates continuously 24 hours per day, seven days per week. The proposed telecommunications use will not change the current hours of operation on the property and will operate 24 hours per day, 365 days per year.

Estimated number of patrons, clients, patients, pupils, etc.

There are no on-site patrons or clients associated with the existing or proposed uses. The existing substation serves the western Fairfax County area. The proposed telecommunications facility will serve the general area west of Centreville, primarily between Stone and Pleasant Valley Roads and the Route 29 and I-66 corridors.

Proposed number of employees, attendants, teachers, etc.

There are no on-site employees associated with the existing or proposed uses. With the exception of routine maintenance and repairs, no employees will work at the site. The existing substation is visited two to four times per month for safety inspections and meter readings. The proposed telecommunications use is visited one to two times per month for maintenance purposes.

Estimate of the traffic impact of the proposed use.

The proposed telecommunications use will not change the traffic use on the property that is limited primarily to routine but infrequent maintenance and inspection.

The existing substation is visited two to four times per month and the proposed wireless facility is visited one or two times per month. The existing and proposed telecommunications use shall not be hazardous or conflict with the existing and anticipated traffic in the neighborhood.

Vicinity or general area to be served by the proposed use.

The area served by the proposed telecommunications is depicted on the attached Verizon (VZW – 4G LTE Coverage) radio frequency coverage maps. The maps show the area presently covered by Verizon Wireless services without the new substation site and the improvement anticipated after installation at the proposed telecommunications use at the substation site. As the maps demonstrate, Verizon's objective for this site is to provide coverage and capacity in the residential areas west of Centreville along the Lee Highway (Route 29) corridor primarily between Stone Road and Pleasant Valley Road between Stone. The new site will provide handoff with existing Verizon sites at Cedar Springs, Sudley, Uniontown, Centreville and Sully Station. The site will also provide enhanced coverage for commuters along the Lee Highway corridor, Pleasant Valley and Stone Roads, Interstate 66 and other minor roads in the area west of Centreville.

Description of the building façade and architecture of proposed new buildings and addition

The telecommunications facility will consist of a lattice self-supporting three-legged steel tower, one hundred thirty feet (130') in height and an aggregate stone and concrete equipment shelter, eleven feet six inches (11'6") deep by sixteen feet ten point five inches (16'10.5") in width by ten feet five inches (10'5") in height. The tower will be designed to support Verizon's antennas and the antennas of up to four additional telecommunication carriers. The tower and equipment shelter, as well as all equipment of any future carriers will be screened by an eight feet (8') tall chain link fence with dark green slats. Landscape plantings consisting of nine (9) Leyland Cypress will be planted around the compound to augment existing plantings on site.

Listing, if known, of all hazardous or toxic substances to be generated, utilized stored, treated and/disposed of on-site and the size and contents of any existing or proposed storage tanks or containers.

There are no known hazardous or toxic substances as set forth in Title 40 of the Code of Federal Regulations parts 116.4, 304.4 and 355.

A statement that the proposed use conforms to the provisions of all applicable ordinances, regulations, adopted standards and any applicable conditions, or if any waiver, exception or variance is sought by the applicant from such ordinances, regulations, standards and conditions such shall be specifically noted with the justification for any such modification.

The use is a mobile and land based telecommunication use, a Category 1 Special Exception Use, permitted by special exception use in the R-C zoning district and on land used for a electrical power substation and power transmission easement. The proposed telecommunication use will conform to the requirements of Sections 2-514 (4), 9-103, 9-104 and 9-105 of the Fairfax County Zoning Ordinance. The applicant will address transitional screening and a waiver will be requested as necessary.

Compliance with Provisions of Section 9, Special Exceptions

The proposed facility is in compliance with the Provisions, General Standards and Requirements contained in Section 9 of the Zoning Ordinance as presented in the following:

General Standards (Section 9-006)

General Standard 1. The proposed use at the specified location shall be in harmony with the adopted Comprehensive Plan.

Applicants' Response: The proposed tower will be located on an existing electrical power substation property adjacent to a major utility easement containing many existing tall poles and lattice towers approximately 50' – 125' in height used for electrical transmission purposes. The proposed use will not adversely affect the existing or proposed uses envisioned for this area by the Comprehensive Plan. The use will also be

in conformance with the provisions of the Mobile and Land Based Telecommunications section of the Public Facilities element of the Policy Plan.

General Standard 2. The proposed use shall be in harmony with the general purpose and intent of the applicable zoning district regulations

Applicants' Response: The proposed property is within the R-C (WS) zoning district. The use will be consistent with the current use of the property and the adjacent utility corridor and will be screened by existing vegetation from most residential uses. The use will not impact watercourses, stream valleys or watersheds nor will degrade wooded, natural and scenic areas or agricultural lands. The overall addition of the tower and equipment compound to the existing sub-station property will not increase the impact on the surrounding R-C zoned area.

General Standard 3. The proposed use shall be such that it will be harmonious with and will not adversely affect the use or development of neighboring properties in accordance with the applicable zoning district regulations and the adopted comprehensive plan. The location, size and height of buildings, structures, walls and fences, and the nature and extent of screening, buffering and landscaping shall be such that the use will not hinder or discourage the appropriate development and use of adjacent or nearby land and/or buildings or impair the value thereof.

Applicants' Response: The proposed telecommunications use is in harmony with the surrounding area and will not affect its use or development of neighboring properties. The facility will be unmanned, generate no traffic, blend with other tall structures on the surrounding utility corridor have minimal land disturbance.

General Standard 4. The proposed use shall be such that pedestrian and vehicular traffic associated with such use will not be hazardous or conflict with the existing and anticipated traffic in the neighborhood.

Applicants' Response: The proposed wireless facility will be unmanned with one (1) or (2) monthly maintenance visits. These additional visits will not be hazardous or conflict with the existing and anticipated traffic in the neighborhood or general area.

General Standard 5. In addition to the standards which may be set forth in this Article for a particular category or use, the Board shall require landscaping and screening in accordance with the provisions of Article 13.

Applicants' Response: The proposal will conform to the provisions of Article 13 of the Zoning Ordinance

General Standard 6. Open space shall be provided in an amount equivalent to that specified for the zoning district in which the proposed use is located.

Applicants' Response: The use will not require an open space provision.

General Standard 7. Adequate utility, drainage, parking, loading and other necessary facilities to serve the proposed use shall be provided. Parking and loading requirements shall be in accordance with the provisions of Article 11.

Applicants' Response: The design of the proposed facility will address all utility, drainage, parking and public facility requirements.

General Standard 8. Signs shall be regulated by the provisions of Article 12; however, the Board may impose more strict requirements for a given use than those set forth in this Ordinance.

Applicants' Response: The facility will not require signage.

Additional Submission Requirements for Category 1 Uses (Section 9-103)

In addition to the general standards set forth above all applications for Category 1 uses shall be accompanied by the following items:

1. Four (4) copies of a map showing the utility system of which the proposed use will be an integral part, together with a written statement outlining the functional relationship of the proposed use to the utility system.

Applicants' Response: Attached are radio frequency propagation maps that depict the relationship of the proposed tower to the existing or proposed sites in the vicinity. The proposed site will be an integral part of Verizon's wireless network and will serve the area west of Centreville generally along the Lee Highway (Route 29) corridor between Stone Road and Pleasant Valley Road. The site will provide hand off and compliment existing Verizon sites in the area including Cedar Springs, Sudley, Union Town, Centreville and Sully Station. Propagation Maps of the existing Verizon Wireless coverage and system in this area are attached with the application.

2. Four (4) copies of a statement, prepared by a certified engineer, giving the exact technical reasons for electing the particular site as the location for the proposed facility and certifying that the proposed use will meet the performance standards of the district in which located.

Applicants' Response: A statement prepared by a certified engineer, giving the technical reasons for selecting the site and certifying that the telecommunications use will meet the performance standards of the RC zoning district is attached with the application.

Standards for All Category 1 Uses (Section 9-104)

All Category 1 special exception uses shall satisfy the following standards:

APPENDIX 4

1. Category 1 special exception uses shall not have to comply with the lot size requirements or the bulk regulations set forth for the zoning district in which located.

No response needed.

2. No land or building in any district other than the I-5 and I-6 District shall be used for the storage of materials or equipment, or for the repair or servicing of vehicles or equipment, or for the parking of vehicles except those needed by employees connected with the operation of the immediate facility.

Applicants' Response: The land and telecommunications use will not be used for the storage of materials or equipment, or for the repair or serving of vehicles or equipment, or for the parking of vehicles except those needed for employees on infrequent maintenance visits

3. If the proposed location of a Category 1 use is in an R district, there shall be a finding that there is no alternative site available for such use in a C or I district within 500 feet of the proposed location; except that in the case of electric transformer stations and telecommunication central offices, there shall be a finding that there is no alternative site available in a C or I district within a distance of one (1) mile, unless there is a substantial showing that it is impossible for satisfactory service to be rendered from an available location in such C or I district.

Applicants' Response: There are no alternative sites in a commercial or industrial district within 500 feet of the proposed location suitable for the facility. The nearest industrially zoned properties located on the west side of Lee Highway (Route 29) just east of its intersection with Stone Road, do not meet RF coverage service objectives.

4. Before establishment, all uses, including modifications or alterations to existing uses, shall be subject to the provisions of Article 17, Site Plans, in the Zoning Ordinance.

Applicants' Response: Any future modifications or alterations will comply with the provisions of Article 17 of the Zoning Ordinance.

Additional Special Exception Requirements for Mobile & Land-based Telecommunications Facilities (Section 9-105)

1. Except for antennas completely enclosed within a structure, all antennas and their supporting mounts shall be of a material or color that closely matches and blends with the structure on which it is mounted.

Applicants' Response: The antennas and their supporting mounts will be of a color that closely matches and blends with the tower structure on which mounted.

APPENDIX 4

2. Except for a flag mounted on a flagpole, as permitted under the provisions of Par. 2 of Sect. 12-203, no commercial advertising or signs shall be allowed on any monopole, tower, antenna, antenna support structure, or related equipment cabinet or structure.

Applicants' Response: There will be no commercial advertising or signs on the tower.

3. If any additions, changes or modifications are to be made to monopoles or towers, the Director shall have the authority to require proof, through the submission of engineering and structural data, that the addition, change, or modification conforms to structural wind load and all other requirements of the Virginia Uniform Statewide Building Code.

Applicants' Response: The construction and any future modifications will conform to structural wind load and all requirements of the Virginia Uniform Statewide Building Code.

4. No signals, lights or illumination shall be permitted on an antenna unless required by the Federal Communications Commission, the Federal Aviation Administration or the County, provided, however, that on all antenna structures which exceed 100 feet in height, a steady red marker light shall be installed and operated at all times, unless the Zoning Administrator waives the red marker light requirement upon a determination by the Police Department that such marker light is not necessary for flight safety requirements for police and emergency helicopter operations. All such lights shall be shielded to prevent the downward transmission of light.

Applicants' Response: No signals, lights or illumination will be located on the tower unless required by the County. The applicant will seek a waiver to the County's requirement as specified in Zoning Section 2-514, Paragraph 3H. A steady red light marker will be located on the tower only if required by the Fairfax County Police Department or the FAA. A waiver request has been submitted by the applicant.

5. All antennas and related equipment cabinets or structures shall be removed within 120 days after such antennas or related equipment cabinets or structures are no longer in use.

Applicants' Response: All antennas and related equipment will be removed with 120 days in the event no longer in use.

COMPLIANCE WITH THE FAIRFAX COUNTY COMPREHENSIVE PLAN

The property is located in the Bull Run Planning District, Stone Bridge Community Planning Sector (BR5), Planning Area III, and is planned for residential use at .1 - .2 dwelling units per acre. On Figure 6, "Existing Public Facilities", page 17 of the "Overview: Bull Run Planning District", the "NOVEC Substation" is identified in Sector BR5 under the "Public Utilities" Column. On page 79 of the Bull Run Planning District, Stone Bridge Community Planning Sector (BR5), under "Recommendations: Public Facilities," Recommendation 2 states: "Provide two substations for the Northern Virginia Electric Cooperative in Sector BR5."

The proposed meets the requirements of Policy Plan's Public Facilities element for Mobile and Land Based Telecommunication uses as addressed in the following:

General Guidelines

Objective 42: In order to provide for the mobile and land-based telecommunication network for wireless telecommunication systems licensed by the Federal Communications Commission, and to achieve opportunities for the co-location of related facilities and the reduction or elimination of their visual impact, locate the network's necessary support facilities which include antennas, monopoles, lattice towers and equipment buildings in accordance with the following policies.

Policy a. Avoid the construction of new structures by locating proposed telecommunication facilities on available existing structures such as rooftops, telecommunication and broadcast support structures, electrical utility poles and towers, and water storage facilities when the telecommunication facilities can be placed inconspicuously to blend with such existing structures.

Applicants' Response: There are no existing structures in the vicinity of the property that can structurally accommodate the proposed telecommunications use. The applicant explored the use of existing Virginia Power transmission poles and towers in the adjacent transmission easement but collocation on these structures was rejected by Virginia Power due to structural or foundation issues. Construction of a new tower is, therefore, needed to respond to the growing need in the area.

Policy b. When existing structures are not available for co-location, or co-location is not appropriate because of adverse visual impacts or service needs, locate new structures that are required to support telecommunication antennas on properties that provide the greatest opportunity to conceal the telecommunication facilities and minimize their visual impact on surrounding areas.

Applicants' Response: The proposed tower and compound will be located on property developed with an electrical power substation and adjacent to an existing major electrical transmission corridor. The proposed tower will be compatible and blend with existing tall structures in the area and have minimal visual impact on surrounding areas.

Policy c. When new structures or co-locations are required to serve residential neighborhoods, consider minimizing visual impacts on the surrounding area by utilizing camouflage structure design and/or micro-cell technologies or similar miniaturization technologies, such as distributed antenna systems (DAS), if feasible.

Applicants' Response: The proposed structure will not have a camouflaged design but will be located on a public utility site and will blend with existing tall structures approximately 50' to 125' in height used for electrical transmission purposes in the immediate area.

Policy d. When multiple sites provide similar or equal opportunity to minimize impacts, public lands shall be the preferred location.

Applicants Response: There are no public sites in the immediate area with an equal opportunity to locate the structure and minimize impacts.

Policy e. Locate mobile and land-based telecommunication facilities on public property only after a lease agreement between the County, or related board or authority, and the service provider has been established.

Applicants Response: The structure will not be located on a public use site.

Policy f. Ensure that the use of public property by mobile and land-based telecommunication facilities does not interfere with the existing or planned operational requirements of the public use and complies with adopted policies and plans to protect natural resources.

Applicants Response: The proposed structure will not be located on a public use site.

Policy g. Co-locate mobile and land-based telecommunication facilities operated by different service providers on single sites and/or structures whenever appropriate. Locate single-use structures on a property only when a co-location structure for multiple service providers is not desirable or feasible due to technological differences, site limitations or visual impact concerns.

Applicants' Response: The proposed tower will accommodate up to five telecommunication providers, including the co-applicant Verizon Wireless.

Policy h. Ensure that the height of the proposed telecommunication facility is no greater than necessary to allow for co-location on the telecommunication facility based on its service area requirements while still mitigating the visual impact of the facility.

Applicants' Response: The 130' height of the proposed tower is the minimum extent feasible to meet wireless coverage objectives and accommodate up to five telecommunication carriers. The height is consistent with adjacent utility transmission structures and will not have a visual impact on surrounding areas.

Policy i. When new structures, co-locations and/or technologies (such as distributed antenna systems, micro-cell technology or miniaturization technology) are necessary to meet the service area requirements for the residential neighborhood(s), ensure that the height and mass of any appropriate co-location on the telecommunication facility is in character with the surrounding residential area and mitigates the visual impact of the facility on the surrounding residential area.

Applicants' Response: The 130' height of the proposed structure is in keeping with other large poles and towers on the adjacent power transmission easement approximately 50' to 125' in height and is designed to accommodate up to five telecommunication carriers in an integrated placement of antennas at ten-foot intervals.

Policy j. Design, site and/or landscape proposed telecommunication facilities to minimize impacts on the character of the property and surrounding areas. Demonstrate the appropriateness

of the design through facility schematics and plans which detail the type, location, height, and material of the proposed structures and their relationship to other structures on the property and surrounding areas.

Applicants' Response: The 130' tall tower is of similar height and scale to the electrical transmission lattice towers, approximately 125' in height, on adjoining property and is consistent with the electrical substation facility. The new structure will be in context with its immediate surroundings; established wooded areas and distance will serve to screen it from nearby residential communities. The appropriateness of the design and site is demonstrated by the elevations of the proposed structure and its relationship to nearby structures and trees provided on the Zoning Drawings, Sheets Z-1 and Sheet Z-4, and on the attached photo-simulations of the structure taken from different vantage points throughout the area.

