

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

Table with columns: DATE, DESCRIPTION, REV.
Rows: 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

SEAL:



GENERAL NOTES

- 1. 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.
2. 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.
3. 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.
4. 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.
5. 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.
6. 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.
7. 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.
8. 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.
9. 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.
10. 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.
11. 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.
12. 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.
13. THE CONTRACTOR SHALL COMPLY WITH ALL OSHA REQUIREMENTS AS THEY APPLY TO THIS PROJECT.
14. 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.
15. THE CONTRACTOR SHALL VERIFY ALL DIMENSIONS, ELEVATIONS, PROPERTY LINES, ETC. ON THE PROJECT.

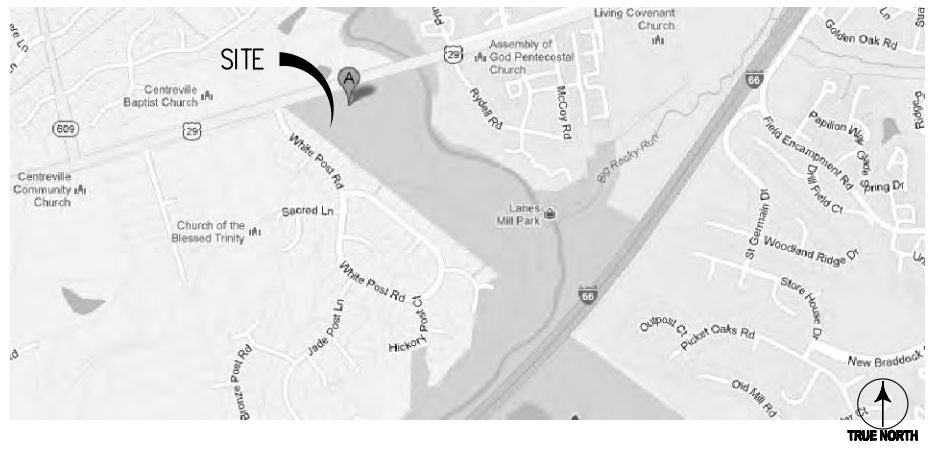
APPROVALS

MILESTONE COMMUNICATIONS: NAME DATE
NOVEC REPRESENTATIVE: NAME DATE

DIRECTIONS:

VICINITY MAP

FROM I-495 (CAPITAL BELTWAY), TAKE EXIT 49 ON THE RIGHT FOR INTERSTATE 66 W TOWARD VIENNA/ 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.



SYMBOLS AND ABBREVIATIONS

Table listing symbols and abbreviations for construction elements: ADJ ADJUSTABLE, CAB CABINET, CLG CEILING, CONC CONCRETE, CONT CONTINUOUS, CJ CONSTRUCTION JOINT, DIA DIAMETER, DWG DRAWING, EGB EQUIPMENT GROUND BAR, EA EACH, ELEC ELECTRICAL, EL ELEVATION, EQ EQUAL, EQUIP EQUIPMENT, EXT EXTERIOR, FF FINISHED FLOOR, GA GAGE, GALV GALVANIZED, GB GROUND BAR, GC GENERAL CONTRACTOR, GRND GROUND, LG LONG, LLH LONG LEG HORIZONTAL, MAX MAXIMUM, MECH MECHANICAL, MFR MANUFACTURER, MGB MAIN GROUND BAR, MIN MINIMUM, MTL METAL, NIC NOT IN CONTRACT, NTS NOT TO SCALE, OC ON CENTER, OPP OPPOSITE, SF SQUARE FOOT, SHT SHEET, SIM SIMILAR, SS STAINLESS STEEL, STL STEEL, TOC TOP OF CONCRETE, TOM TOP OF MASONRY, TOS TOP OF STEEL, TYP TYPICAL, VIF VERIFY IN FIELD, UON UNLESS OTHERWISE NOTED, WWF WELDED WIRE FABRIC, W/ WITH, & AND, @ AT, SPOT ELEVATION, CENTERLINE, PLATE, DETAIL NUMBER SHEET NUMBER, GROUND WIRE, ANTENNA, CALL UTILITIES NOTIFICATION MISS UTILITY 1-800-552-7001 3 WORKING DAYS PRIOR TO DIGGING SAFETY PRECAUTIONS SHALL BE IMPLEMENTED BY CONTRACTOR(S) AT ALL TRENCHING IN ACCORDANCE WITH CURRENT OSHA STANDARD

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 TREE CANOPY CALCULATION
Z-14 DRAINAGE AREA MAP AND CALCULATIONS
Z-15 BMP CALCULATIONS

PROJECT DESCRIPTION

- SCOPE OF WORK: 1. INSTALL A NEW 130'-0" HIGH SELF SUPPORT TOWER FOUNDATIONS AND TOWER. 2. INSTALL GROUNDING, UTILITIES, COMPOUND SUBGRADE AND FENCING. 3. INSTALL LANDSCAPING. 4. INSTALL VERIZON WIRELESS EQUIPMENT SHELTER AND GENERATOR FOUNDATIONS. 5. INSTALL VERIZON WIRELESS SHELTER AND GENERATOR. 6. INSTALL VERIZON WIRELESS PANEL ANTENNAS ON A STANDOFF FRAMES ON THE TOWER. 7. INSTALL RF CABLES ON THE TOWER.

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

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

LATITUDE: N 38° 49' 53.972"
LONGITUDE: W 77° 27' 55.996"
GROUND ELEVATION: 249.35' AMSL
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.

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:

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.

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'	40.6'	UNCHANGED	
SIDE YARD (EAST)	20'	254.9'	49.3'	

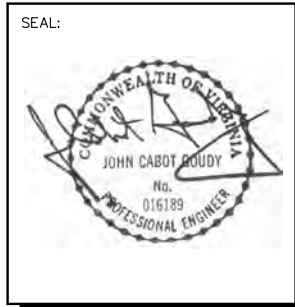
PARKING SETBACKS			
ZONING PBD	EXISTING	NEW	
FRONT YARD (NORTH)	105.1'	UNCHANGED	
REAR YARD (N/A)	N/A	N/A	
SIDE YARD (SOUTH WEST)	20'	40.6'	UNCHANGED
SIDE YARD (EAST)	289.7'	17.5'	

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.