Policy k. Demonstrate that the selected site for a new telecommunication facility provides the least visual impact on residential areas and the public way, as compared with alternate sites. Analyze the potential impacts from other vantage points in the area, especially from residential properties, to show how the selected site provides the best opportunity to minimize its visual impact on the area and on properties near the proposed site.

Applicants' Response: The selected site is located in a residentially zoned area and is used for non-residential / electrical substation purposes. The site's relationship to an existing pattern of large electrical transmission structures in the area mitigates visual impacts by providing context and the opportunity to blend the new structure with those existing. Other non-residential properties in the search area are used for elementary schools and places of worship and a new structure on these properties would be more solitary and prominent and of lesser context as compared to the substation site. The application contains a set of photo-simulations taken from 10 vantage points in nearby residential areas that demonstrate the appropriateness of the design and any visual impacts on surrounding areas.

Policy l. A key concept in assessing telecommunication facilities is mitigation which is defined as actions taken to reduce or eliminate negative visual impacts. Mitigate the visual impact of proposed telecommunication facilities and their equipment, by using effective design options appropriate to the site such as:

- Design, site and/or landscape the proposed facility to minimize impacts on the character of the area;
- Locate proposed telecommunication facilities near or within areas of mature vegetation and trees that effectively screen or provide an appropriate setting for the proposed structure provided such location does not adversely impact sensitive resources or cause fragmentation of forested communities. When viewed in context, consider perspective views, relative topography and other factors, to mitigate the visual presence and prominence of the structure;
- Blend proposed telecommunication facilities with an existing pattern of tall structures;
- Obscure or block the views of proposed telecommunication facilities with other existing structures, vegetation, tree cover, or topographic features to the maximum extent feasible; and
- Replace existing telecommunication facilities with taller structures or extend their overall height to reduce the need for another structure when such height increases or structure

replacements are visually appropriate to the site, including the surrounding area and are consistent with the type, style and pattern of the existing structure.

Applicants' Response: The structure is located on an established non-residential use property that contains electrical transmission equipment and is of an industrial character. The tower will blend with an existing pattern of tall structures approximately 50' to 125' in height in the existing transmission corridor that are of a consistent height and design. To the east, the site is bordered by the Cub Run Stream Valley Park with extensive woodland vegetation to screen the facility from the nearest residential units along Rydell Road. To the north, the site is buffered by the Lee Highway (Route 29) corridor and also by the portion of the Cub Run Stream Valley Park north of the highway. To the west and south, residences along White Post Road border the existing electrical transmission corridor and any views of the new telecommunications structure from this location will be through and obscured by the large structures and associated wires in the existing transmission corridor. Considerable mature vegetation in the rear of these properties also will serve to screen and obscure the new structure.

Policy m. Locate proposed telecommunication facilities to ensure the protection of historically significant landscapes and cultural resources. The views of and vistas from architecturally and/or historically significant structures should not be impaired or diminished by the placement of telecommunication facilities.

Applicants' Response: The proposed facility will not adversely impact historically significant landscapes and cultural resources nor impair or diminish views and vistas from such resources.

Policy n. Site proposed telecommunication facilities to avoid areas of environmental sensitivity, such as steep slopes, floodplains, wetlands, environmental quality corridors, and resource protection areas.

Applicants' Response: The facility will avoid areas of environmental sensitivity.

Policy o. Site proposed telecommunication facilities to allow for future expansion and with corresponding levels of screening to accommodate expansion.

Applicants' Response: Both the tower and equipment compound area will be designed to accommodate up to five telecommunication providers while maintaining current levels of screening.

Policy p. Design and site proposed telecommunication facilities to preserve areas necessary for future right-of-way dedication and ancillary easements for construction of road improvements.

Applicants' Response: The facility will be located so as not to impede on any areas necessary for future right-of-way or road improvements

Policy q. Locate and construct antennas used for purposes other than mobile and land-based telecommunication services in accordance with the same guidelines established in this “Mobile and Land-Based Telecommunications Services” section.

Applicants’ Response: The proposed tower is for mobile and land based purposes.

Objective 43: Design proposed telecommunication facilities to mitigate their visual presence and prominence, particularly when located in residential areas, by concealing their intended purpose in a way that is consistent with the character of the surrounding area. (See Figures 11 and 12.)

Policy a. Disguise or camouflage the appearance of proposed telecommunication facilities to resemble other man-made structures and natural features (such as flagpoles, bell towers, and trees) that are typically found in a similar context and belong to the setting where placed.

Applicants’ Response: The proposed structure will not be of a camouflaged design but will be consistent and in context with the other structures on the substation and adjoining electrical transmission line easement.

Policy b. Design proposed telecommunication facilities that are disguised and camouflaged to be of a bulk, mass and height typical of and similar to the feature selected.

Applicants’ Response: The proposed 130’ tall structure will be of a mass and height similar to other large towers and poles used for electric transmission purposes on the adjacent power line easement.

Policy c. Use other new and existing structures and vegetation of comparable form and style to establish a grouping that complements a camouflaged telecommunication facility and supports its design, location and appearance.

Applicants’ Response: The design and height of the 130’ tall tower is of comparable form and style as the towers in the electrical transmission easement. The new tower will be supported by and blend with the other existing towers and poles on the adjacent utility easement.

Conclusion

In light of the foregoing, the Applicants respectfully submit that this Special Exception application is in compliance with the Fairfax County Zoning Ordinance and Comprehensive Plan. Granting the Applicants’ request will be appropriate and in the interest of the citizens of Fairfax County.

APPENDIX 4



COMMONWEALTH OF VIRGINIA
COUNTY OF FAIRFAX
4100 CHAIN BRIDGE ROAD
FAIRFAX, VIRGINIA 22030



January 25, 1991

Mr. Scott H. Bonner
Northern Virginia Electric Cooperative
10323 Lomond Drive
Post Office Box 2710
Manassas, Virginia 22110

Re: Special Exception
Number SE 90-S-021

Dear Mr. Bonner:

At a regular meeting of the Board of Supervisors held on January 14, 1991, the Board approved Special Exception Number SE 90-S-021, in the name of Northern Virginia Electric Cooperative, located at Tax Map 66-2 ((3)) 26A and 27 for the renovation and expansion of an existing electric substation pursuant to Section 3-C04 of the Fairfax County Zoning Ordinance, by requiring conformance with the following development conditions:

1. This Special Exception is granted for and runs with the land indicated in this application and is not transferable to other land.
2. This Special Exception is granted only for the purpose(s), structure(s) and/or use(s) indicated on the Special Exception Plat approved with the application, as qualified by these development conditions.
3. This Special Exception is subject to the provisions of Article 17, Site Plans. Any plan submitted pursuant to this Special Exception shall be in conformance with the approved Special Exception Plat entitled Johnson Substation and prepared by R. B. Thomas Jr., Ltd. which is dated March 9, 1990 as revised September 11, 1990 and these conditions.
4. Landscaping and barriers shall be provided and maintained in good condition as shown on the Landscape Plan prepared by R. B. Thomas, Jr., Ltd. dated April 5, 1990 as revised September 11, 1990, subject to review and approval by the County Arborist. The barrier shall be a chain-link fence equipped with green vinyl inserts to minimize impacts of the facility on the surrounding properties.

SE 90-S-021

January 24, 1991

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5. All previously existing electrical equipment shall be removed within twelve (12) months after the permanent three-transformer substation is constructed and begins operation.
6. Four (4) parking spaces shall be provided on this site.
7. As determined by the Department of Environmental Management (DEM), on-site stormwater management shall be provided that achieves Best Management Practices (BMP) criteria contained in Article 6 of the Public Facilities Manual. The BMP shall be designed to accommodate all run-off generated on the subject property.
8. Erosion and sedimentation control practices shall be implemented to protect the pond area located on the north side of Lee Highway.
9. Information concerning the specific content of hazardous materials in the three transformers and an emergency response plan for containing potential spills or leaks shall be submitted to the Fairfax County Fire and Rescue Department for implementation during emergencies.
10. The location of the existing natural gas pipeline within the adjacent Columbia Gas line easement shall be provided on the site plan at time of submission to DEM to protect the line from damage during substation construction.
11. In the event that a waiver of the dustless surface requirement is denied by the Board of Zoning Appeals, the proposed entrance and parking area shall be constructed of dustless materials.

This approval, contingent on the above noted conditions, shall not relieve the applicant from compliance with the provisions of any applicable ordinances, regulations, or adopted standards. The applicant shall be himself responsible for obtaining the required Non-Residential Use Permit through established procedures, and this Special Exception shall not be valid until this has been accomplished.

Under Section 9-015 of the Zoning Ordinance, this Special Exception shall automatically expire, without notice, eighteen (18) months after the approval date of the Special Exception unless the activity authorized has been established, or unless construction has commenced and is diligently pursued, or unless additional time is approved by the Board of Supervisors because of the occurrence of conditions unforeseen at the time of the approval of this Special Exception. A request for additional time shall be justified in writing, and must be filed with the Zoning Administrator prior to the expiration date.

SE 90-S-021

January 24, 1991

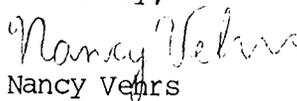
-3-

The Board also:

- ⊙ Waived the barrier requirements and modified the transitional screening requirements to that shown on the submitted Special Exception Plat and Landscape Plan, as revised September 11, 1990, and in accordance with the revised development conditions; and
- ⊙ Waived the service drive requirement for this use.

If you have any questions concerning this Special Exception, please give me a call.

Sincerely,



Nancy Veirs
Clerk to the Board of Supervisors

NV/ns

cc: Dena M. Siri, Real Estate Dvsn., Assessments
Melinda M. Artman, Deputy Zoning Administrator
Donald D. Smith
Audrey Clark, Chief, Inspection Svcs., BPRB, DEM
Barbara A. Byron, Director, Zoning Evaluation Dvsn., OCP
Robert Moore, Trnsprt'n. Planning Dvsn., Office of Transportation
Kathy Ichter, Trnsprt'n. Road Bond Dvsn., Office of Transportation
Department of Environmental Management
A. V. Bailey, Resident Engineer, VDOT
Richard Jones, Manager, Land Acq. & Planning Dvsn., Park Authority

1991 JAN 24

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1991 JAN 24

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Selected applicable Zoning Ordinance Provisions from the Fairfax County Zoning Ordinance, dated February 11, 2014. For the full, unabridged, ordinances please visit the website of the Fairfax County Planning and Zoning Department or view a copy in person at the Fairfax County Planning and Zoning office.

ARTICLE 9 – SPECIAL EXCEPTIONS

9-006 General Standards

In addition to the specific standards set forth hereinafter with regard to particular special exception uses, all such uses shall satisfy the following general standards:

1. The proposed use at the specified location shall be in harmony with the adopted comprehensive plan.
2. The proposed use shall be in harmony with the general purpose and intent of the applicable zoning district regulations.
3. The proposed use shall be such that it will be harmonious with and will not adversely affect the use or development of neighboring properties in accordance with the applicable zoning district regulations and the adopted comprehensive plan. The location, size and height of buildings, structures, walls and fences, and the nature and extent of screening, buffering and landscaping shall be such that the use will not hinder or discourage the appropriate development and use of adjacent or nearby land and/or buildings or impair the value thereof.
4. The proposed use shall be such that pedestrian and vehicular traffic associated with such use will not be hazardous or conflict with the existing and anticipated traffic in the neighborhood.
5. In addition to the standards which may be set forth in this Article for a particular category or use, the Board shall require landscaping and screening in accordance with the provisions of Article 13.
6. Open space shall be provided in an amount equivalent to that specified for the zoning district in which the proposed use is located.
7. Adequate utility, drainage, parking, loading and other necessary facilities to serve the proposed use shall be provided. Parking and loading requirements shall be in accordance with the provisions of Article 11.
8. Signs shall be regulated by the provisions of Article 12; however, the Board may impose more strict requirements for a given use than those set forth in this Ordinance.

9-104 Standards for all Category 1 Uses

In addition to the general standards set forth in Sect. 006 above, all Category 1 special exception uses shall satisfy the following standards:

1. Category 1 special exception uses shall not have to comply with the lot size requirements or the bulk regulations set forth for the zoning district in which located.
2. No land or building in any district other than the I-5 and I-6 District shall be used for the storage of materials or equipment, or for the repair or servicing of vehicles or equipment, or for the parking of vehicles except those needed by employees connected with the operation of the immediate facility.
3. If the proposed location of a Category 1 use is in an R district, there shall be a finding that there is no alternative site available for such use in a C or I district within 500 feet of the proposed location; except that in the case of electric transformer stations and telecommunication central offices, there shall be a finding that there is no alternative site available in a C or I district within a distance of one (1) mile, unless there is a substantial showing that it is impossible for satisfactory service to be rendered from an available location in such C or I district.
4. Before establishment, all uses, including modifications or alterations to existing uses, shall be subject to the provisions of Article 17, Site Plans.

9-105 Additional Standards for Mobile and Land Based Telecommunication Facilities

1. Except for antennas completely enclosed within a structure, all antennas and their supporting mounts shall be of a material or color that closely matches and blends with the structure on which it is mounted.
2. Except for a flag mounted on a flagpole as permitted under the provisions of Par. 2 of Sect. 12-203, no commercial advertising or signs shall be allowed on any monopole, tower, antenna, antenna support structure, or related equipment cabinet or structure.
3. If any additions, changes or modifications are to be made to monopoles or towers, the Director shall have the authority to require proof, through the submission of engineering and structural data, that the addition, change, or modifications conforms to structural wind load and all other requirements of the Virginia Uniform Statewide Building Code.
4. No signals, lights or illumination shall be permitted on an antenna unless required by the Federal Communications Commission, the Federal Aviation Administration or the County, provided, however, that on all antenna structures which exceed 100 feet in height, a steady red marker light shall be installed and operated at all times, unless the Zoning Administrator waives the red marker light requirement upon a determination by the Police Department that such marker light is not necessary for flight safety requirements for police and emergency helicopter operations. All such lights shall be shielded to prevent the downward transmission of light.
5. All antennas and related equipment cabinets or structures shall be removed within 120 days after such antennas or related equipment cabinets or structures are no longer in use.



County of Fairfax, Virginia

MEMORANDUM

DATE: August 29, 2014

TO: Barbara C. Berlin, Director
Zoning Evaluation Division, DPZ

FROM: Chris Caperton, Chief
Public Facilities Planning Branch, DPZ

SUBJECT: Section 15.2-2232 Review
Application 2232-Y13-10 (Concurrent with **SEA 90-S-021**)
Milestone Communications and Verizon Wireless
Proposed Telecommunications Facility at NOVEC Substation
15001 Lee Highway, Centreville, VA 20121
Tax Map 64-2 ((3)) 26A

Pursuant to Va. Code Sec. 15.2-2232, the Public Facilities Planning Branch of the Planning Division offers the following comments and recommendation on the proposed telecommunications facility at the NOVEC Substation.

PROJECT DESCRIPTION

The applicant, Milestone Communications and Verizon Wireless (Verizon), proposes to construct a 130' tall lattice tower with an associated equipment compound designed to hold telecommunications antennas for Verizon and up to 4 future carriers. The proposal is also subject to review and approval of SEA 90-S-021. The installation is needed by Verizon to fill existing coverage gaps and provide service to residences and commuters along the Lee Highway, Stone Road, and Pleasant Valley corridors.

The proposed facility is summarized below (the 2232 Review Application is attached and includes by reference the plans included with the SEA 90-S-021 staff report).

Location: 15001 Lee Highway, Centreville, VA 20121. The 2.76 acre property is located on the south side of Lee Highway between White Post Road and Rydell Road/Prince Way.

Site: The site is currently developed with the Johnson Substation (Substation) electrical distribution facility owned by the Northern Virginia Electric Cooperative (NOVEC). The site is adjacent to a major electrical transmission easement and liquefied natural gas corridor.

Excellence * Innovation * Stewardship
Integrity * Teamwork * Public Service

Department of Planning and Zoning
Planning Division
12055 Government Center Parkway, Suite 730
Fairfax, Virginia 22035-5507
Phone 703-324-1380
Fax 703-324-3056
www.fairfaxcounty.gov/dpz/



Barbara Berlin
2232-Y13-10 (Concurrent with SEA 90-S-021)
Page 2

Proposed Facility: The proposed 130' tower and equipment compound will be constructed in an undeveloped area immediately south of the Substation. Verizon is the initial carrier, and is installing 12 panel antennas (4 per sector) located at 128' on the structure. Future providers will be located at 118', 108', 98', and 88' respectively. The equipment compound is 3600 square feet, containing the cell tower, a 2022 cubic foot equipment shelter and a 234 cubic foot diesel generator.

Screening: The current Substation is screened by a chain link fence with dark green slats, and mature vegetation, including the Cub Run Stream Valley east of the property, and open space owned by the Fairfax County Park Authority (FCPA). Columbia Liquefied Natural Gas and Virginia Power easements are located to the south and west. The power easement contains numerous tall lattice towers and poles. Lee Highway bounds the north side of the property. The proposed facility includes an 8' chain link fence with dark green slats to match the existing Substation compound. Supplemental tree cover and transitional screening will be provided as required by the Urban Forest Management Division.

Access: Access is provided by a new gravel driveway off of Lee Highway that connects to an existing gravel driveway located on neighboring FCPA property.

Operations: The telecommunications facility will operate 24 hours per day, 7 days per week. It is an unmanned facility, and will be visited approximately once or twice per month by Verizon personnel for site inspection purposes, and for any needed repairs or alterations.

Service Area: The proposed use will serve residences and commuters along the Lee Highway, Stone Road, and Pleasant Valley corridors, in addition to adjoining neighborhoods.

COMPREHENSIVE PLAN GUIDANCE

The subject property is located in the Area III, Bull Run Planning District, BR5-Stone Bridge Community Planning Sector. The Comprehensive Plan Map identifies the property as planned for residential use at .1-.2 du/ac.

Area Plan

Fairfax County Comprehensive Plan, Area III, 2013 Edition, Bull Run Planning District, Amended through 4-29-2014, Overview, Figure 6: Existing Public Facilities, Page 18:

Figure 6 identifies the NOVEC Substation as an existing public utility in Sector BR5.

Barbara Berlin
 2232-Y13-10 (Concurrent with SEA 90-S-021)
 Page 3

Fairfax County Comprehensive Plan, Area III, 2013 Edition, Bull Run Planning District,
 Amended through 4-29-2014, BR5-Stone Bridge Community Planning Sector, Page 74:

”RECOMENDATIONS

Land Use

.....

2. Nonresidential uses requiring special exception or special permit approval should be rigorously reviewed. In general, these uses, if permitted at all, should only be located at the boundary of Low Density Residential Areas and Suburban Neighborhoods or where their impact on existing residences is minimal. These uses should be granted only if the following conditions are met:

- Access for the use is oriented to an arterial roadway;
- The use is of a size and scale that will not adversely impact the character of the area in which it is located; and
- The use is designed to mitigate impacts on the water quality of the Occoquan Reservoir. [Not shown]”

Fairfax County Comprehensive Plan, Area III, 2013 Edition, Bull Run Planning District,
 Amended through 4-29-2014, BR5-Stone Bridge Community Planning Sector, Page 79:

“Heritage Resources

.....

Any development or ground disturbance in this sector, both on private and public land, should be preceded by heritage resource studies, and alternatives should be explored for the avoidance, preservation or recovery of significant heritage resources that are found. In those areas where significant heritage resources have been recorded, an effort should be made to preserve them. If preservation is not feasible, then, in accordance with countywide objectives and policies as cited in the Heritage Resources section of the Policy Plan, the threatened resource should be thoroughly recorded and in the case of archaeological resources, the artifacts recovered.

Public Facilities

.....

2. Provide two Substations for Northern Virginia Electric Cooperative in Sector BR5.”

Policy Plan

Fairfax County Comprehensive Plan, Policy Plan, 2013 Edition, Public Facilities, Amended through 3-4-2014, Mobile and Land-Based Telecommunication Services, Pages 37-40:

GENERAL GUIDELINES

- “Objective 42: In order to provide for the mobile and land-based telecommunication network for wireless telecommunication systems licensed by the Federal Communications Commission, and to achieve opportunities for the co-location of related facilities and the reduction or elimination of their visual impact, locate the network’s necessary support facilities which include any antennas, support structures and equipment buildings or equipment boxes in accordance with the following policies.**
- Policy a. Avoid the construction of new structures by locating proposed telecommunication facilities on available existing structures such as rooftops, telecommunication and broadcast support structures, electrical utility poles and towers, and water storage facilities when the telecommunication facilities can be placed inconspicuously to blend with such existing structures.”
- Policy b. “When existing structures are not available for co-location, or co-location is not appropriate because of adverse visual impacts or service needs, locate new structures that are required to support telecommunication antennas on properties that provide the greatest opportunity to conceal the telecommunication facilities and minimize their visual impact on surrounding areas.
- Policy c. When new structures or co-locations are required to serve residential neighborhoods, consider minimizing visual impacts on the surrounding area by utilizing camouflage structure design and/or micro-cell technologies or similar miniaturization technologies, such as distributed antenna systems (DAS), if feasible.
- Policy d. When multiple sites provide similar or equal opportunity to minimize impacts, public lands shall be the preferred location.
- Policy e. Locate mobile and land-based telecommunication facilities on public property only after a lease agreement between the county, or related board or authority, and the service provider has been established.
- Policy f. Ensure that the use of public property by mobile and land-based telecommunication facilities does not interfere with the existing or planned operational requirements of the public use and complies with adopted policies and plans to protect natural resources.
- Policy g. Co-locate mobile and land-based telecommunication facilities operated by different service providers on single sites and/or structures whenever

appropriate. Locate single-use structures on a property only when a co-location structure for multiple service providers is not desirable or feasible due to technological differences, site limitations or visual impact concerns.

- Policy h. Ensure that the height of the proposed telecommunication facility is no greater than necessary to allow for co-location on the telecommunication facility based on its service area requirements while still mitigating the visual impact of the facility.
- Policy i. When new structures, co-locations and/or technologies (such as distributed antenna systems, micro-cell technology or miniaturization technology) are necessary to meet the service area requirements for the residential neighborhood(s), ensure that the height and mass of any appropriate co-location on the telecommunication facility is in character with the surrounding residential area and mitigates the visual impact of the facility on the surrounding residential area.
- Policy j. Design, site and/or landscape proposed telecommunication facilities to minimize impacts on the character of the property and surrounding areas. Demonstrate the appropriateness of the design through facility schematics and plans which detail the type, location, height, and material of the proposed structures and their relationship to other structures on the property and surrounding areas.
- Policy k. Demonstrate that the selected site for a new telecommunication facility provides the least visual impact on residential areas and the public way, as compared with alternate sites. Analyze the potential impacts from other vantage points in the area, especially from residential properties, to show how the selected site provides the best opportunity to minimize its visual impact on the area and on properties near the proposed site.
- Policy l. A key concept in assessing telecommunication facilities is mitigation which is defined as actions taken to reduce or eliminate negative visual impacts. Mitigate the visual impact of proposed telecommunication facilities and their equipment, by using effective design options appropriate to the site such as:
- Design, site and/or landscape the proposed facility to minimize impacts on the character of the area;
 - Locate proposed telecommunication facilities near or within areas of mature vegetation and trees that effectively screen or provide an appropriate setting for the proposed structure provided such location does not adversely impact sensitive resources or cause fragmentation of forested communities. When viewed in context, consider perspective views, relative topography and other factors, to mitigate the visual presence and prominence of the structure;
 - Blend proposed telecommunication facilities with an existing pattern of tall structures;
 - Obscure or block the views of proposed telecommunication

facilities with other existing structures, vegetation, tree cover, or topographic features to the maximum extent feasible; and

- Replace existing telecommunication facilities with taller structures or extend their overall height to reduce the need for another structure when such height increases or structure replacements are visually appropriate to the site, including the surrounding area and are consistent with the type, style and pattern of the existing structure.

Policy m. Locate proposed telecommunication facilities to ensure the protection of historically significant landscapes and cultural resources. The views of and vistas from architecturally and/or historically significant structures should not be impaired or diminished by the placement of telecommunication facilities.

Policy n. Site proposed telecommunication facilities to avoid areas of environmental sensitivity, such as steep slopes, floodplains, wetlands, environmental quality corridors, and resource protection areas.

Policy o. Site proposed telecommunication facilities to allow for future expansion and with corresponding levels of screening to accommodate expansion.

Policy p. Design and site proposed telecommunication facilities to preserve areas necessary for future right-of-way dedication and ancillary easements for construction of road improvements.

Policy q. Locate and construct antennas used for purposes other than mobile and land-based telecommunication services in accordance with the same guidelines established in this "Mobile and Land-Based Telecommunications Services" section.

Objective 43: Design proposed telecommunication facilities to mitigate their visual presence and prominence, particularly when located in residential areas, by concealing their intended purpose in a way that is consistent with the character of the surrounding area. (See Figures 11 and 12.)

Policy a. Disguise or camouflage the appearance of proposed telecommunication facilities to resemble other man-made structures and natural features (such as flagpoles, bell towers, and trees) that are typically found in a similar context and belong to the setting where placed.

Policy b. Design proposed telecommunication facilities that are disguised and camouflaged to be of a bulk, mass and height typical of and similar to the feature selected.

Policy c. Use other new and existing structures and vegetation of comparable form and style to establish a grouping that complements a camouflaged telecommunication facility and supports its design, location and appearance."

Barbara Berlin
2232-Y13-10 (Concurrent with SEA 90-S-021)
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STAFF ANALYSIS

Conformance with the Comprehensive Plan

Va. Code Sec. 15.2-2232, as amended, requires the Planning Commission to determine whether the general location or approximate location, character, and extent of the proposed facility, as amended, are substantially in accord with the adopted Comprehensive Plan:

Location

The location of the proposed telecommunications facility - adjacent to an electrical Substation to the north, a power easement with tall utility poles to the south and west, and the Cub Run stream valley to the east - is consistent with Comprehensive Plan objectives to provide the greatest opportunity to locate new facilities that provide the greatest opportunity to conceal the facility and minimize its visual impact on surrounding areas. Providing room for up to four additional service providers also aligns with Plan guidelines to co-locate mobile and land-based telecommunication facilities operated by different service providers on single sites and/or structures wherever possible.

Character

The proposed 130' tall lattice tower is adjacent to utility easement electrical transmission poles approximately 125' in height. This meets Comprehensive Plan objectives that new structures are of comparable form and style to establish a grouping that complements a camouflaged telecommunication facility and supports its design, location, and appearance. It is also consistent with Plan guidelines to blend proposed telecommunication facilities with an existing pattern of tall structures, and meets Plan guidance for a Special Exception that the use is of a size and scale that will not adversely impact the character of the area in which it is located.

The equipment cabinet compound at the base of the proposed tower is screened by an 8' tall chain link fence with dark green concealment slats. This matches the screening of the adjacent power Substation. Also, substantial buffering is provided by the existing Substation to the north, the power and gas easements to the south and west, and the natural buffering provided by the Cub Run stream valley to the east. The applicant also proposes to add tree cover and transitional screening as required by the Urban Forest Management Division. Therefore, this meets Plan objectives to design, site and/or landscape the proposed facility to minimize impacts on the character of the area, and another plan requirement to obscure or block the views of proposed telecommunication facilities with other existing structures, vegetation, tree cover, or topographic features to the maximum extent feasible.

Extent

The proposed installation is in general proximity to residences along the Lee Highway, Stone Road and Pleasant Valley Road corridors. The nearest residential property (single family dwelling) is over 300' to the east with a substantial intermediate buffer of trees. The nearest multi-family dwellings are over 1000' to the east beyond the Cub Run stream

Barbara Berlin
2232-Y13-10 (Concurrent with SEA 90-S-021)
Page 8

valley, and single family homes are over 300' to the west buffered by the power and gas easements. The proposed expansion is consistent with Comprehensive Plan guidance to ensure that when new structures are necessary to meet the service area requirements for the residential neighborhood(s), the height and mass of any appropriate co-location of the telecommunication facility is in character with the surrounding residential area and mitigates the visual impact of the facility on the surrounding residential area. All access to the proposed site is via a gravel driveway off of Lee Highway, which meets Plan requirements for a Special Exception that access for the use is oriented to an arterial roadway. Finally, the proposed facility will remain an unmanned facility with minimal traffic impact.

CONCLUSION AND RECOMMENDATIONS

Staff concludes that the subject proposal, as amended, by Milestone Communications and Verizon Wireless, to install a telecommunications facility at 15001 Lee Highway, Centreville, VA 20121, satisfies the criteria of location, character, and extent as specified in Va. Code Sec. 15.2-2232, as amended.

Staff therefore recommends that the Planning Commission find the subject Application **2232-Y13-10**, as amended, substantially in accord with provisions of the adopted Comprehensive Plan.

CBC: DWH



County of Fairfax, Virginia

MEMORANDUM

DATE: August 28, 2014

TO: Barbara Berlin, Director
Zoning Evaluation Division, DPZ

Chris Caperton, Chief
Facilities Planning Branch, DPZ

FROM: Pamela G. Nee, Chief *PKN*
Environment and Development Review Branch, DPZ

SUBJECT: Environmental Assessment: SEA 90-S-021/ 2232-Y13-10
Milestone Communications and Verizon Wireless

This memorandum, prepared by Mary Ann Welton, includes citations from the Comprehensive Plan that list and explain environmental policies for this property. Plan citations are followed by a discussion of concerns including a description of potential impacts that may result from the proposed development based on the revised Special Exception Amendment Plan (SEA) dated August 8, 2014. Possible solutions to remedy identified issues are suggested. Other solutions may be acceptable, provided that they achieve the desired degree of mitigation and are in harmony with Plan policies.

COMPREHENSIVE PLAN CITATIONS:

Environment

In the Fairfax County Comprehensive Plan, 2013 Edition, Policy Plan, Environment, as amended through July 1, 2014, on pages 7-9, the Plan states:

“Objective 2: Prevent and reduce pollution of surface and groundwater resources. Protect and restore the ecological integrity of streams in Fairfax County.

Policy a. Maintain a best management practices (BMP) program for Fairfax County and ensure that new development and redevelopment complies with the County’s best management practice (BMP) requirements. . .

Barbara Berlin
SEA 90-S-021
2232-Y13-10
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Policy k. For new development and redevelopment, apply better site design and low impact development (LID) techniques... and pursue commitments to reduce stormwater runoff volumes and peak flows, to increase groundwater recharge, and to increase preservation of undisturbed areas....”

Fairfax County Comprehensive Plan, 2013 Edition, Policy Plan, Environment, as amended through July 1, 2014, on page 10 states:

“Objective 3: Protect the Potomac Estuary and the Chesapeake Bay from the avoidable impacts of land use activities in Fairfax County.

Policy a. Ensure that new development and redevelopment complies with the County's Chesapeake Bay Preservation Ordinance. . . .”

ENVIRONMENTAL ANALYSIS

This section characterizes the environmental concerns raised by an evaluation of this site and the proposed development. Solutions are suggested to remedy the concerns that have been identified by staff. There may be other acceptable solutions. Particular emphasis is given to opportunities provided by this application to conserve the county’s remaining natural amenities. This application by Milestone Communications and Verizon Wireless seeks approval to construct a telecommunications facility on the grounds of the NOVEC Johnson Electrical Substation. No other changes are proposed at this time.

Stormwater Management: The subject property falls within the Cub Run watershed of Fairfax County. Note # 3 on Sheet Z-1 states that no stormwater management is proposed for this telecommunications facility co-located on the existing NOVEC site. However, the gravel drive which is proposed to access this new telecom feature represents roughly 1,992 square feet of new impervious surface. The compound appears to be generally 2,500 - 3,000 square feet; therefore, the applicant should demonstrate how water quality and water quantity control requirements will be addressed for the approximately 5,000 square feet of new impervious surface and related stormwater runoff.

On May 24, 2011, the Virginia Soil and Water Conservation Board adopted Final Stormwater Regulations, which became effective September 13, 2011. The regulations require all local governments in Virginia to adopt and enforce new stormwater management requirements. In support of this legislation, the Fairfax County Board of Supervisors adopted the Stormwater Management Ordinance as an amendment to the Code of Fairfax County on January 28, 2014. Staff from the DPWES will administer the stormwater management ordinance, effective July 1, 2014. The applicant will be required to comply with the new ordinance for this development, if the applicant has not, prior to July 1, 2014, obtained VSMP permit coverage under the Virginia Stormwater Management Program General Permit for Discharges of Stormwater from Construction Activities. This proposed development will not be grandfathered from the new ordinance as a result of approval of this zoning application. The applicant should, therefore,

Barbara Berlin
SEA 90-S-021
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Page 3

design the proposed stormwater management system consistent with new stormwater management requirements. A link to the ordinance is below.

http://www.fairfaxcounty.gov/dpwes/stormwaterordinance/chapter_124.pdf

PGN/MAW

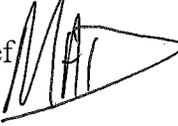


County of Fairfax, Virginia

MEMORANDUM

DATE: September 26, 2014

TO: Barbara Berlin, Director
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Michael A. Davis, Acting Chief 
Site Analysis Section
Department of Transportation

FILE: 3-5 (SE 90-S-021)

SUBJECT: Transportation Impact

REFERENCE: SEA 90-S-021
Milestone Communications & Verizon Wireless
Land Identification Map: 64-2 ((3)) 26A

Transmitted herewith are the comments from the Department of Transportation with respect to the referenced application. These comments are based on plats made available to this office dated May 28, 2013, and revised through June 24, 2014. The applicant wishes to construct a 130-foot tall lattice communications tower, and associated equipment, within a 60-foot by 60-foot fenced area adjacent to, and on the same parcel as, an existing electrical substation.