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	



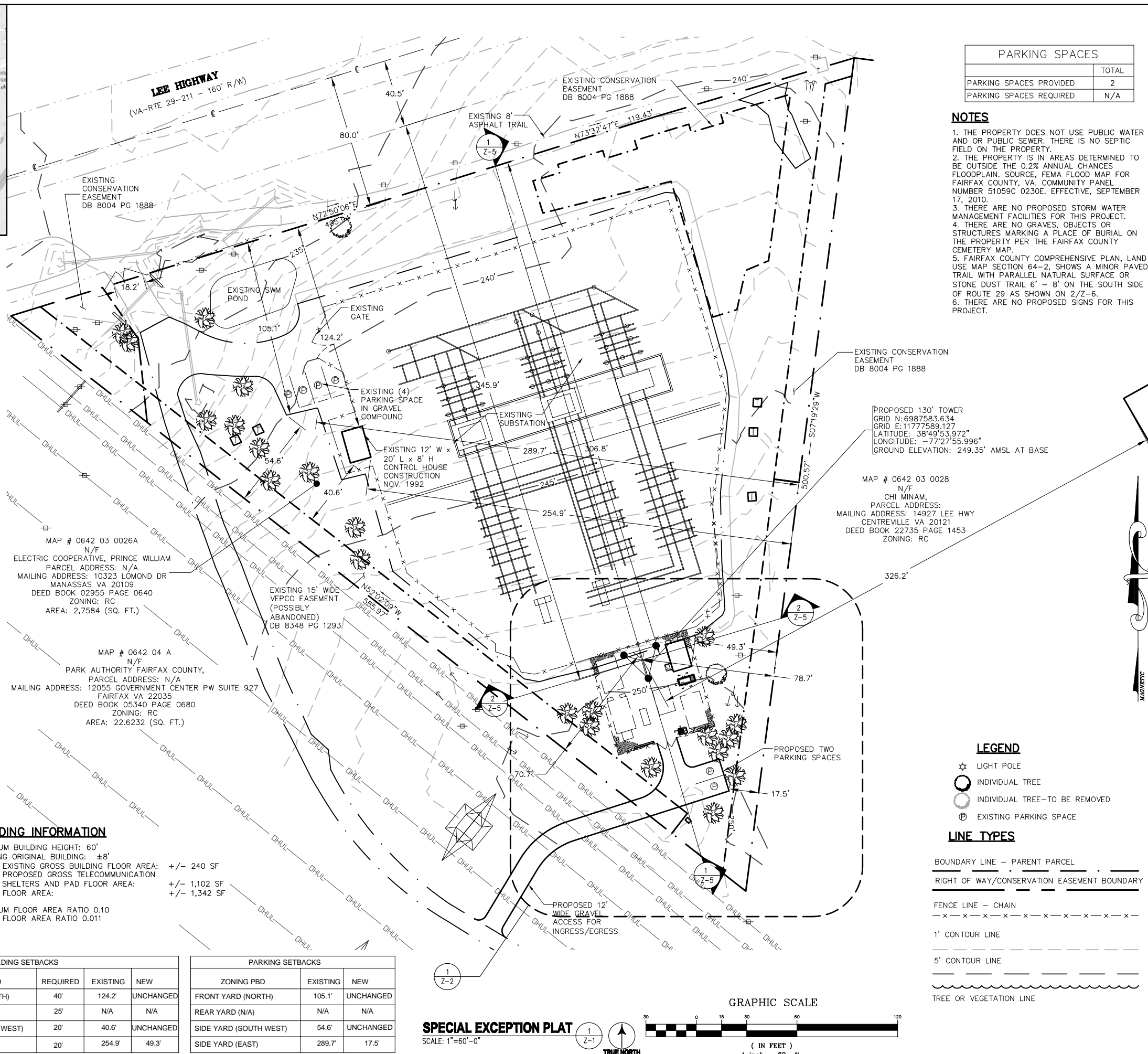
PROJECT NO: 1050.130
DESIGNER: M.A.
ENGINEER: M.M.

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:
SPECIAL EXCEPTION PLAT

SHEET NUMBER:
Z-1



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

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.)

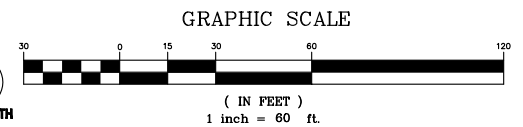
MAP # 0642 04 A
N/F
PARK AUTHORITY FAIRFAX COUNTY,
PARCEL ADDRESS: N/A
MAILING ADDRESS: 12055 GOVERNMENT CENTER PW SUITE 927
FAIRFAX VA 22035
DEED BOOK 05340 PAGE 0680
ZONING: RC
AREA: 22.6232 (SQ. FT.)

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"
TRUE NORTH

LINE TYPES

- BOUNDARY LINE - PARENT PARCEL
- RIGHT OF WAY BOUNDARY
- EDGE OF ASPHALT
- EDGE OF CONCRETE
- FENCE LINE - CHAIN
- 1' CONTOUR LINE
- 5' CONTOUR LINE
- LIMITS OF DISTURBANCE
- LIMITS OF DISTURBANCE/ SILT FENCE
- TREE PROTECTION FENCE
- TREE OR VEGETATION LINE

(SCE) STABILIZED CONSTRUCTION ENTRANCE

AREA TABULATION

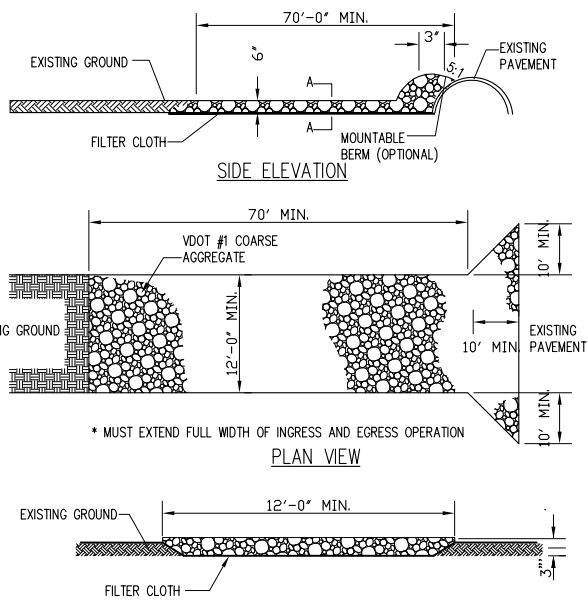
SITE AREA: 2.7584 AC
 DISTURBED AREA: 7,413 SF

SWM NARRATIVE

THE SITE DISTURBS 7,413 SF OF LAND WITH MOST OF THEM BEING GRAVEL AREA. THE INCREASE IN RUNOFF DUE TO THE SITE IS SMALL AND THE EXISTING SWM FACILITY IN THE SITE SHOULD BE ABLE TO HANDLE THE INCREASE IN RUNOFF DUE TO THE PROJECT. A STORMWATER MANAGEMENT WAIVER IS REQUESTED.

OUTFALL NARRATIVE

THE SITE SLOPES TO THE NORTH TOWARDS THE EXISTING SWM FACILITY AND OUTFALL THE SWM FACILITY THROUGH THE EXISTING CULVERTS WHICH SHOULD BE ADEQUATE TO HANDLE THE INCREASE IN RUNOFF.

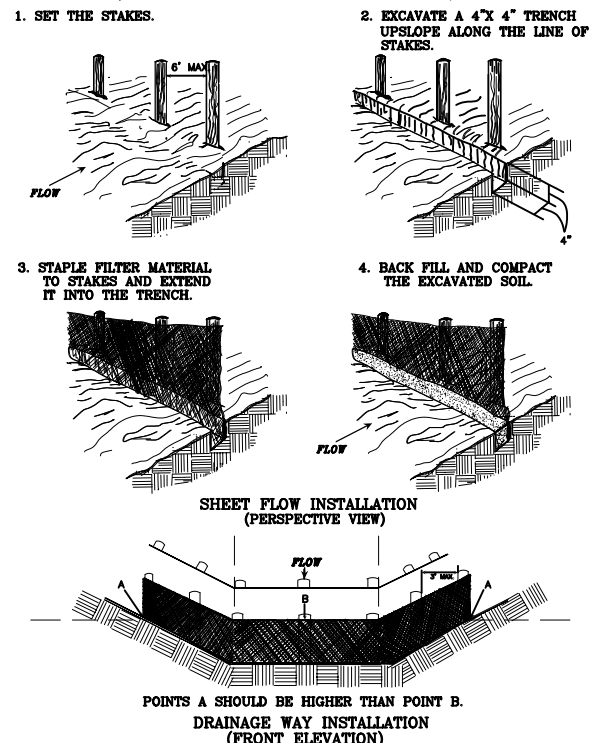


STABILIZED CONSTRUCTION ENTRANCE

SCALE: N.T.S.

2
Z-2

CONSTRUCTION OF A SILT FENCE (WITHOUT WIRE SUPPORT)

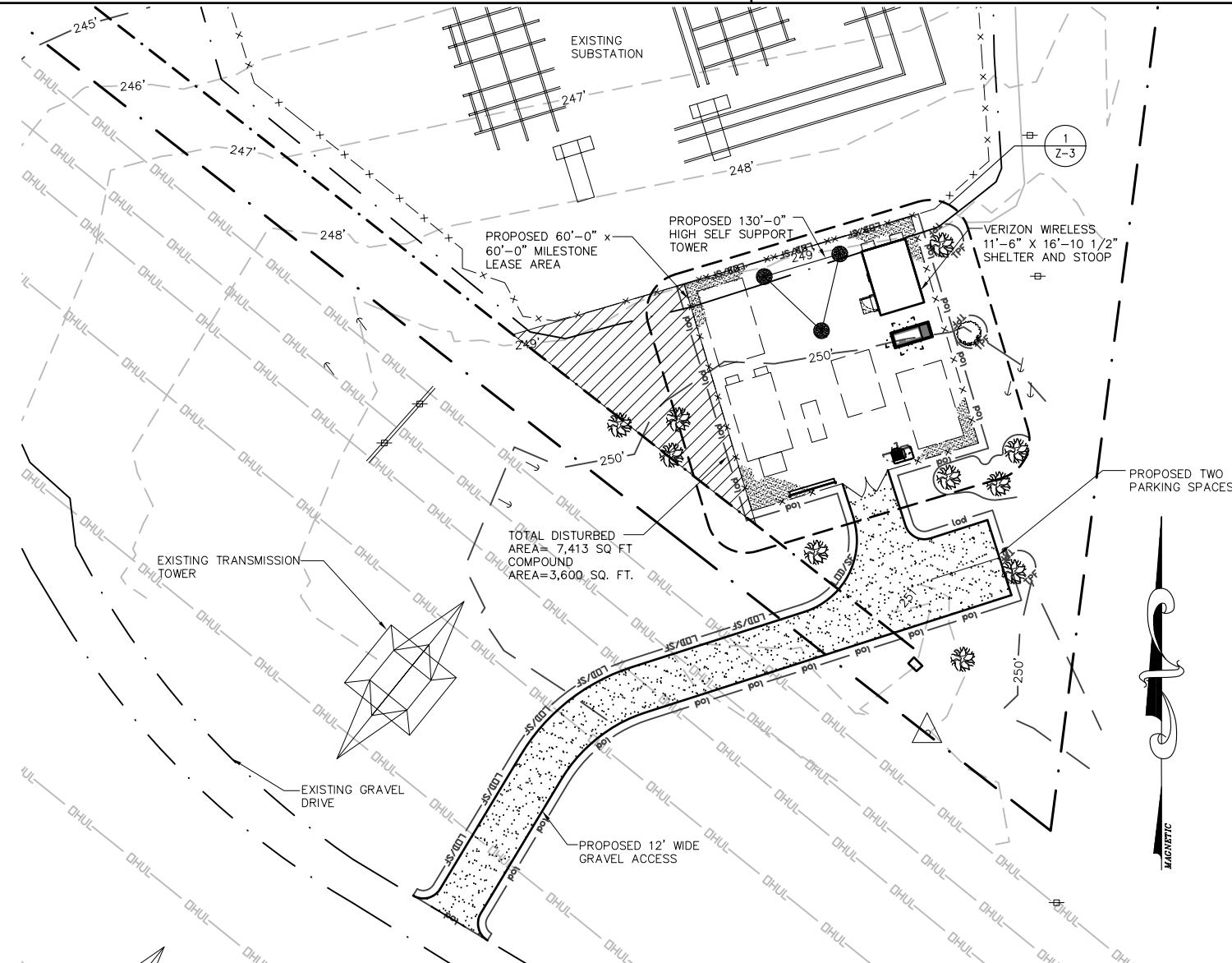


SILT FENCE

SCALE: N.T.S.

3
Z-2

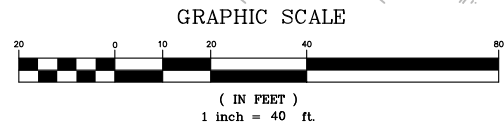
- NOTES:**
- SILT FENCES SHALL BE INSPECTED IMMEDIATELY AFTER EACH RAINFALL AND AT LEAST DAILY DURING PROLONGED RAINFALL. ANY REQUIRED REPAIRS SHALL BE MADE IMMEDIATELY.
 - CLOSE ATTENTION SHALL BE PAID TO THE REPAIR OF DAMAGED SILT FENCE RESULTING FROM END RUNS AND UNDERCUTTING.
 - SHOULD THE FABRIC ON A SILT FENCE DECOMPOSE OR BECOME INEFFECTIVE PRIOR TO THE END OF THE EXPECTED USABLE LIFE AND THE BARRIER STILL BE NECESSARY, THE FABRIC SHALL BE REPLACED PROMPTLY.
 - SEDIMENT DEPOSITS SHOULD BE REMOVED AFTER EACH STORM EVENT. THEY MUST BE REMOVED WHEN DEPOSITS REACH APPROXIMATELY ONE-HALF THE HEIGHT OF THE BARRIER.
 - ANY SEDIMENT DEPOSITS REMAINING IN PLACE AFTER THE SILT FENCE IS NO LONGER REQUIRED SHALL BE DRESSED TO CONFORM WITH THE EXISTING GRADE, PREPARED AND SEEDING.



EROSION AND SEDIMENT CONTROL PLAN

SCALE: 1"=40'-0"

1
Z-2



MINIMUM STORMWATER INFORMATION FOR REZONING, SPECIAL EXCEPTION, SPECIAL PERMIT AND DEVELOPMENT PLAN APPLICATIONS

The following information is required to be shown or provided in all zoning applications, or a waiver request of the submission requirement with justification shall be attached. Note: Waivers will be acted upon separately. Failure to adequately address the required submission information may result in a delay in processing this application.

This information is required under the following Zoning Ordinance paragraphs:

- Special Permits (8-011 2J & 2L)
- Cluster Subdivision (9-615 1G & 1N)
- Development Plans PRC District (16-302 2 & 4L)
- FDP P Districts (except PRC) 916-502 1F & 1Q)
- Special Exceptions (9-011 2J & 2L)
- Commercial Revitalization Districts (9-622 2A (12)&(14))
- PRC Plan (16-303 1E & 10)
- Amendments (18-202 10F & 10I)

1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100).
2. A graphic depicting the stormwater management facility(ies) and limits of clearing and grading accommodate the stormwater management facility(ies), storm drainage pipe systems and outlet protection, pond spillways, access roads, site outfalls, energy dissipation devices, and stream stabilization measures as shown on Sheet
3. Provide:

Facility Name/ Type & No.	On-Site area served (acres)	Off-Site area served (acres)	Drainage area (acres)	Footprint area (sf.)	Storage Volume (cf.)	If pond, dam height (ft.)
(e.g. dry pond & inlet trench, underground vault, etc.)						
						Totals
4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet
5. Maintenance accesses (road) to stormwater management facility(ies) are shown on Sheet
6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet.
7. A "stormwater management narrative" which contains a description of how detention and best management practices requirements will be met is provided on Sheet Z-2
8. A description of the existing conditions of each numbered site outfall extended downstream from the site to a point which is at least 100 times the site area or which has a drainage area of at least one square mile (640 acres) is provided on Sheet.
9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet Z-2
10. Existing topography with maximum contour intervals of two (2) feet and a note as to whether it is an air survey or field run is provided on Sheets Z-2
11. A submission waiver is requested for STORM WATER MANAGEMENT (QUALITY AND QUANTITY)
12. Stormwater management is not required because DISTURBED AREA IS SMALL AND THERE IS AN EXISTING SWM FACILITY ON SITE.