- The existing 8-foot asphalt trail along the Lee Highway frontage has deteriorated in part and should be repaired.
- The applicant is proposing an off-site access road to the communications tower and equipment area. All necessary easements and permissions for this access should be obtained before site plan approval.

MAD/LAH/lah



County of Fairfax, Virginia

MEMORANDUM

DATE: September 29, 2014
Amended October 8, 2014

TO: Michael Lynskey, Staff Coordinator
Zoning Evaluation Division, DPZ

FROM: Jay Banks, Urban Forester II
Forest Conservation Branch, DPWES

SUBJECT: NOVEC-Johnson Substation, SEA 90-S-021

RE: Request to review Special Exception Amendment

At the request of the Department of Planning and Zoning, staff from the Urban Forest Management Division (UFMD) completed a review of the SEA 90-S-021 application stamped, "Received, Department of Planning and Zoning, September 18, 2014.

At this time the Forest Conservation Branch staff has no further comments regarding this application.

The following Development Conditions are recommended

1. All proposed Landscaping shall be provided and maintained in good condition as shown on the SEA Plat. Additional landscaping shall be provided along the western site boundary, as determined necessary by the Urban Forest Management Division of DPWES, at the time of site plan review, to provide screening adequate to meet the general intent of both the prior SE Plat and the SEA Plat.
2. Prior to the installation of landscape material to meet requirements of the approved landscape plan, the Contractor/Developer shall coordinate a pre-installation meeting on site with the landscape contractor and a representative of the County Urban Forest Management Division (UFMD). Any proposed changes to the location of planting, size of trees/shrubs, and any proposed plant substitutions for species specified on the approved plan shall be reviewed at this time and must be approved prior to planting. The installation of plants not specified on the approved plan, and not previously approved by UFMD, may require submission of a revision to the landscape plan or removal and replacement with approved material, prior to bond release. UFMD shall be contacted (703-324-1770) a minimum of three (3) days prior to the meeting on site.

**Department of Public Works and Environmental Services
Urban Forest Management Division**

12055 Government Center Parkway, Suite 518
Fairfax, Virginia 22035-5503
Phone 703-324-1770, TTY: 711, Fax: 703-653-9550
www.fairfaxcounty.gov/dpwes



3. Field location of planting material, when required by the approved plan, shall be reviewed at the pre-installation meeting. The Landscape Contractor shall stake proposed individual planting locations in consultation with the Contractor/Developer prior to the pre-installation meeting, for review by UFMD staff. Stakes shall be adjusted, as needed, during the course of the meeting as determined by UFMD staff based on discussion with the Contractor/Developer and the Landscape Contractor.

If further assistance is desired, please contact me at 703-324-1770.

JSB/

UFMDID #: 190100

cc: DPZ File





County of Fairfax, Virginia

MEMORANDUM

DATE: October 6, 2014

TO: Michael H. Lynskey, Staff Coordinator
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Mohan Bastakoti, Senior Engineer 
South Branch, Site Development and Inspections Division
Department of Public Works and Environmental Services

SUBJECT: 8122-ZONA-001-1; Zoning Application No: SEA 90-S-021;
Milestone/Verizon Cell Tower

The subject revised application has been reviewed and the following stormwater management comments are offered at this time:

Chesapeake Bay Preservation Ordinance (CBPO)

There is no Resource Protection Area (RPA) on this site.

Floodplains

There are no regulated floodplains on the property/site.

Downstream Drainage Complaints

There are no downstream drainage complaints on file.

Water Quality

The applicant has proposed grass channel and Bioretention level 2 to meet the water quality control requirements of Chapter 124-4-2. Detail design and computations will be reviewed during the final design/site plan review.

Stormwater Management/Detention

Applicant has said in the plan that the proposed BMPs will also provide water quantity control. Detail design and computations will be reviewed during the final design/site plan review.



Michael H. Lynskey, Staff Coordinator
Zoning Application No: SEA 90-S-021
Page 2 of 2

Outfall Analysis

The applicant has used energy balance equations to demonstrate the outfalls are adequate. Detail computations will be reviewed during the final design/site plan review.

Miscellaneous

The stormwater management plan to be prepared at final design, and submitted to the County for review and ultimate VSMP permit approval, must address all of the items listed in SWMO 124-2-7.B.

The latest BMP specifications provided on the Virginia Stormwater BMP Clearinghouse website must be used for final design. The design engineer is also referred to LTI 14-13 with regard to selection of the appropriate BMP specifications.

Please contact me at 703-324-1739, if you have any questions or require additional information.

cc: Don Demetrius, Chief, Watershed Projects Evaluation Branch, SPD, DPWES
Fred Rose, Chief, Watershed Planning & Assessment Branch, SPD, DPWES
Bijan Sistani, Chief, South Branch, SDID, DPWES
Clinton Abernathy, Senior Engineer III, South Branch, SDID, DPWES
Zoning Application File



FAIRFAX COUNTY PARK AUTHORITY



M E M O R A N D U M

TO: Barbara Berlin, AICP, Director
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Sandy Stallman, AICP, Manager
Park Planning Branch, PDD

A handwritten signature in black ink, appearing to be "SS", located to the right of the "FROM:" line.

DATE: April 15, 2014

SUBJECT: SEA 90-S-021, NOVEC –Johnson Substation
Tax Map Number(s): 64-2((3)) 26A

The Park Authority staff has reviewed the above referenced plan. Based on that review, staff has determined that this application bears no adverse impact on the land, resources, facilities or service levels of the Park Authority.

FCPA Reviewer: Pat Rosend
DPZ Coordinator: Michael Lynskey

Copy: Cindy Walsh, Director, Resource Management Division
Michael Lynskey, DPZ Coordinator
Chron File
File Copy

DIESEL ENGINE-GENERATOR SET

AIR CHARGE-AIR COOLING

50 kW_e / 60 Hz / Standby45 kW_e / 60 Hz / Prime

208 - 600V



SYSTEM RATINGS

Standby	DS50D6SGA	DS50D6SDA	DS50D6SPA	DS50D6SJA	DS50D6SRA	DS50D6SNA
Voltage [L-L]	240V	240V	208V	240V	480V	600V
Phase	1	1	3	3	3	3
PF	1.0	1.0	0.8	0.8	0.8	0.8
Hz	60	60	60	60	60	60
kW	50	50	50	50	50	50
kVA	50	50	62.5	62.5	62.5	62.5
AMPS	208	208	173	150	75	60
skVA@30%						
Voltage Dip	135	127	105	105	140	138
Generator Model	362CSL1606	361CSL1613	361CSL1601	361CSL1601	361CSL1601	361PSL1633
Temp Rise	130°C/27°C	125°C/40°C	130°C/27°C	130°C/27°C	130°C/27°C	125°C/40°C
Connection	12 LEAD ZIG-ZAG	4 LEAD	12 LEAD LOW WYE	12 LEAD HI DELTA	12 LEAD HI WYE	4 LEAD WYE

Prime	DP45D6SGA	DP45D6SDA	DP45D6SPA	DP45D6SJA	DP45D6SRA	DP45D6SNA
Voltage [L-L]	240V	240V	208V	240V	480V	600V
Phase	1	1	3	3	3	3
PF	1.0	1.0	0.8	0.8	0.8	0.8
Hz	60	60	60	60	60	60
kW	45	45	45	45	45	45
kVA	45	45	56.25	56.25	56.25	56.25
AMPS	188	188	156	135	68	54
skVA@30%						
Voltage Dip	91	115	105	105	140	138
Generator Model	362CSL1606	361CSL1613	361CSL1601	361CSL1601	361CSL1601	361PSL1633
Temp Rise	105°C/40°C	105°C/40°C	105°C/40°C	105°C/40°C	105°C/40°C	105°C/40°C
Connection	12 LEAD ZIG-ZAG	4 LEAD	12 LEAD LOW WYE	12 LEAD HI DELTA	12 LEAD HI WYE	4 LEAD WYE

STANDARD FEATURES

- // EPA Tier 3 Certified
- // Engine-Generator Set Tested to ISO 8528-5 for Transient Response
- // UL2200 Listed, CSA Certified – Offered
- // Accepts Rated Load in One Step Per NFPA 110
- // All engine-generator sets are prototype and factory tested
- // MTU Onsite Energy is a single source supplier
- // Global Product Support
- // 2 Year Standard Warranty
- // 4024HF285 Diesel Engine
 - 2.4 Liter Displacement
 - Electronic Unit Pump Injection
 - 4-Cycle
- // Complete Range of Accessories
- // Engine-generator resilient mounted
- // Generator
 - Brushless, Rotating Field Generator
 - PMG (Permanent Magnet Generator) supply to regulator
 - 300% Short Circuit Capability
 - 2/3 Pitch Windings
- // Digital Control Panel(s)
 - UL Recognized, CSA Certified, NFPA 110
 - Complete System Metering
 - LCD Display
- // Cooling System
 - Integral Set-Mounted
 - Engine Driven Fan

STANDARD EQUIPMENT

// Engine

Air Cleaner
Oil Pump
Full Flow Oil Filter
Fuel Filter with Water Separator
Jacket Water Pump
Thermostat
Exhaust Manifold – Dry
Blower Fan & Fan Drive
Radiator – Unit Mounted
Electric Starting Motor - 12V
Governor – Electronic Isochronous
Base - Formed Steel
SAE Flywheel & Bell Housing
Charging Alternator - 12V
Battery Box & Cables
Flexible Fuel Connectors
Flexible Exhaust Connection
EPA Certified Engine

// Generator

NEMA MG1, IEEE and ANSI standards compliance for temperature rise and motor starting
Sustained short circuit current of up to 300% of the rated current for up to 10 seconds
Self-Ventilated and Drip-Proof
Superior Voltage Waveform
Digital, Solid State, Volts-per-Hertz Regulator
No Load to Full Load Regulation

Brushless Alternator with Brushless Pilot Exciter
4 Pole, Rotating Field
130°C Maximum Standby Temperature Rise
1 Bearing, Sealed
Flexible Coupling
Full Amortisseur Windings
125% Rotor Balancing
3-Phase Voltage Sensing
±1% Voltage Regulation
100% of Rated Load - One Step
3% Maximum Harmonic Content

// Digital Control Panel(s)

Digital Metering
Engine Parameters
Generator Protection Functions
Engine Protection
SAE J1939 Engine ECU Communications
Windows-Based Software
Multilingual Capability
Remote Communications to our RDP-110 Remote Annunciator
16 Programmable Contact Inputs
Up to 11 Contact Outputs
UL Recognized, CSA Certified, CE Approved
Event Recording
IP 54 Front Panel Rating with Integrated Gasket
NFPA110 Compatible

APPLICATION DATA

// Engine

Manufacturer	John Deere
Model	4024HF285
Type	4-Cycle
Arrangement	4 In-Line
Displacement: L (in ³)	2.4 (146)
Bore: cm (in)	8.6 (3.4)
Stroke: cm (in)	10.5 (4.1)
Compression Ratio	18.2:1
Rated RPM	1,800
Engine Governor	JDEC
Maximum Power: Standby: kWm (bhp)	60 (80)
Maximum Power: Prime: kWm (bhp)	55 (74)
Speed Regulation	±0.25%
Air Cleaner	Dry

// Liquid Capacity (Lubrication)

Total Oil System: L (gal)	7.9 (2.1)
Engine Jacket Water Capacity: L (gal)	2.6 (0.68)
System Coolant Capacity: L (gal)	11.4 (3)

// Electrical

Electric Volts DC	12
Cold Cranking Amps Under -17.8°C (0°F)	750

// Fuel System

Fuel Supply Connection Size	3/8" NPT
Fuel Return Connection Size	3/8" NPT
Maximum Fuel Lift: m (ft)	3 (10)
Recommended Fuel	Diesel #2
Total Fuel Flow: L/hr (gal/hr)	82 (21.7)

// Fuel Consumption

	STANDBY	PRIME
At 100% of Power Rating: L/hr (gal/hr)	16.3 (4.3)	14 (3.7)
At 75% of Power Rating: L/hr (gal/hr)	12.1 (3.2)	11 (2.9)
At 50% of Power Rating: L/hr (gal/hr)	8.3 (2.2)	7.6 (2)

// Cooling - Radiator System

	STANDBY	PRIME
Ambient Capacity of Radiator: °C (°F)	50 (122)	50 (122)
Maximum Allowable Static Pressure on Rad. Exhaust: kPa (in. H ₂ O)	0.12 (0.5)	0.12 (0.5)
Water Pump Capacity: L/min (gpm)	100 (26)	100 (26)
Heat Rejection to Coolant: kW (BTUM)	34.9 (1,988)	27.4 (1,560)
Heat Rejection to Air to Air: kW (BTUM)	10.7 (608)	8.5 (484)
Heat Radiated to Ambient: kW (BTUM)	9 (510)	7.4 (420)

// Air Requirements

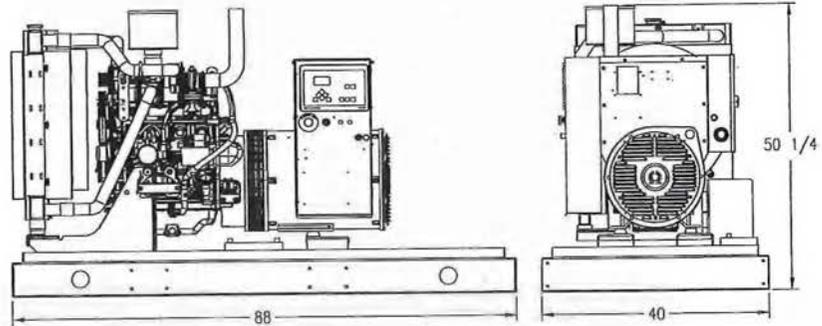
	STANDBY	PRIME
Aspirating: *m ³ /min (SCFM)	4.3 (151)	4 (140)
Air Flow Required for Rad. Cooled Unit: *m ³ /min (SCFM)	156 (5,506)	156 (5,506)
Air Flow Required for Heat Exchanger/Remote Rad. based on 25 °F Rise: *m ³ /min (SCFM)	33 (1,150)	27 (948)

* Air density = 1.184 kg/m³ (0.0739 lbm/ft³)

// Exhaust System

	STANDBY	PRIME
Gas Temp. (Stack): °C (°F)	572 (1,062)	554 (1,029)
Gas Volume at Stack Temp: m ³ /min (CFM)	11.9 (419)	10.9 (385)
Maximum Allowable Back Pressure: kPa (in. H ₂ O)	7.5 (30)	7.5 (30)
Minimum Allowable Back Pressure: kPa (in. H ₂ O)	4 (16)	4 (16)

WEIGHTS AND DIMENSIONS



Drawing above for illustration purposes only, based on standard open power 480 volt engine-generator set. Lengths may vary with other voltages. Do not use for installation design. See website for unit specific template drawings.

System	Dimensions (L x W x H)	Weight (dry / heavy load)
Open Power Unit (OPU)	2,235 x 1,016 x 1,276 mm (88 x 40 x 50.25 in)	842 kg (1,857 lb)

Weights and dimensions are based on open power units and are estimates only. Consult the factory for accurate weights and dimensions for your specific engine-generator set.

SOUND DATA

Unit Type	Standby Full Load	Prime Full Load
Level 0: Open Power Unit (dBA)	79.5	79.4

Sound data is provided at 7 m (23 ft). Engine-generator set tested in accordance with ISO 8528-10 and with infinite exhaust.

EMISSIONS DATA

NO _x + NMHC	CO	PM
3.2	0.8	0.15

All units are in g/hp-hr and are EPA D2 cycle values.

Emission levels of the engine may vary as a function of ambient temperature, barometric pressure, humidity, fuel type and quality, installation parameters, measuring instrumentation, etc. The data provided are laboratory results from one engine representing this rating. The data was obtained under controlled environmental conditions with calibrated instrumentation traceable to the United States National Bureau of Standards and in compliance with US EPA regulations found within 40 CFR Part 89. The weighted cycle value from each engine is guaranteed to be below the US EPA Standards at the US EPA defined conditions.

RATING DEFINITIONS AND CONDITIONS

- // Standby ratings apply to installations served by a reliable utility source. The standby rating is applicable to varying loads for the duration of a power outage. No overload capability for this rating. Ratings are in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271.
- // Prime power ratings apply to installations where utility power is unavailable or unreliable. At varying load, the number of generator set operating hours is unlimited. A 10% overload capacity is available for one hour in twelve. Ratings are in accordance with ISO-8528/1, overload power in accordance with ISO-3046/1, BS 5514, AS 2789, and DIN 6271.
- // Deration Factor:
 - Altitude:** Consult your local MTU Onsite Energy Power Generation Distributor for altitude derations.
 - Temperature:** Consult your local MTU Onsite Energy Power Generation Distributor for temperature derations.

Materials and specifications subject to change without notice.

C/F = Consult Factory/MTU Onsite Energy Distributor

// **Tognum Group Companies:** Europe / Middle East / Africa / Latin America / MTU Onsite Energy / 88040 Friedrichshafen / Germany / Phone + 49 7541 90 7060 / Fax +49 7541 90 7084 / powergenregion1@mtu-online.com // **Asia / Australia / Pacific** / MTU Onsite Energy / 1, Benoi Place / Singapore 629923 / Republic of Singapore / Phone + 65 6861 5922 / Fax + 65 6861 3615 / powergenregion2@mtu-online.com // **USA / Canada / Mexico** / MTU Onsite Energy Corporation / 100 Power Drive / Mankato, Minnesota 56001 / USA / Phone + 1 507 625 7973 / Fax + 1 507 625 2968 / powergenregion3@mtu-online.com // **Worldwide for HotModule** / MTU Onsite Energy / 81663 Munich / Germany / Phone + 49 89 203042 800 / Fax +49 89 203042 900 / info@mtu-online.com // www.mtu-online.com

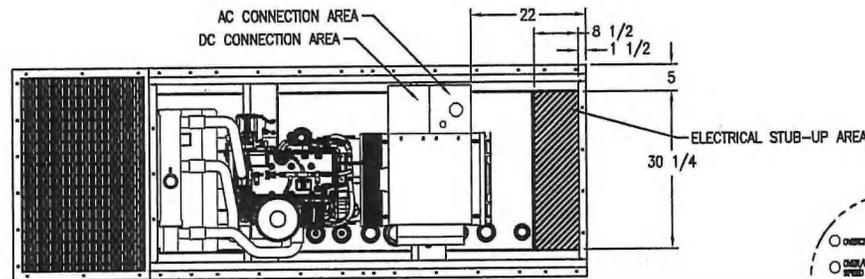
OEM Emissions Data

Rating Data	
Rating	4024HF285B
Spec Rated Power (kW)	60
Rated Speed	1,800
Vehicle Model Number	OEM (Gen Set)

Emissions Data	
Rating	4024HF285B
Units	g/kW-hr
CO	1.16
Pm	0.16
NOx	4.59
HC	0.1
NOx + HC	4.69

Certificate Data	
EPA Family Name	8JDXL03.0113
EPA JD Family	250HAA
EPA Certificate Number	JDX-NRCI-08-30
CARB Certificate Number	

DWG. #: VER50_JC6DT3(4024HF285)CQE-MD

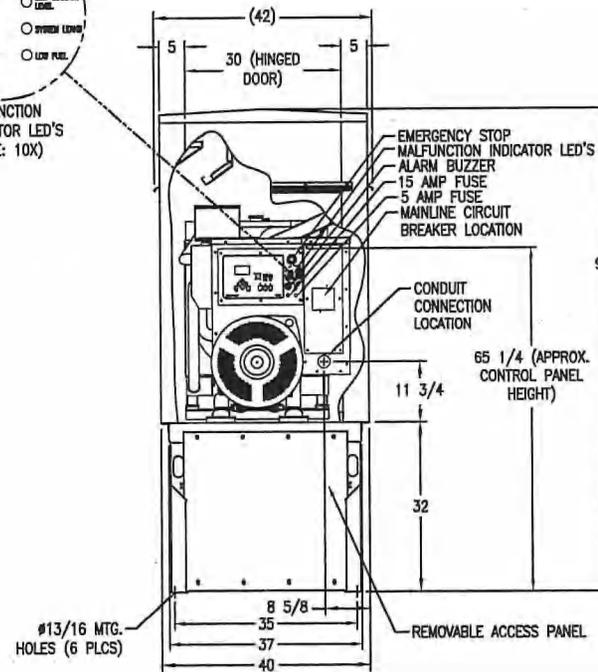
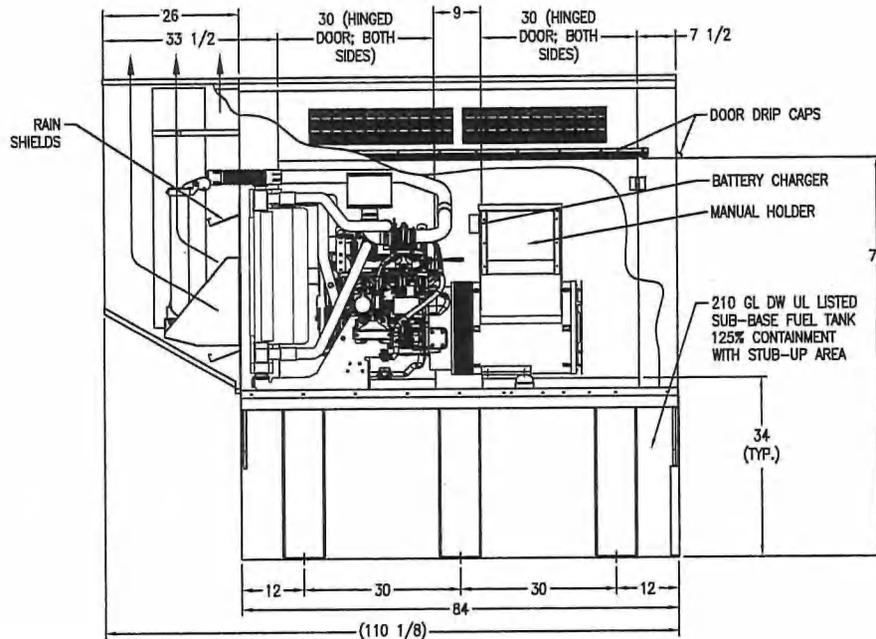


NOTES:

- 1) APPROX. WEIGHT: (WET) TBD#
- 2) REFERENCE ENCLOSURE DRAWING: CQE-729
- 3) REFERENCE TANK DRAWING: 108-2514
- 4) SOUND LEVEL: (TO BE DETERMINED)
- 5) GEN-SET IS OFF-SET 1 1/2" TO LEFT SIDE OF BASE/ENCL.
- 6) ENCLOSURE & EXHAUST SYSTEMS ARE NOT SHOWN ON TOP VIEW



MALFUNCTION INDICATOR LED'S (SCALE: 10X)



REVISION	DATE	REVISION DESCRIPTION	INITIALS
A	4-7-09	INITIAL RELEASE SALES AND ENGINEERING	KAP
		REVISION DESCRIPTION	INITIALS



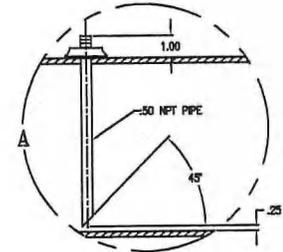
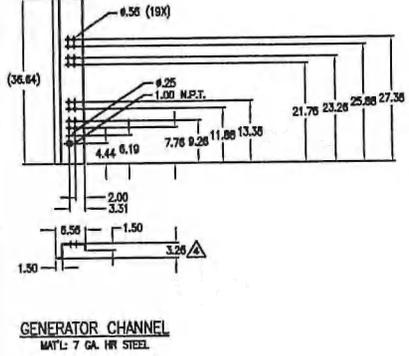
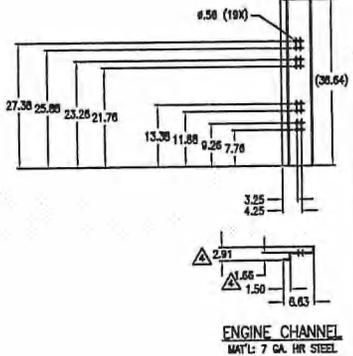
GEN-SET INFORMATION

ENGINE: 4024HF285
GENERATOR: 361
RADIATOR: 86880 (DR-2853)
DUCT FLANGE: NA
CONTROL PANEL: DGC-2020
BASE: 108-2514

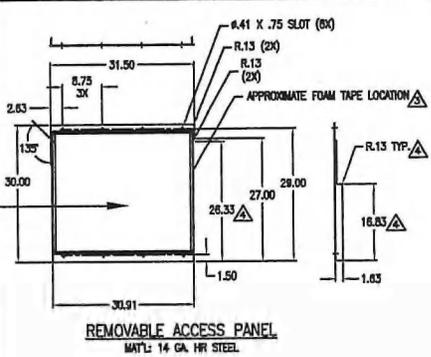
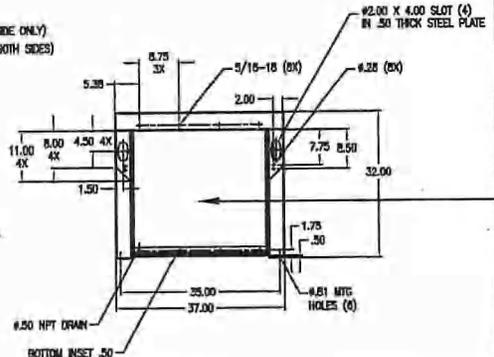
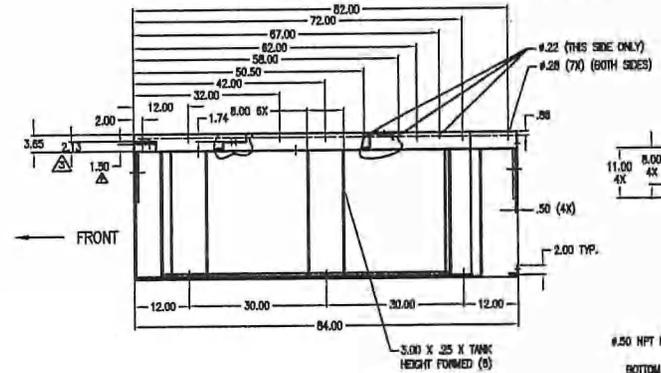
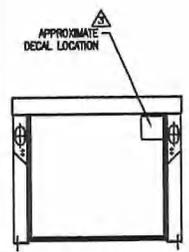
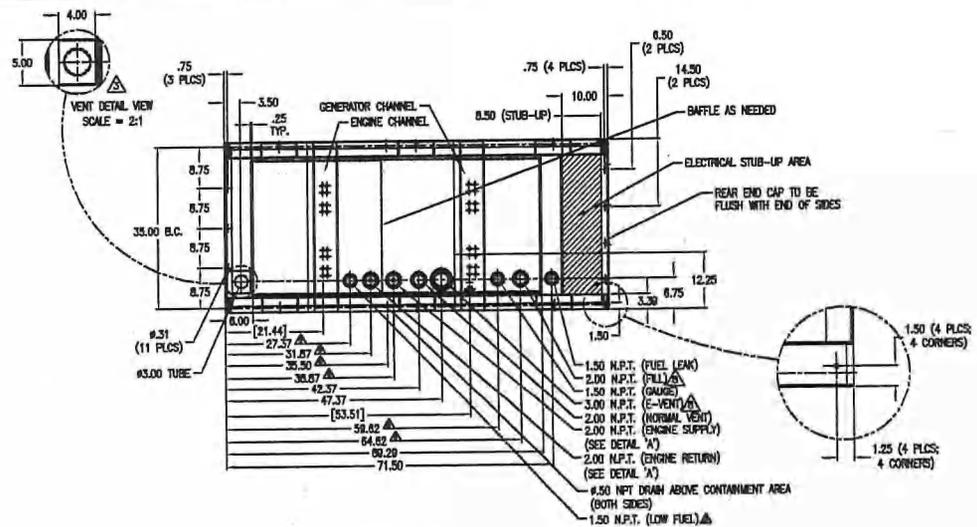
ENCLOSURE: CQE-729
BREAKER: TBD
TANK: 110 GALLON
MUFFLER: 3 1/2 CRITICAL
TRAILER: NA
ISOLATORS: PADS

DIMENSIONAL LAYOUT

DRAWN TO SCALE
ALL DIMENSIONS ARE IN INCHES
MODEL: VER50_JC6DT3
DATE: _____
DRAWN BY: KAP
DWG. #: VER50_JC6DT3(4024HF285)CQE-MD



- NOTES:
1. REMOVE ALL BURRS AND SHARP EDGES
 2. Baffle MUST BE CENTERED BETWEEN FUEL PIPES TO SEPARATE HOT AND COLD FUEL
 3. TANK IS DESIGNED TO SUPPORT GENSET
 4. THIS FUEL TANK IS UL LISTED 142 AS AN OPEN TOP DIZED GENERATOR BASE TANK
 5. TANK TO BE INSTALLED IN ACCORDANCE WITH AFFIXED LABELING, THE FLAMMABLE AND COMBUSTIBLE LIQUIDS CODE, NFPA 30 AND ANY OTHER PREVALING CODES.
 6. DISTANCE BETWEEN INNER/OUTER TANK IS TO BE .50" UNLESS OTHERWISE SPECIFIED
 7. TANK IS TO BE 125% CONTAINMENT
 8. ALL GAUGES & SWITCHES SUPPLIED BY MTU
 9. (X) DIMENSIONS ARE CRITICAL
 10. MATERIAL IS 10 GA. HRPO UNLESS OTHERWISE NOTED
 11. PRESSURE TEST AT 5 PSI
 12. STEEL FLUGS REQUIRED
 13. RUST INHIBITOR TO BE APPLIED TO INSIDE OF INNER TANK



REV	EDD	REVISION DESCRIPTION	DATE	BY
08	00381	SWAPPED LOCATION OF 3.00 NPT E-VENT AND 2.00 NPT FILL	6-3-08	NJP
07	87452-07	MODIFIED OVERFLOW VENT HEIGHT	3-25-08	HAP
06	87452-06	MOVED SUPPLY/RETURN, GAUGE, LOW FUEL, E-VENT TO NEW LOCATIONS, SHORTEN VENT	3-17-08	HAP
05	87452-05	ADDED 1.50 NPT LOW FUEL	05-04-08	JDA
04	87452-04	REMOVED WELD ALONG FRONT OF CHANNELS, CHANNELS OFFSET .250 FROM TANK TOP	12-18-08	JDA
03	87452-03	ADDED VENT COVER, DECAL & FOAM TAPE LOCATION, WELD ALONG FRONT OF CHANNELS	11-23-08	JDA
02	87452-02	ADDED (4) 3.00 X .25 X TANK HEIGHT SUPPORTS TO SIDES	10-10-08	JDA
01	87452-01	DELETED 'C' VIEW, REMOVED END CAP NOTE	08-23-08	JDA



TOLERANCES

X = +/- .100

XX = +/- .005

XXX = +/- .001

FINISHES = +/- 1/8"

(UNLESS OTHERWISE SPECIFIED)

DRAWN TO SCALE

ALL DIMENSIONS ARE IN INCHES

MATERIALS: SEE NOTES

FINISH: GLOSS BLACK

DATE: 08-27-08

DRAWN BY: JDA

PART NO: 87452

WEIGHT: 1500g

SHEET: 1 OF 1

DESCRIPTION:

TANK SB 210GL DW UL

VERIZON CONTAINMENT

W/ STUB-UP 84 X 37 X 32

DWG. #: 108-2514

BXA-70080-8CF-EDIN-X

X-Pol | FET Panel | 80° | 15.0 dBd

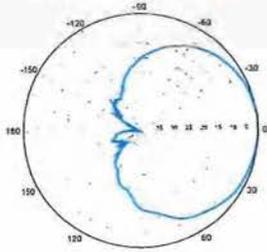
Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.