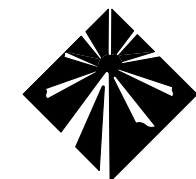


6600 Rockledge Drive, Suite 550
 BETHESDA, MD 20817
 PHONE: (202)408-0960
 FAX: (202)408-0961

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	

SEAL:



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:

EROSION AND
SEDIMENT CONTROL
PLAN AND DETAILS

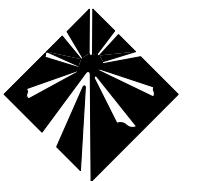
SHEET NUMBER:

Z-2

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	

SEAL:



Milestone
 COMMUNICATIONS

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

SCALE:

 GRAPHIC SCALE IN INCHES

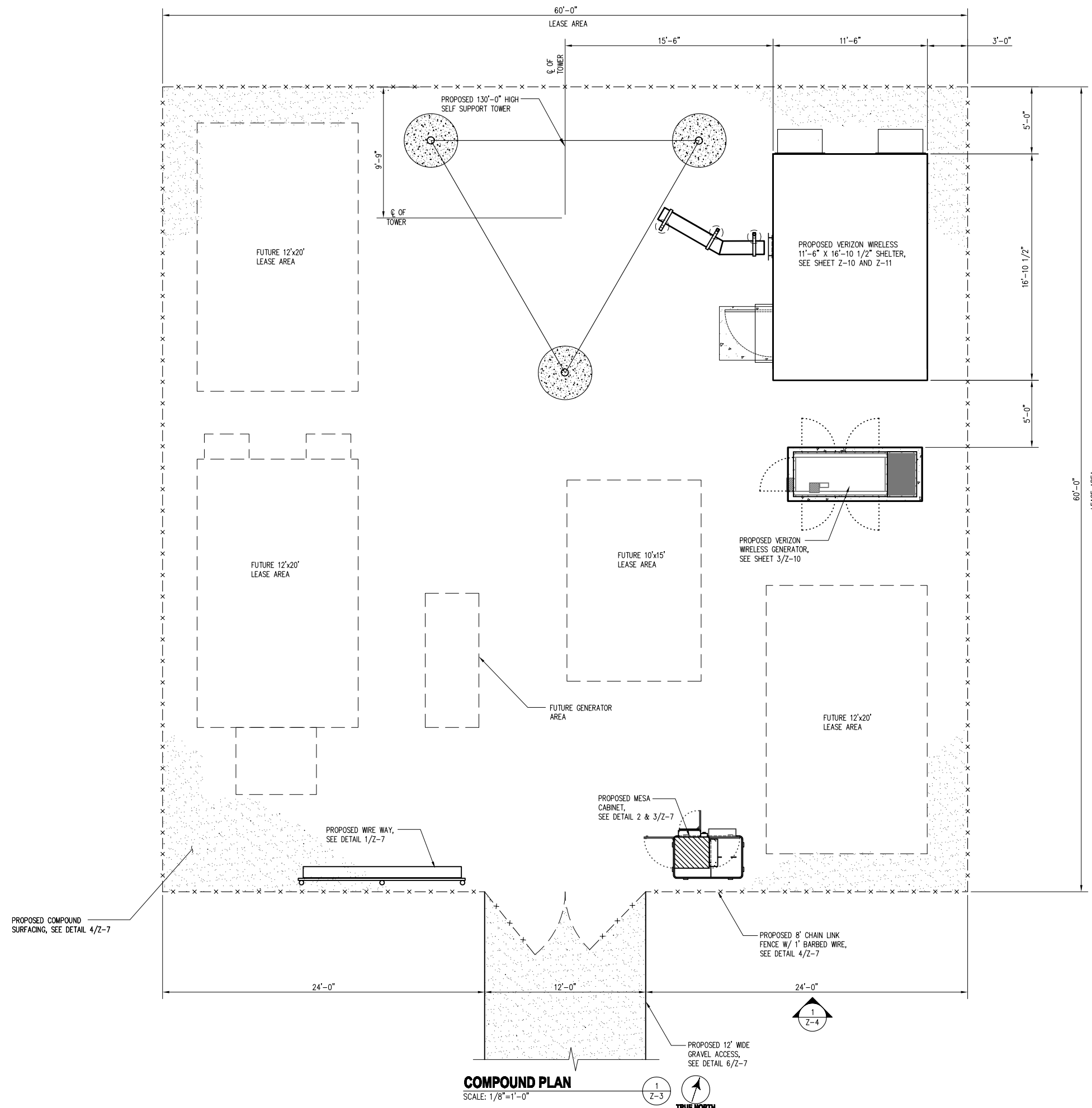
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

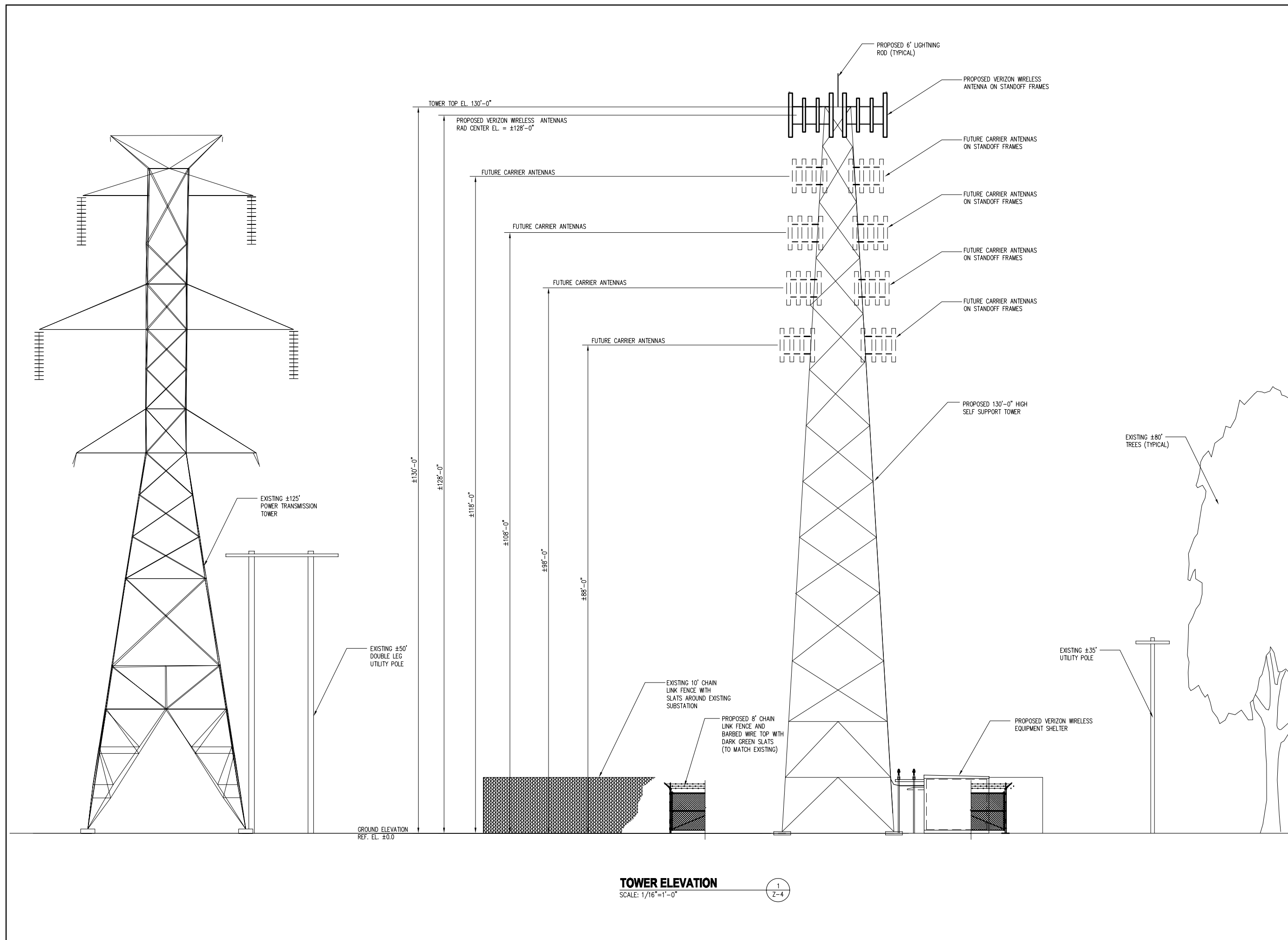
TITLE:

COMPOUND PLAN

SHEET NUMBER:

Z-3





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

1
Z-4

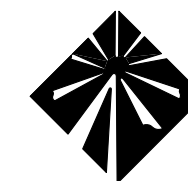


6600 Rockledge Drive, Suite 550
BETHESDA, MD 20817
PHONE: (202)408-0960
FAX: (202)408-0961

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	

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

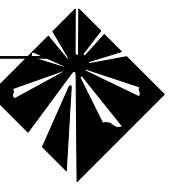


6600 Rockledge Drive, Suite 550
 BETHESDA, MD 20817
 PHONE: (202)408-0960
 FAX: (202)408-0961

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	

SEAL:



Milestone
 COMMUNICATIONS

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

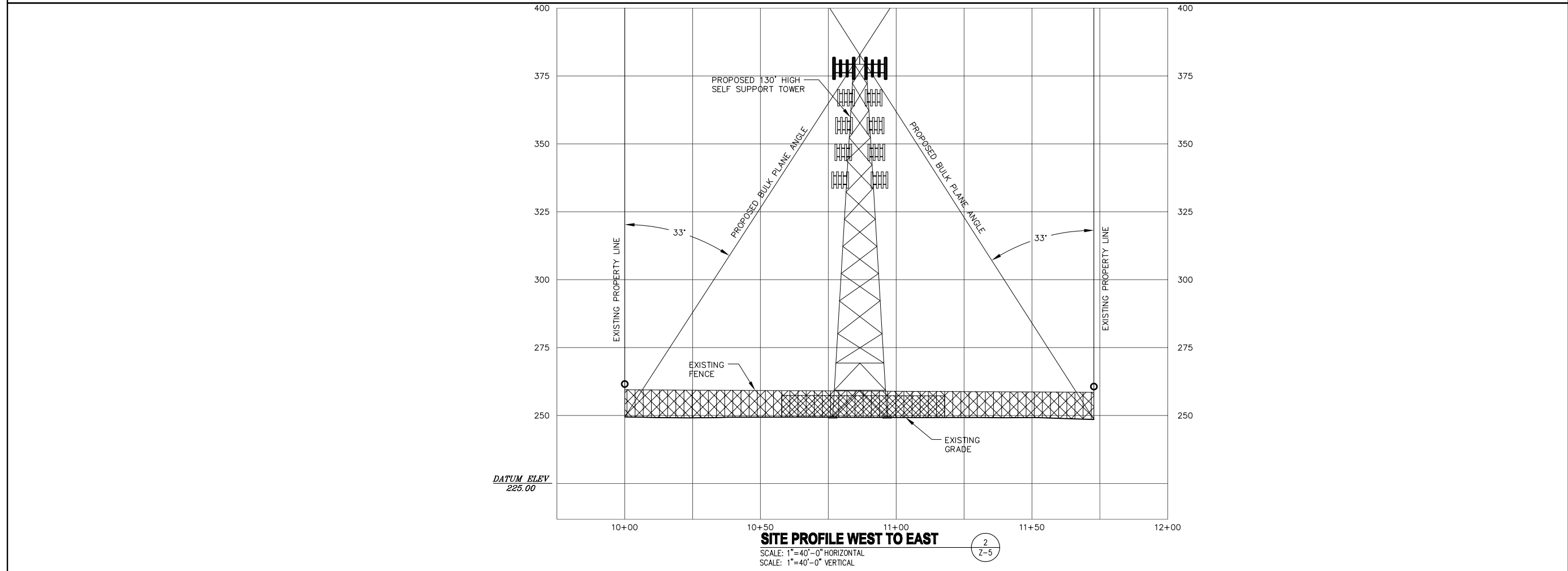
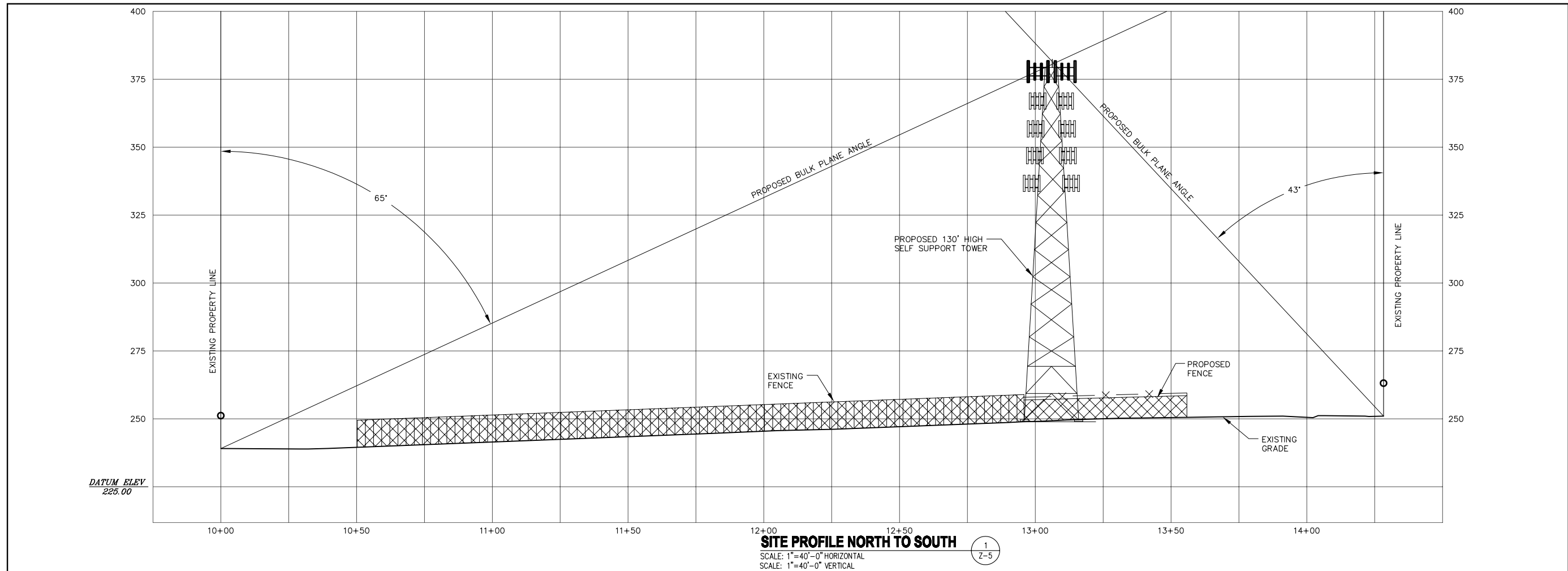
SCALE:

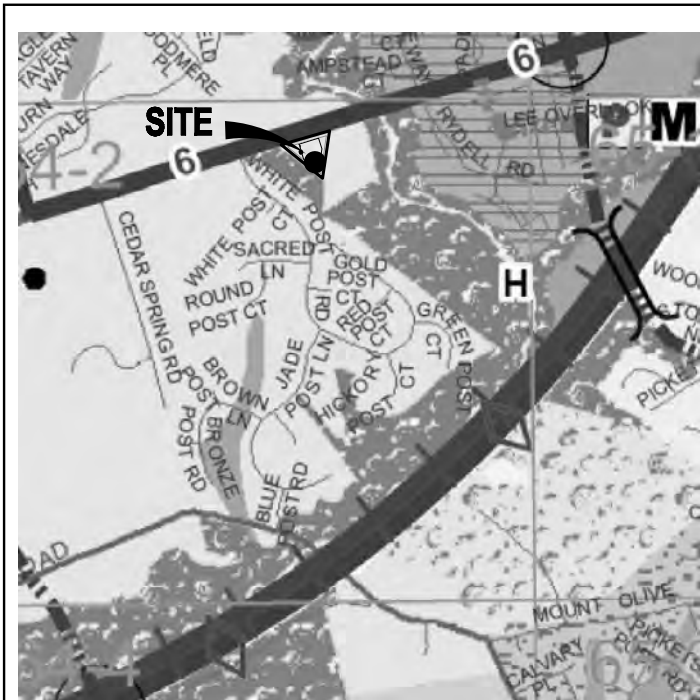
 GRAPHIC SCALE IN INCHES

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

TITLE:
SITE PROFILES

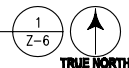
SHEET NUMBER:
Z-5



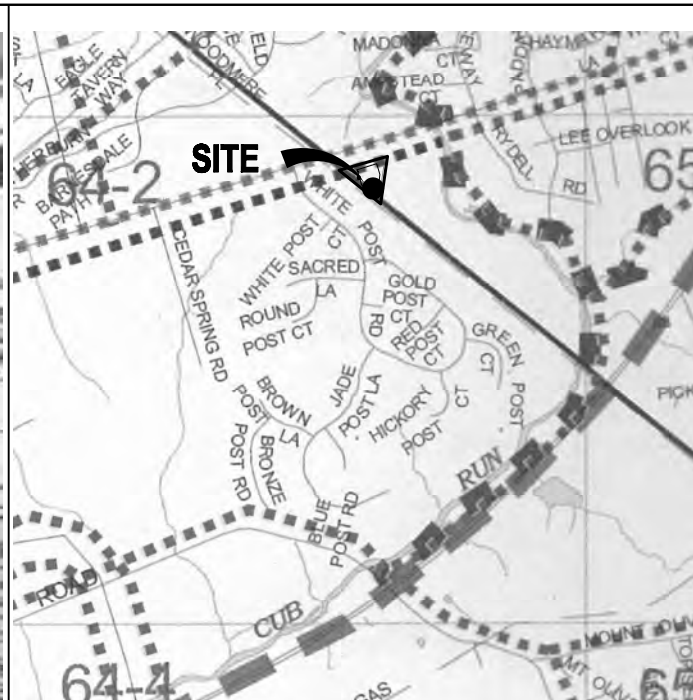


LAND USE MAP

SCALE: 1"=2000'

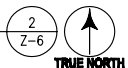


SOURCE:
FAIRFAX COUNTY COMPREHENSIVE PLAN



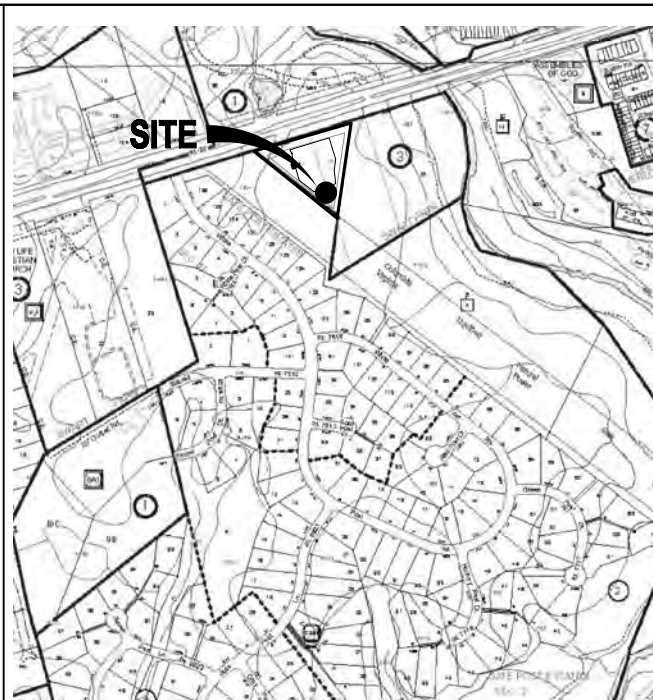
TRAIL MAP

SCALE: 1"=2000'



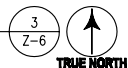
SOURCE:
FAIRFAX COUNTY

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



SOILS MAP

SCALE: 1"=1000'



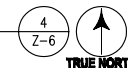
SOURCE:
FAIRFAX COUNTY
MAP SECTION 64-2

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



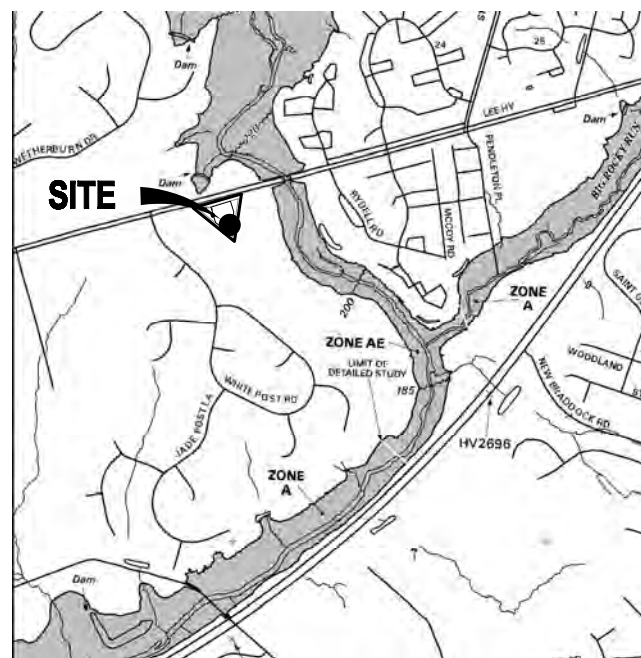
RESOURCE MANAGEMENT MAP

SCALE: 1"=1000'



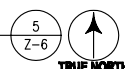
SOURCE:
FAIRFAX COUNTY

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



FLOOD ZONE MAP

SCALE: 1"=2000'



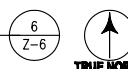
SOURCE:
FEMA FLOOD MAP FOR FAIRFAX COUNTY, VA.
COMMUNITY PANEL NUMBER 510559C 0230E. SEPTEMBER 17, 2010.

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



ZONING MAP

SCALE: 1"=1000'



SOURCE:
FAIRFAX COUNTY

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

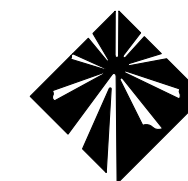


6600 Rockledge Drive, Suite 550
BETHESDA, MD 20817
PHONE: (202)408-0960
FAX: (202)408-0961

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	

SEAL:



Milestone
COMMUNICATIONS

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

SCALE:
0 1/2 1
GRAPHIC SCALE IN INCHES

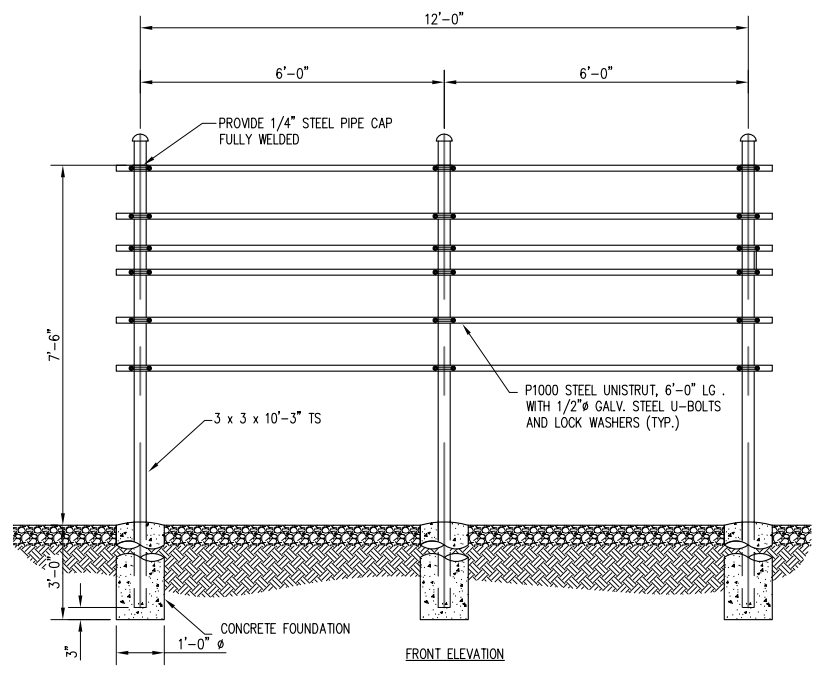
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