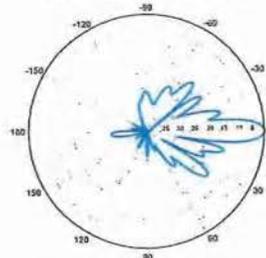
Electrical Characteristics		696-900 MHz		
Frequency bands	696-806 MHz	806-900 MHz		
Polarization	±45°			
Horizontal beamwidth	82°	80°		
Vertical beamwidth	9°	7°		
Gain	14.5 dBd (16.6 dBi)	15.0 dBd (17.1 dBi)		
Electrical downtilt (X)	0, 2, 4, 6, 7			
Impedance	50Ω			
VSWR	≤1.35:1			
Upper sidelobe suppression (0°)	-14.4 dB	-18.3 dB		
Front-to-back ratio (+/-30°)	-34.6 dB	-34.8 dB		
Null fill	5% (-26.02 dB)			
Isolation between ports	< -25 dB			
Input power with EDIN connectors	500 W			
Input power with NE connectors	300 W			
Lightning protection	Direct Ground			
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)			
Mechanical Characteristics				
Dimensions Length x Width x Depth	2404 x 204 x 151 mm	94.6 x 8.0 x 5.9 in		
Depth with z-brackets	191 mm	7.5 in		
Weight without mounting brackets	10.4 kg	23 lbs		
Survival wind speed	> 201 km/hr	> 125 mph		
Wind area	Front: 0.49 m ² Side: 0.36 m ²	Front: 5.3 ft ² Side: 3.9 ft ²		
Wind load @ 161 km/hr (100 mph)	Front: 813 N Side: 620 N	Front: 167 lbf Side: 138 lbf		
Mounting Options		Part Number	Fits Pipe Diameter	Weight
3-Point Mounting & Downtilt Bracket Kit		36210008	40-115 mm 1.57-4.5 in	6.9 kg 15.2 lbs
Concealment Configurations		For concealment configurations, order BXA-70080-8CF-EDIN-X-FP		

BXA-70080-8CF-EDIN-X



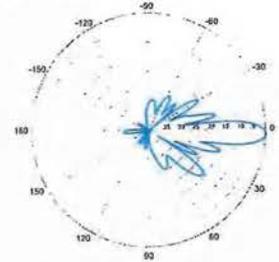
Horizontal | 750 MHz

BXA-70080-8CF-EDIN-0

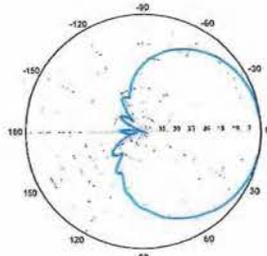


0° | Vertical | 750 MHz

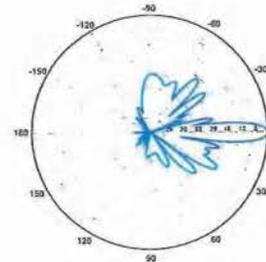
BXA-70080-8CF-EDIN-2



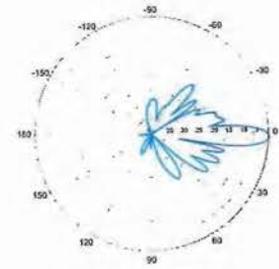
2° | Vertical | 750 MHz



Horizontal | 850 MHz



0° | Vertical | 850 MHz



2° | Vertical | 850 MHz

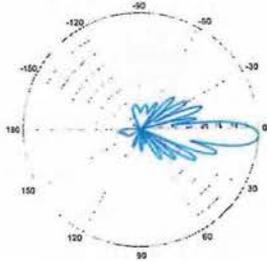
Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

696-900 MHz

BXA-70080-8CF-EDIN-X

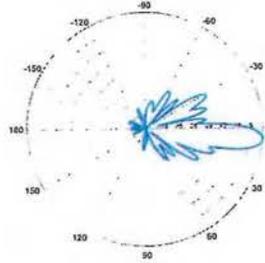
X-Pol | FET Panel | 80° | 15.0 dBd

BXA-70080-8CF-EDIN-4



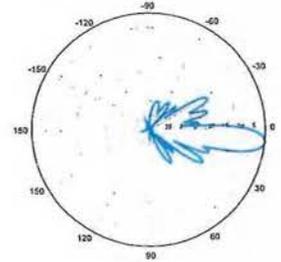
4° | Vertical | 750 MHz

BXA-70080-8CF-EDIN-6

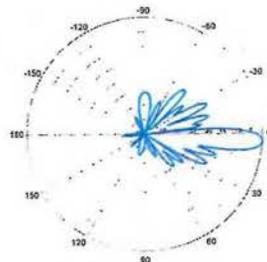


6° | Vertical | 750 MHz

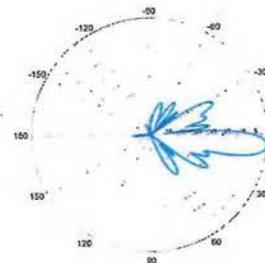
BXA-70080-8CF-EDIN-7



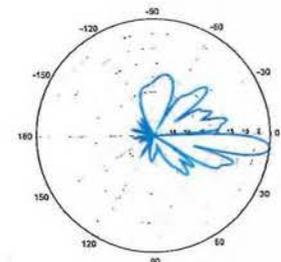
7° | Vertical | 750 MHz



4° | Vertical | 850 MHz



6° | Vertical | 850 MHz



7° | Vertical | 850 MHz

Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

1710-2170 MHz

BXA-171085-12CF-EDIN-X

X-Pol | FET Panel | 85° | 18.0 dBi

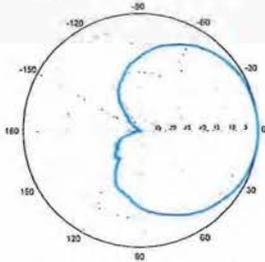
Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

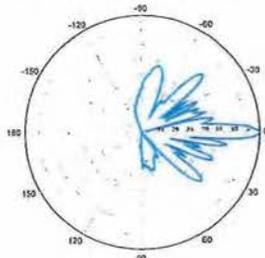


Electrical Characteristics		1710-2170 MHz			
Frequency bands		1710-1880 MHz	1850-1990 MHz	1920-2170 MHz	
Polarization		±45°	±45°	±45°	
Horizontal beamwidth		88°	85°	80°	
Vertical beamwidth		4.5°	4.5°	4.5°	
Gain		15.1 dBd / 17.2 dBi	15.5 dBd / 17.6 dBi	15.9 dBd / 18.0 dBi	
Electrical downtilt (X)		0, 2, 4			
Impedance		50Ω			
VSWR		≤1.5:1			
First upper sidelobe		< -17 dB			
Front-to-back ratio		> 30 dB			
In-band isolation		< -25 dB			
IM3 (2x20W carrier)		< -150 dBc			
Input power		300 W			
Lightning protection		Direct Ground			
Connector(s)		2 Ports / EDIN or NE / Female / Center (Back)			
Operating temperature		-40° to +60° C / -40° to +140° F			
Mechanical Characteristics					
Dimensions Length x Width x Depth		1842 x 154 x 105 mm	72.5 x 6.1 x 4.1 in		
Depth with z-brackets		133 mm	5.2 in		
Weight without mounting brackets		5.8 kg	12.8 lbs		
Survival wind speed		> 201 km/hr			
Wind area		Front: 0.28 m ² Side: 0.19 m ²	Front: 3.1 ft ² Side: 2.1 ft ²		
Wind load @ 161 km/hr (100 mph)		Front: 460 N Side: 304 N	Front: 103 lbf Side: 68 lbf		
Mounting Options		Part Number	Fits Pipe Diameter		Weight
2-Point Mounting Bracket Kit		26799997	50-102 mm	2.0-4.0 in	2.3 kg 5 lbs
2-Point Mounting & Downtilt Bracket Kit		26799999	50-102 mm	2.0-4.0 in	3.6 kg 8 lbs
Concealment Configurations		For concealment configurations, order BXA-171085-12CF-EDIN-X-FP			

BXA-171085-12CF-EDIN-X

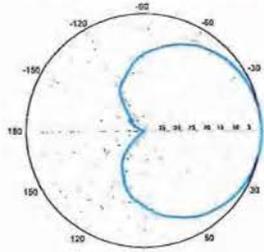


Horizontal | 1710-1880 MHz
BXA-171085-12CF-EDIN-0

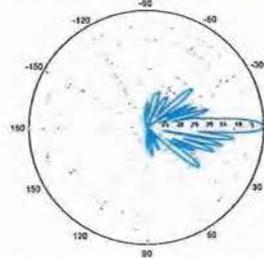


0° | Vertical | 1710-1880 MHz

BXA-171085-12CF-EDIN-X

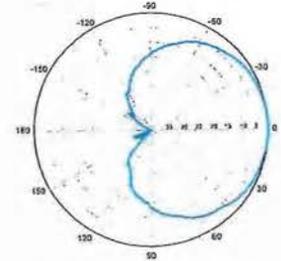


Horizontal | 1850-1990 MHz
BXA-171085-12CF-EDIN-0

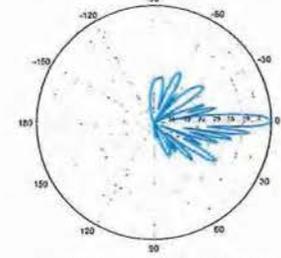


0° | Vertical | 1850-1990 MHz

BXA-171085-12CF-EDIN-X



Horizontal | 1920-2170 MHz
BXA-171085-12CF-EDIN-0



0° | Vertical | 1920-2170 MHz

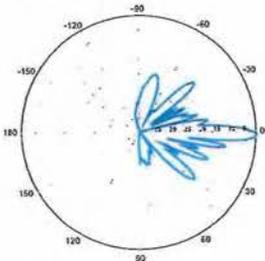
Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

1710-2170 MHz

BXA-171085-12CF-EDIN-X

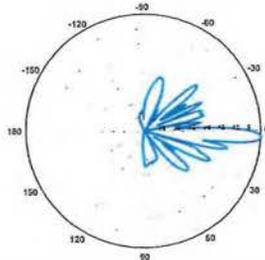
X-Pol | FET Panel | 85° | 18.0 dBi

BXA-171085-12CF-EDIN-2



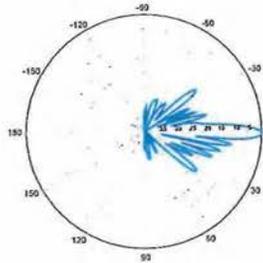
2° | Vertical | 1710-1880 MHz

BXA-171085-12CF-EDIN-4



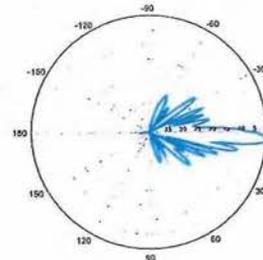
4° | Vertical | 1710-1880 MHz

BXA-171085-12CF-EDIN-2



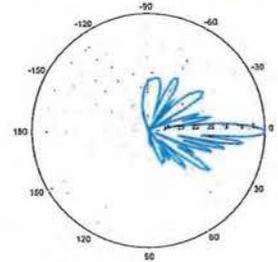
2° | Vertical | 1850-1990 MHz

BXA-171085-12CF-EDIN-4



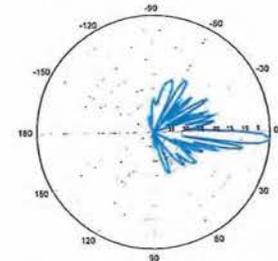
4° | Vertical | 1850-1990 MHz

BXA-171085-12CF-EDIN-2



2° | Vertical | 1920-2170 MHz

BXA-171085-12CF-EDIN-4



4° | Vertical | 1920-2170 MHz

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1710-2170 MHz

BXA-171063-12CF-EDIN-X

X-Pol | FET Panel | 63° | 19.0 dBi

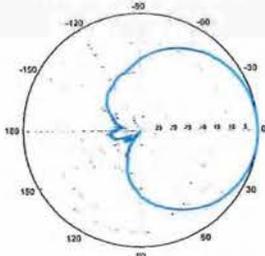
Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.

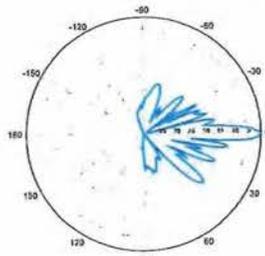
Electrical Characteristics		1710-2170 MHz			
	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz		
Frequency bands	1710-1880 MHz	1850-1990 MHz	1920-2170 MHz		
Polarization	±45°	±45°	±45°		
Horizontal beamwidth	68°	65°	60°		
Vertical beamwidth	4.5°	4.5°	4.5°		
Gain	16.1 dBd / 18.2 dBi	16.5 dBd / 18.6 dBi	16.9 dBd / 19.0 dBi		
Electrical downtilt (X)	0, 2, 5				
Impedance	50Ω				
VSWR	≤1.5:1				
First upper sidelobe	< -17 dB				
Front-to-back ratio	> 30 dB				
In-band isolation	< -25 dB				
IM3 (20W carrier)	< -150 dBc				
Input power	300 W				
Lightning protection	Direct Ground				
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)				
Operating temperature	-40° to +60° C / -40° to +140° F				
Mechanical Characteristics					
Dimensions Length x Width x Depth	1842 x 154 x 105 mm	72.5 x 6.1 x 4.1 in			
Depth with z-brackets	133 mm	5.2 in			
Weight without mounting brackets	5.8 kg	12.8 lbs			
Survival wind speed	> 201 km/hr		> 125 mph		
Wind area	Front: 0.28 m ² Side: 0.19 m ²	Front: 3.1 ft ²	Side: 2.1 ft ²		
Wind load @ 161 km/hr (100 mph)	Front: 460 N Side: 304 N	Front: 103 lbf	Side: 68 lbf		
Mounting Options	Part Number	Fits Pipe Diameter		Weight	
2-Point Mounting Bracket Kit	26799997	50-102 mm	2.0-4.0 in	2.3 kg	5 lbs
2-Point Mounting & Downtilt Bracket Kit	26799999	50-102 mm	2.0-4.0 in	3.6 kg	8 lbs
Concealment Configurations	For concealment configurations, order BXA-171063-12CF-EDIN-X-FP				



BXA-171063-12CF-EDIN-X

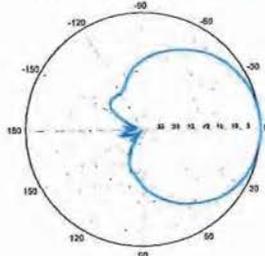


Horizontal | 1710-1880 MHz
BXA-171063-12CF-EDIN-0

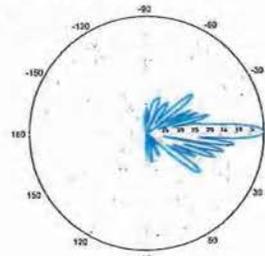


0° | Vertical | 1710-1880 MHz

BXA-171063-12CF-EDIN-X

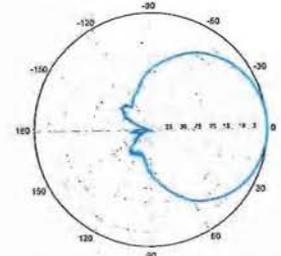


Horizontal | 1850-1990 MHz
BXA-171063-12CF-EDIN-0

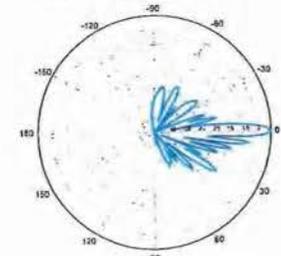


0° | Vertical | 1850-1990 MHz

BXA-171063-12CF-EDIN-X



Horizontal | 1920-2170 MHz
BXA-171063-12CF-EDIN-0



0° | Vertical | 1920-2170 MHz

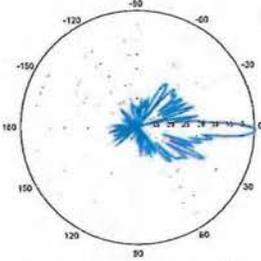
Quoted performance parameters are provided to offer typical or range values only and may vary as a result of normal manufacturing and operational conditions. Extreme operational conditions and/or stress on structural supports is beyond our control. Such conditions may result in damage to this product. Improvements to product may be made without notice.

1710-2170 MHz

BXA-171063-12CF-EDIN-X

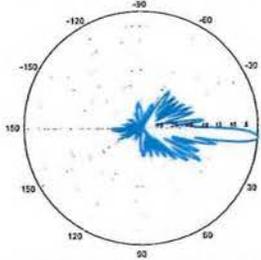
X-Pol | FET Panel | 63° | 19.0 dBi

BXA-171063-12CF-EDIN-2



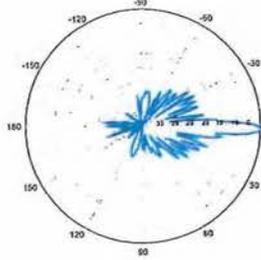
2° | Vertical | 1710-1880 MHz

BXA-171063-12CF-EDIN-5



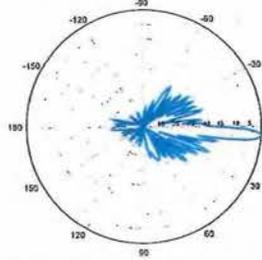
5° | Vertical | 1710-1880 MHz

BXA-171063-12CF-EDIN-2



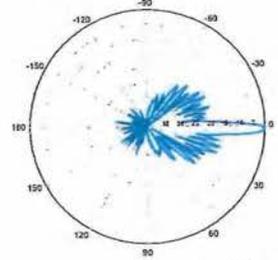
2° | Vertical | 1850-1990 MHz

BXA-171063-12CF-EDIN-5



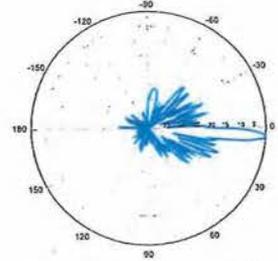
5° | Vertical | 1850-1990 MHz

BXA-171063-12CF-EDIN-2



2° | Vertical | 1920-2170 MHz

BXA-171063-12CF-EDIN-5



5° | Vertical | 1920-2170 MHz

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696-900 MHz

BXA-70063-8CF-EDIN-X

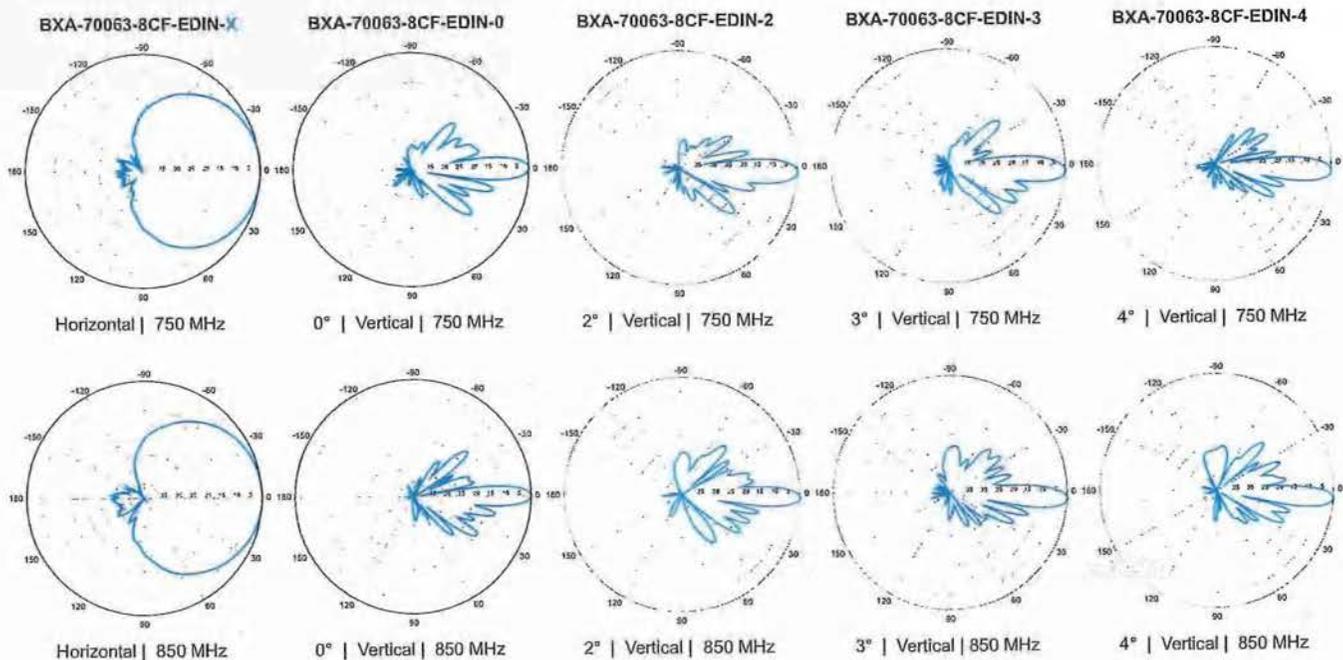
X-Pol | FET Panel | 63° | 16.0 dBd

Replace "X" with desired electrical downtilt.

Antenna is also available with NE connector(s). Replace "EDIN" with "NE" in the model number when ordering.



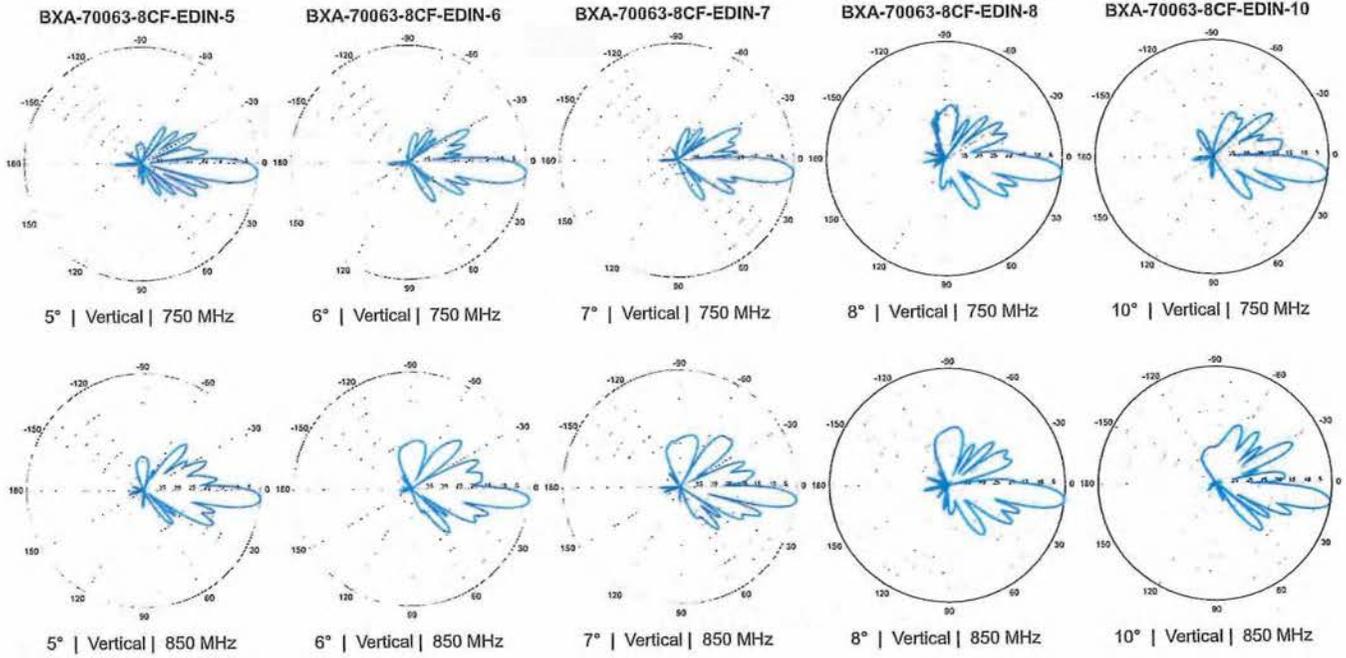
Electrical Characteristics		696-900 MHz		
Frequency bands	696-806 MHz		806-900 MHz	
Polarization	±45°			
Horizontal beamwidth	65°		63°	
Vertical beamwidth	9°		7°	
Gain	15.5 dBd (17.6 dBi)		16.0 dBd (18.1 dBi)	
Electrical downtilt (X)	0, 2, 3, 4, 5, 6, 7, 8, 10			
Impedance	50Ω			
VSWR	≤1.35:1			
Upper sidelobe suppression (0°)	-16.2 dB		-19.0 dB	
Front-to-back ratio (+/-30°)	-32.9 dB		-31.3 dB	
Null fill	5% (-26.02 dB)			
Isolation between ports	< -25 dB			
Input power with EDIN connectors	500 W			
Input power with NE connectors	300 W			
Lightning protection	Direct Ground			
Connector(s)	2 Ports / EDIN or NE / Female / Center (Back)			
Mechanical Characteristics				
Dimensions Length x Width x Depth	2405 x 285 x 132 mm		94.7 x 11.2 x 5.2 in	
Depth with z-brackets	170 mm		6.7 in	
Weight without mounting brackets	10.9 kg		24 lbs	
Survival wind speed	> 201 km/hr		> 125 mph	
Wind area	Front: 0.69 m ² Side: 0.31 m ²		Front: 7.4 ft ² Side: 3.4 ft ²	
Wind load @ 161 km/hr (100 mph)	Front: 1031 N Side: 581 N		Front: 232 lbf Side: 129 lbf	
Mounting Options		Part Number	Fits Pipe Diameter	Weight
3-Point Mounting & Downtilt Bracket Kit		36210008	40-115 mm 1.57-4.5 in	6.9 kg 15.2 lbs
Concealment Configurations		For concealment configurations, order BXA-70063-8CF-EDIN-X-FP		



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BXA-70063-8CF-EDIN-X

X-Pol | FET Panel | 63° | 16.0 dBd



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X7C-FRO-860

Xpol, 58° H-Beam

698-896 MHz

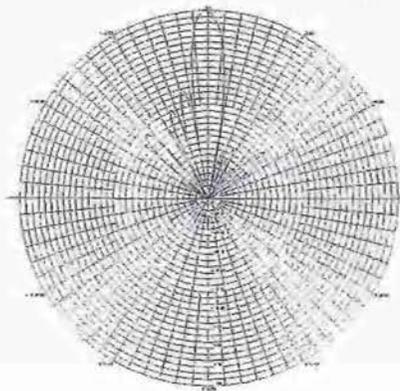
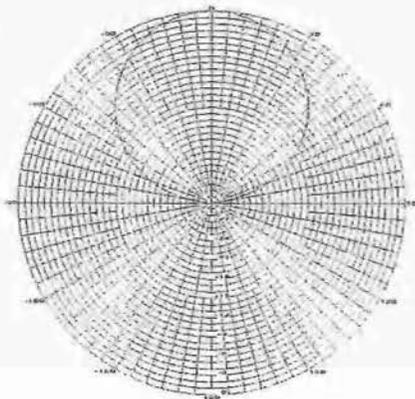
[Link to Mechanical Drawing](#)

Electrical Specifications

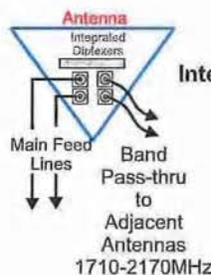
Frequency	698-896 MHz
Polarization	Slant +/- 45
Gain @ 698 MHz	17.2 dBi
Gain @ 782 MHz	17.7 dBi
Gain @ 896 MHz	18.3 dBi
Horizontal Beam (3dB Points)	58°
Vertical Beam (3dB Points)	8°
Elect. Downtilt Range, 2° Increments	0-10°
VSWR (2° thru 10° ET) / Return Loss	<1.40:1 / 15.6 dB
VSWR @ 0° & / Return Loss	<1.50:1 / 14.0 dB
Front-to-Back at Horizon	>30 dB
Upper Side Lobe Suppression	<-18 dB
Impedance	50 Ohms
Power Input Per Connector	500 CW at 800 MHz
Isolation	< -27 dB
Intermodulation (2x20W)	<-150 dBc

Mechanical Specifications

Input Connector (female)	Back 7/16 DIN or w/bot. opt.
Antenna Dimensions (LxWxD)	96.0 x 14.6 x 8.0 in. (2438 x 372 x 203mm)
*Antenna Weight	43.4 lbs
Bracket Weight	18.2 lbs
RF Distribution	Printed Microstrip Substrate
Radome	Ultra High-Strength Luran
Weatherability	UV Stabilized, ASTM D1925
Radome Water Absorption	ASTM D570, 0.45%
Environmental	MIL-STD-810E
Wind Survival	150 mph
Front Wind Load @100mph	288 lbf
Equivalent Flat Plate @100mph	5.87 sq-ft. (c=2)
Mounting Brackets	Fits 3.5 Inch Max. O.D. Pipe
Mechanical Downtilt Range	0-6°
Clamps/Bolts	Galvanized Steel/Stainless Steel



Available with Integrated Pass-Thru Diplexers to reduce mainline cables and eliminate separate external devices



Integrated Pass-Thru Diplexers will work with TMA's

Recommended Connector Coupling Torque
7/16 DIN: 220-265 lbf-in (25-30 N-m)

Return Loss at pass-thru port into 50Ω load ≥17.7 dB

Ordering Information & Options

- X7C-FRO-860-x "-x" is a placeholder for the built-in fixed electrical downtilt in degrees, set to 0, 2, 4, 6, 8 or 10
- X7C-FRO-860-xip "ip" option includes pass-thru integrated diplexer(s) which pass DC to the diplexer port(s)
- X7C-FRO-860-xip-bot for bottom mounted connectors, add "-bot" (otherwise antenna comes standard with back mounted connectors)

*Antenna Weight may vary slightly with options.



County of Fairfax, Virginia

To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County

June 17, 2014

Mr. Frank W. Stearns
Donohue & Stearns, PLC
201 Liberty Street
Leesburg, VA 20175

RE: Request for Waiver of Steady Red Marker – 2232-Y13-10

NOVEC Substation
15001 Lee Highway
Tax Map: 64-2 ((3)) 26A
Zoning District: R-C

Dear Mr. Stearns:

This is in response to your May 8, 2014 letter to Leslie Johnson, Zoning Administrator, in which you requested waiver of the steady red marker requirement for the proposed 130 foot tall telecommunications facility on the above referenced property. The proposed facility is associated with Application# 2232-Y13-10. Pursuant to Par. 2.G. of Sect. 2-514 of the Fairfax County Zoning Ordinance, a steady red marker light is required to be installed, and operated at all times, on all antenna structures exceeding 100 feet in height. However, this requirement may be waived by the Zoning Administrator upon a determination by the Police Department that such marker is not necessary for flight safety requirements for police and emergency helicopter operations.

We have received confirmation from the Helicopter Division of the Police Department that the steady red marker is not required for the proposed facility; a copy of their finding is enclosed for your records. Given the input from the Helicopter Division, the requirement for the steady red marker has been waived by the Zoning Administration Division for this particular application.

I trust this information adequately responds to your request. If you have any additional questions, please feel free to contact me at 703-324-1314.

Sincerely,

Andrew B. Hushour
Deputy Zoning Administrator

ABH/

Department of Planning and Zoning
Zoning Administration Division
Ordinance Administration Branch
12055 Government Center Parkway, Suite 807
Fairfax, Virginia 22035-5505
Phone 703-324-1314 FAX 703-803-6372
www.fairfaxcounty.gov/dpz/



Mr. Frank W. Stearns
June 17, 2014
Page 2

cc: Michael R. Frey, Supervisor, Sully District
Diane Johnson-Quinn, Deputy Zoning Administrator for Zoning Permit Review Branch
Chris Caperton, Chief, Facilities Planning Branch, DPZ
Captain Thomas J. Rogers, Commander, Helicopter Division, Police Department



FAIRFAX COUNTY PARK AUTHORITY



M E M O R A N D U M

TO: Michael H. Lynskey, Staff Coordinator
Zoning Evaluation Division
Department of Planning and Zoning

FROM: Brian H. Williams, Acting Manager 
Real Estate Services
Planning and Development Division

DATE: October 6, 2014

SUBJECT: Access Easement, Cub Run SV TM 64-2 ((4)) A, Milestone Tower Limited Partnership-III.

The Park Authority is in receipt of an easement application from Milestone Tower Limited Partnership-III for an access easement across the subject parcel for the purpose of accessing a proposed telecommunication facility on adjacent property owned by NOVEC.

Staff has reviewed and processed the application with the intention of granting the easement once zoning approvals have been granted. The Park Authority required, and Milestone has obtained, written permission from Dominion Virginia Power to encroach upon their existing ROW. The Office of County Attorney has worked with staff and the applicant's legal counsel on an approved easement instrument which will tie the access easement to the Milestone tower and compound. In the event that the Milestone facility is deactivated and vacated the access easement will automatically be vacated along with it. Milestone has been provided preliminary copies of all related documents along with an estimate of fees and assurances for the easement.

Once the required zoning approvals have been granted the easement documents and associated construction permit will be forwarded to Milestone for their execution. Upon receipt of the signed documents and payment for all fees and assurances the Park Authority will execute the easement agreement and return to the applicant for recordation.

Copy: David Bowden, P.E., Director, Planning and Development Division
Cindy McNeal, P.E., Real Estate Services, Planning and Development Division
Gary Best, Project Manager, Real Estate Services, Planning and Development Division

GLOSSARY

This Glossary is provided to assist the public in understanding the staff evaluation and analysis of development proposals. It should not be construed as representing legal definitions. Refer to the Fairfax County Zoning Ordinance, Comprehensive Plan or Public Facilities Manual for additional information.

ABANDONMENT: Refers to road or street abandonment, an action taken by the Board of Supervisors, usually through the public hearing process, to abolish the public's right-of-passage over a road or road right-of way. Upon abandonment, the right-of-way automatically reverts to the underlying fee owners. If the fee to the owner is unknown, Virginia law presumes that fee to the roadbed rests with the adjacent property owners if there is no evidence to the contrary.

ACCESSORY DWELLING UNIT (OR APARTMENT): A secondary dwelling unit established in conjunction with and clearly subordinate to a single family detached dwelling unit. An accessory dwelling unit may be allowed if a special permit is granted by the Board of Zoning Appeals (BZA). Refer to Sect. 8-918 of the Zoning Ordinance.