CIVIL MAPS

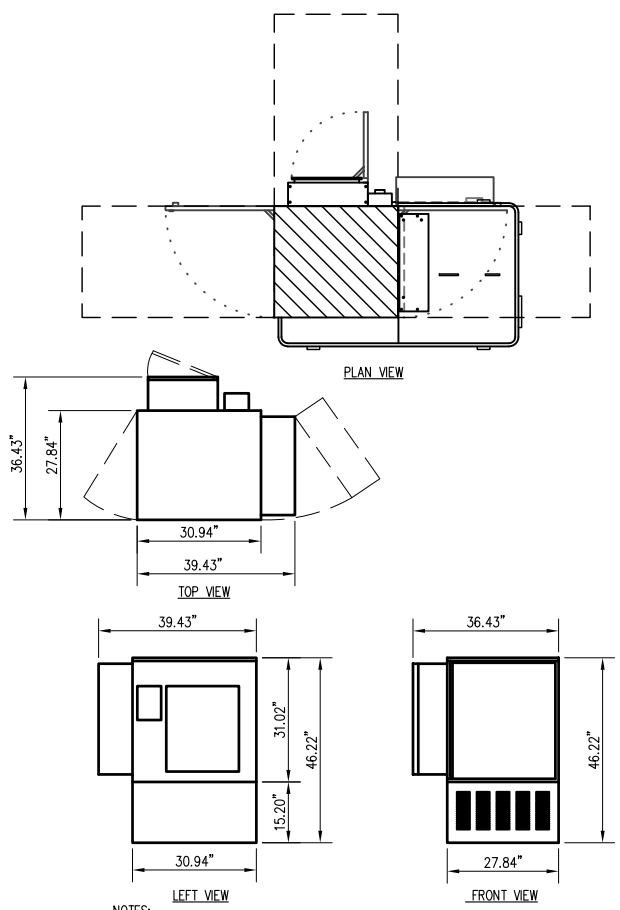
SHEET NUMBER:

Z-6



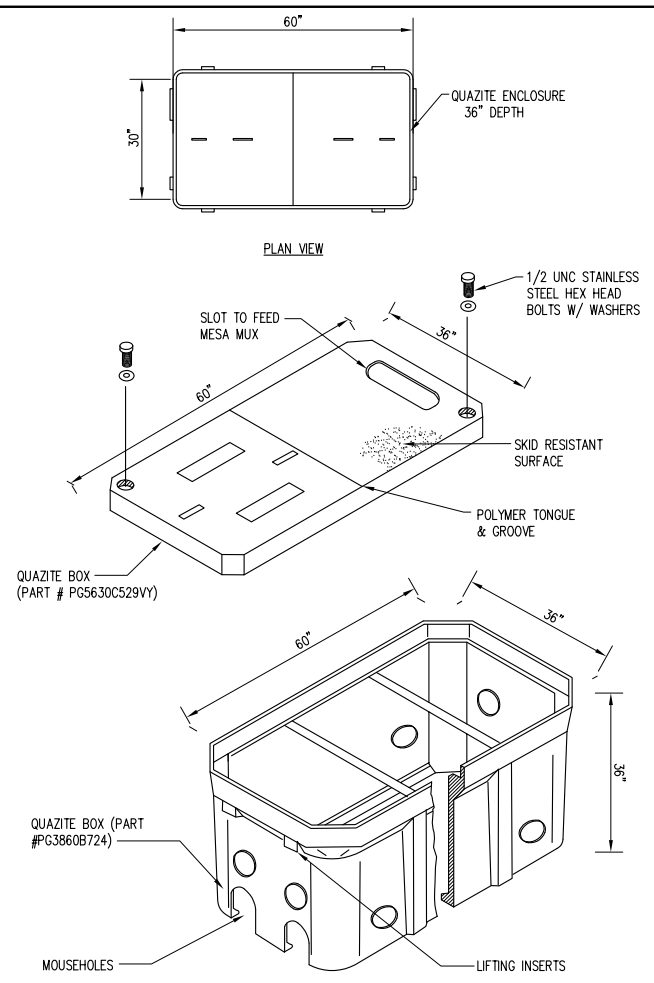
ELECTRICAL SERVICE FRAME
SCALE: 1/4"=1'-0"

1
Z-7



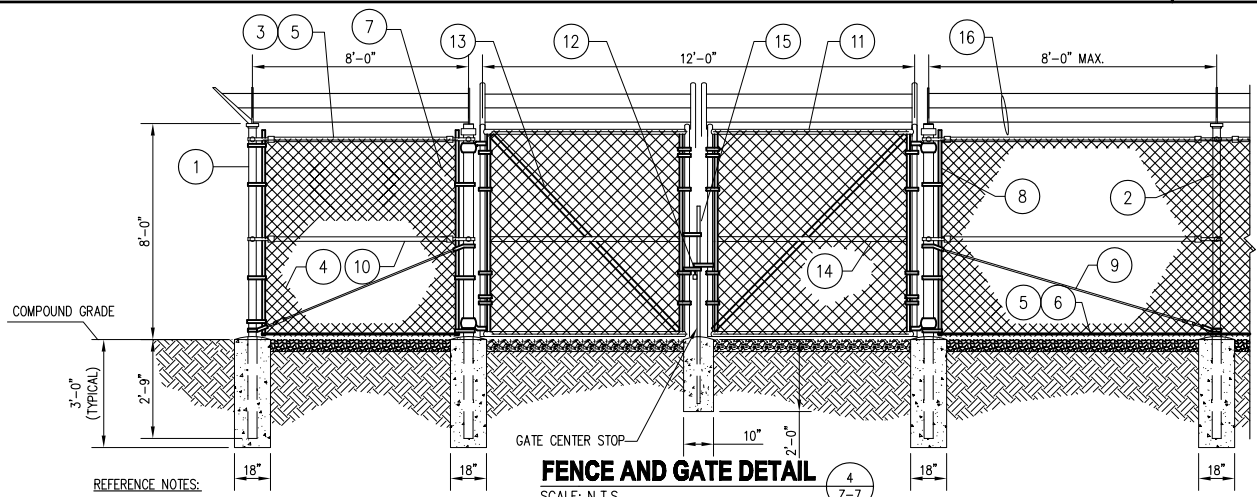
MESA SPAN XL TELCO CABINET DETAILS
SCALE: 1/4"=1'-0"