AFFORDABLE DWELLING UNIT (ADU) DEVELOPMENT: Residential development to assist in the provision of affordable housing for persons of low and moderate income in accordance with the affordable dwelling unit program and in accordance with Zoning Ordinance regulations. Residential development which provides affordable dwelling units may result in a density bonus (see below) permitting the construction of additional housing units. See Part 8 of Article 2 of the Zoning Ordinance.

AGRICULTURAL AND FORESTAL DISTRICTS: A land use classification created under Chapter 114 or 115 of the Fairfax County Code for the purpose of qualifying landowners who wish to retain their property for agricultural or forestal use for use/value taxation pursuant to Chapter 58 of the Fairfax County Code.

BARRIER: A wall, fence, earthen berm, or plant materials which may be used to provide a physical separation between land uses. Refer to Article 13 of the Zoning Ordinance for specific barrier requirements.

BEST MANAGEMENT PRACTICES (BMPs): Stormwater management techniques or land use practices that are determined to be the most effective, practicable means of preventing and/or reducing the amount of pollution generated by nonpoint sources in order to improve water quality.

BUFFER: Graduated mix of land uses, building heights or intensities designed to mitigate potential conflicts between different types or intensities of land uses; may also provide for a transition between uses. A landscaped buffer may be an area of open, undeveloped land and may include a combination of fences, walls, berms, open space and/or landscape plantings. A buffer is not necessarily coincident with transitional screening.

CHESAPEAKE BAY PRESERVATION ORDINANCE: Regulations which the State has mandated must be adopted to protect the Chesapeake Bay and its tributaries. These regulations must be incorporated into the comprehensive plans, zoning ordinances and subdivision ordinances of the affected localities. Refer to Chesapeake Bay Preservation Act, Va. Code Section 10.1-2100 et seq and VR 173-02-01, Chesapeake Bay Preservation Area Designation and Management Regulations.

CLUSTER DEVELOPMENT: Residential development in which the lots are clustered on a portion of a site so that significant environmental/historical/cultural resources may be preserved or recreational amenities provided. While smaller lot sizes are permitted in a cluster subdivision to preserve open space, the overall density cannot exceed that permitted by the applicable zoning district. See Sect. 2-421 and Sect. 9-615 of the Zoning Ordinance.

COUNTY 2232 REVIEW PROCESS: A public hearing process pursuant to Sect. 15.2-2232 (Formerly Sect. 15.1-456) of the Virginia Code which is used to determine if a proposed public facility not shown on the adopted Comprehensive Plan is in substantial accord with the plan. Specifically, this process is used to determine if the general or approximate location, character and extent of a proposed facility is in substantial accord with the Plan.

dBA: The momentary magnitude of sound weighted to approximate the sensitivity of the human ear to certain frequencies; the dBA value describes a sound at a given instant, a maximum sound level or a steady state value. See also Ldn.

DENSITY: Number of dwelling units (du) divided by the gross acreage (ac) of a site being developed in residential use; or, the number of dwelling units per acre (du/ac) except in the PRC District when density refers to the number of persons per acre.

DENSITY BONUS: An increase in the density otherwise allowed in a given zoning district which may be granted under specific provisions of the Zoning Ordinance when a developer provides excess open space, recreation facilities, or affordable dwelling units (ADUs), etc.

DEVELOPMENT CONDITIONS: Terms or conditions imposed on a development by the Board of Supervisors (BOS) or the Board of Zoning Appeals (BZA) in connection with approval of a special exception, special permit or variance application or rezoning application in a "P" district. Conditions may be imposed to mitigate adverse impacts associated with a development as well as secure compliance with the Zoning Ordinance and/or conformance with the Comprehensive Plan. For example, development conditions may regulate hours of operation, number of employees, height of buildings, and intensity of development.

DEVELOPMENT PLAN: A graphic representation which depicts the nature and character of the development proposed for a specific land area: information such as topography, location and size of proposed structures, location of streets trails, utilities, and storm drainage are generally included on a development plan. A development plan is a submission requirement for rezoning to the PRC District. A **GENERALIZED DEVELOPMENT PLAN (GDP)** is a submission requirement for a rezoning application for all conventional zoning districts other than a P District. A development plan submitted in connection with a special exception (SE) or special permit (SP) is generally referred to as an SE or SP plat. A **CONCEPTUAL DEVELOPMENT PLAN (CDP)** is a submission requirement when filing a rezoning application for a P District other than the PRC District; a CDP characterizes in a general way the planned development of the site. A **FINAL DEVELOPMENT PLAN (FDP)** is a submission requirement following the approval of a conceptual development plan and rezoning application for a P District other than the PRC District; an FDP further details the planned development of the site. See Article 16 of the Zoning Ordinance.

EASEMENT: A right to or interest in property owned by another for a specific and limited purpose. Examples: access easement, utility easement, construction easement, etc. Easements may be for public or private purposes.

ENVIRONMENTAL QUALITY CORRIDORS (EQCs): An open space system designed to link and preserve natural resource areas, provide passive recreation and protect wildlife habitat. The system includes stream valleys, steep slopes and wetlands. For a complete definition of EQCs, refer to the Environmental section of the Policy Plan for Fairfax County contained in Vol. 1 of the Comprehensive Plan.

ERODIBLE SOILS: Soils that wash away easily, especially under conditions where stormwater runoff is inadequately controlled. Silt and sediment are washed into nearby streams, thereby degrading water quality.

FLOODPLAIN: Those land areas in and adjacent to streams and watercourses subject to periodic flooding; usually associated with environmental quality corridors. The 100 year floodplain drains 70 acres or more of land and has a one percent chance of flood occurrence in any given year.

FLOOR AREA RATIO (FAR): An expression of the amount of development intensity (typically, non-residential uses) on a specific parcel of land. FAR is determined by dividing the total square footage of gross floor area of buildings on a site by the total square footage of the site itself.

FUNCTIONAL CLASSIFICATION: A system for classifying roads in terms of the character of service that individual facilities are providing or are intended to provide, ranging from travel mobility to land access. Roadway system functional classification elements include Freeways or Expressways which are limited access highways, Other Principal (or Major) Arterials, Minor Arterials, Collector Streets, and Local Streets. Principal arterials are designed to accommodate travel; access to adjacent properties is discouraged. Minor arterials are designed to serve both through traffic and local trips. Collector roads and streets link local streets and properties with the arterial network. Local streets provide access to adjacent properties.

GEOTECHNICAL REVIEW: An engineering study of the geology and soils of a site which is submitted to determine the suitability of a site for development and recommends construction techniques designed to overcome development on problem soils, e.g., marine clay soils.

HYDROCARBON RUNOFF: Petroleum products, such as motor oil, gasoline or transmission fluid deposited by motor vehicles which are carried into the local storm sewer system with the stormwater runoff, and ultimately, into receiving streams; a major source of non-point source pollution. An oil-grit separator is a common hydrocarbon runoff reduction method.

IMPERVIOUS SURFACE: Any land area covered by buildings or paved with a hard surface such that water cannot seep through the surface into the ground.

INFILL: Development on vacant or underutilized sites within an area which is already mostly developed in an established development pattern or neighborhood.

INTENSITY: The magnitude of development usually measured in such terms as density, floor area ratio, building height, percentage of impervious surface, traffic generation, etc. Intensity is also based on a comparison of the development proposal against environmental constraints or other conditions which determine the carrying capacity of a specific land area to accommodate development without adverse impacts.

Ldn: Day night average sound level. It is the twenty-four hour average sound level expressed in A-weighted decibels; the measurement assigns a "penalty" to night time noise to account for night time sensitivity. Ldn represents the total noise environment which varies over time and correlates with the effects of noise on the public health, safety and welfare.

LEVEL OF SERVICE (LOS): An estimate of the effectiveness of a roadway to carry traffic, usually under anticipated peak traffic conditions. Level of Service efficiency is generally characterized by the letters A through F, with LOS-A describing free flow traffic conditions and LOS-F describing jammed or grid-lock conditions.

MARINE CLAY SOILS: Soils that occur in widespread areas of the County generally east of Interstate 95. Because of the abundance of shrink-swell clays in these soils, they tend to be highly unstable. Many areas of slope failure are evident on natural slopes. Construction on these soils may initiate or accelerate slope movement or slope failure. The shrink-swell soils can cause movement in structures, even in areas of flat topography, from dry to wet seasons resulting in cracked foundations, etc. Also known as slippage soils.

OPEN SPACE: That portion of a site which generally is not covered by buildings, streets, or parking areas. Open space is intended to provide light and air; open space may function as a buffer between land uses or for scenic, environmental, or recreational purposes.

OPEN SPACE EASEMENT: An easement usually granted to the Board of Supervisors which preserves a tract of land in open space for some public benefit in perpetuity or for a specified period of time. Open space easements may be accepted by the Board of Supervisors, upon request of the land owner, after evaluation under criteria established by the Board. See Open Space Land Act, Code of Virginia, Sections 10.1-1700, et seq.

P DISTRICT: A "P" district refers to land that is planned and/or developed as a Planned Development Housing (PDH) District, a Planned Development Commercial (PDC) District or a Planned Residential Community (PRC) District. The PDH, PDC and PRC Zoning Districts are established to encourage innovative and creative design for land development; to provide ample and efficient use of open space; to promote a balance in the mix of land uses, housing types, and intensity of development; and to allow maximum flexibility in order to achieve excellence in physical, social and economic planning and development of a site. Refer to Articles 6 and 16 of the Zoning Ordinance.

PROFFER: A written condition, which, when offered voluntarily by a property owner and accepted by the Board of Supervisors in a rezoning action, becomes a legally binding condition which is in addition to the zoning district regulations applicable to a specific property. Proffers are submitted and signed by an owner prior to the Board of Supervisors public hearing on a rezoning application and run with the land. Once accepted by the Board, proffers may be modified only by a proffered condition amendment (PCA) application or other zoning action of the Board and the hearing process required for a rezoning application applies. See Sect. 15.2-2303 (formerly 15.1-491) of the Code of Virginia.

PUBLIC FACILITIES MANUAL (PFM): A technical text approved by the Board of Supervisors containing guidelines and standards which govern the design and construction of site improvements incorporating applicable Federal, State and County Codes, specific standards of the Virginia Department of Transportation and the County's Department of Public Works and Environmental Services.

RESOURCE MANAGEMENT AREA (RMA): That component of the Chesapeake Bay Preservation Area comprised of lands that, if improperly used or developed, have a potential for causing significant water quality degradation or for diminishing the functional value of the Resource Protection Area. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

RESOURCE PROTECTION AREA (RPA): That component of the Chesapeake Bay Preservation Area comprised of lands at or near the shoreline or water's edge that have an intrinsic water quality value due to the ecological and biological processes they perform or are sensitive to impacts which may result in significant degradation of the quality of state waters. In their natural condition, these lands provide for the removal, reduction or assimilation of sediments from runoff entering the Bay and its tributaries, and minimize the adverse effects of human activities on state waters and aquatic resources. New development is generally discouraged in an RPA. See Fairfax County Code, Ch. 118, Chesapeake Bay Preservation Ordinance.

SITE PLAN: A detailed engineering plan, to scale, depicting the development of a parcel of land and containing all information required by Article 17 of the Zoning Ordinance. Generally, submission of a site plan to DPWES for review and approval is required for all residential, commercial and industrial development except for development of single family detached dwellings. The site plan is required to assure that development complies with the Zoning Ordinance.

SPECIAL EXCEPTION (SE) / SPECIAL PERMIT (SP): Uses, which by their nature, can have an undue impact upon or can be incompatible with other land uses and therefore need a site specific review. After review, such uses may be allowed to locate within given designated zoning districts if appropriate and only under special controls, limitations, and regulations. A special exception is subject to public hearings by the Planning Commission and Board of Supervisors with approval by the Board of Supervisors; a special permit requires a public hearing and approval by the Board of Zoning Appeals. Unlike proffers which are voluntary, the Board of Supervisors or BZA may impose reasonable conditions to assure, for example, compatibility and safety. See Article 8, Special Permits and Article 9, Special Exceptions, of the Zoning Ordinance.

STORMWATER MANAGEMENT: Engineering practices that are incorporated into the design of a development in order to mitigate or abate adverse water quantity and water quality impacts resulting from development. Stormwater management systems are designed to slow down or retain runoff to re-create, as nearly as possible, the pre-development flow conditions.

SUBDIVISION PLAT: The engineering plan for a subdivision of land submitted to DPWES for review and approved pursuant to Chapter 101 of the County Code.

TRANSPORTATION DEMAND MANAGEMENT (TDM): Actions taken to reduce single occupant vehicle automobile trips or actions taken to manage or reduce overall transportation demand in a particular area.

TRANSPORTATION SYSTEM MANAGEMENT (TSM) PROGRAMS: This term is used to describe a full spectrum of actions that may be applied to improve the overall efficiency of the transportation network. TSM programs usually consist of low-cost alternatives to major capital expenditures, and may include parking management measures, ridesharing programs, flexible or staggered work hours, transit promotion or operational improvements to the existing roadway system. TSM includes Transportation Demand Management (TDM) measures as well as H.O.V. use and other strategies associated with the operation of the street and transit systems.

URBAN DESIGN: An aspect of urban or suburban planning that focuses on creating a desirable environment in which to live, work and play. A well-designed urban or suburban environment demonstrates the four generally accepted principles of design: clearly identifiable function for the area; easily understood order; distinctive identity; and visual appeal.

VACATION: Refers to vacation of street or road as an action taken by the Board of Supervisors in order to abolish the public's right-of-passage over a road or road right-of-way dedicated by a plat of subdivision. Upon vacation, title to the road right-of-way transfers by operation of law to the owner(s) of the adjacent properties within the subdivision from whence the road/road right-of-way originated.

VARIANCE: An application to the Board of Zoning Appeals which seeks relief from a specific zoning regulation such as lot width, building height, or minimum yard requirements, among others. A variance may only be granted by the Board of Zoning Appeals through the public hearing process and upon a finding by the BZA that the variance application meets the required Standards for a Variance set forth in Sect. 18-404 of the Zoning Ordinance.

WETLANDS: Land characterized by wetness for a portion of the growing season. Wetlands are generally delineated on the basis of physical characteristics such as soil properties indicative of wetness, the presence of vegetation with an affinity for water, and the presence or evidence of surface wetness or soil saturation. Wetland environments provide water quality improvement benefits and are ecologically valuable. Development activity in wetlands is subject to permitting processes administered by the U.S. Army Corps of Engineers

TIDAL WETLANDS: Vegetated and nonvegetated wetlands as defined in Chapter 116 Wetlands Ordinance of the Fairfax County Code: includes tidal shores and tidally influenced embayments, creeks, and tributaries to the Occoquan and Potomac Rivers. Development activity in tidal wetlands may require approval from the Fairfax County Wetlands Board.

Abbreviations Commonly Used in Staff Reports

A&F	Agricultural & Forestal District	PDH	Planned Development Housing
ADU	Affordable Dwelling Unit	PFM	Public Facilities Manual
ARB	Architectural Review Board	PRC	Planned Residential Community
BMP	Best Management Practices	RC	Residential-Conservation
BOS	Board of Supervisors	RE	Residential Estate
BZA	Board of Zoning Appeals	RMA	Resource Management Area
COG	Council of Governments	RPA	Resource Protection Area
CBC	Community Business Center	RUP	Residential Use Permit
CDP	Conceptual Development Plan	RZ	Rezoning
CRD	Commercial Revitalization District	SE	Special Exception
DOT	Department of Transportation	SEA	Special Exception Amendment
DP	Development Plan	SP	Special Permit
DPWES	Department of Public Works and Environmental Services	TDM	Transportation Demand Management
DPZ	Department of Planning and Zoning	TMA	Transportation Management Association
DU/AC	Dwelling Units Per Acre	TSA	Transit Station Area
EQC	Environmental Quality Corridor	TSM	Transportation System Management
FAR	Floor Area Ratio	UP & DD	Utilities Planning and Design Division, DPWES
FDP	Final Development Plan	VC	Variance
GDP	Generalized Development Plan	VDOT	Virginia Dept. of Transportation
GFA	Gross Floor Area	VPD	Vehicles Per Day
HC	Highway Corridor Overlay District	VPH	Vehicles per Hour
HCD	Housing and Community Development	WMATA	Washington Metropolitan Area Transit Authority
LOS	Level of Service	WS	Water Supply Protection Overlay District
Non-RUP	Non-Residential Use Permit	ZAD	Zoning Administration Division, DPZ
OSDS	Office of Site Development Services, DPWES	ZED	Zoning Evaluation Division, DPZ
PCA	Proffered Condition Amendment	ZPRB	Zoning Permit Review Branch
PD	Planning Division		
PDC	Planned Development Commercial		