2
Z-7



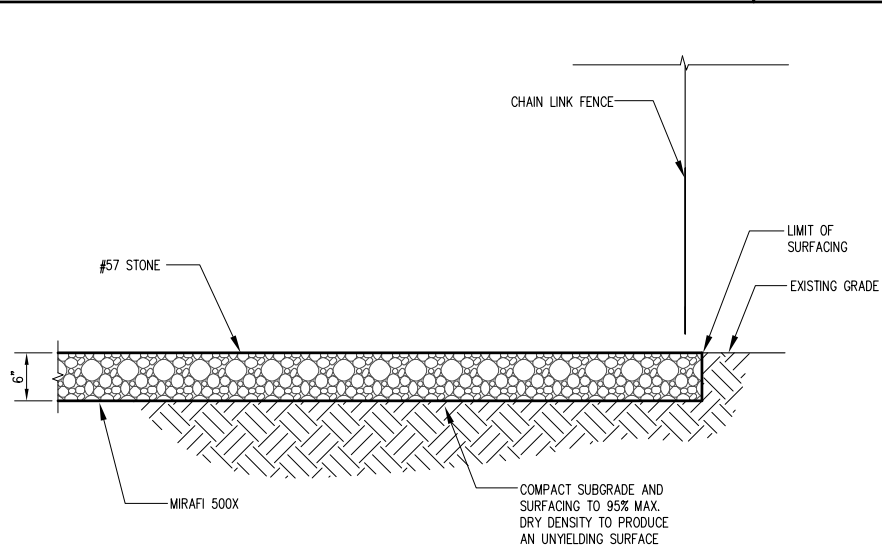
HANDHOLE QUAZITE BOX
SCALE: N.T.S.

3
Z-7



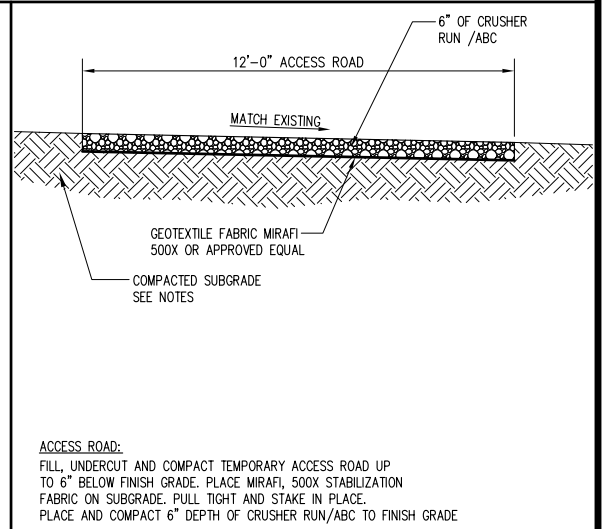
FENCE AND GATE DETAIL
SCALE: N.T.S.

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.

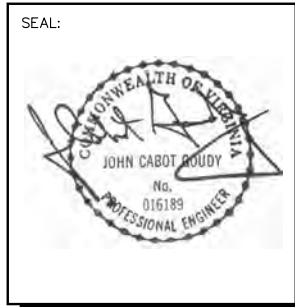
NOTE:
UTILITY AREA SHALL BE CLEARED AND GRUBBED. REMOVE UNSUITABLE LOOSE OR SOFT SOIL, ORGANIC MATERIAL OR RUBBLE TO FIRM GRADE. FILL UNDERCUT AND COMPACT UP TO 6" BELOW FINISH GRADE. PLACE A MIRAFIX 500X SOIL STABILIZATION FABRIC ON SUBGRADE. FILL WITH 6" OF AASHTO 57 STONE TO FINISH GRADE.

- ACCESS ROAD:
FILL, UNDERCUT AND COMPACT TEMPORARY ACCESS ROAD UP TO 6" BELOW FINISH GRADE. PLACE MIRAFIX 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.

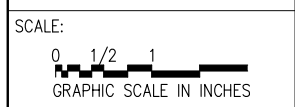


6600 Rockledge Drive, Suite 550
BETHESDA, MD 20817
PHONE: (202)408-0960
FAX: (202)408-0961

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	



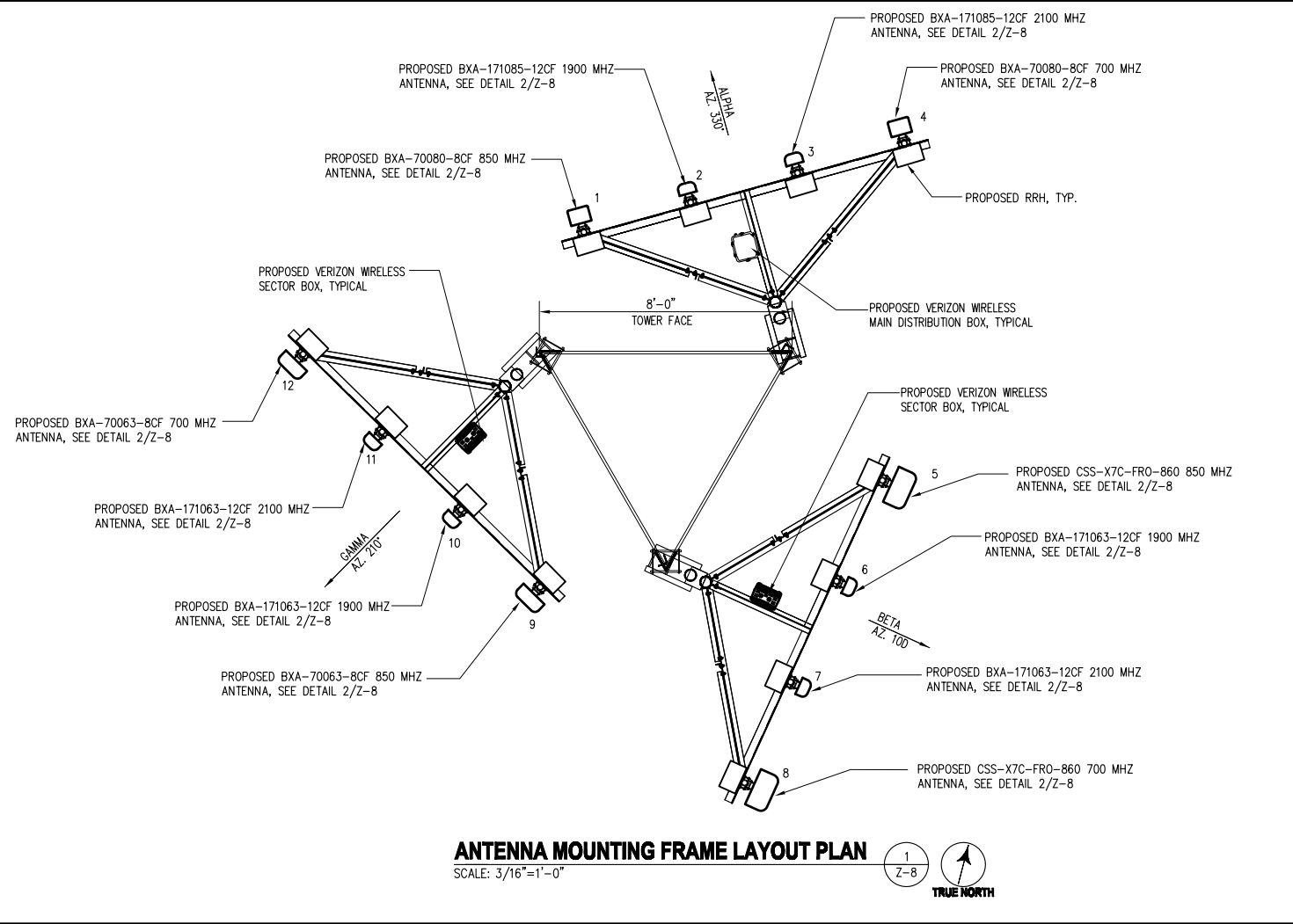
PROJECT NO: 1050.130
DESIGNER: M.A.
ENGINEER: M.M.



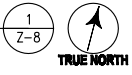
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:
SITE DETAILS

SHEET NUMBER:
Z-7



ANTENNA MOUNTING FRAME LAYOUT PLAN
SCALE: 3/16"=1'-0"

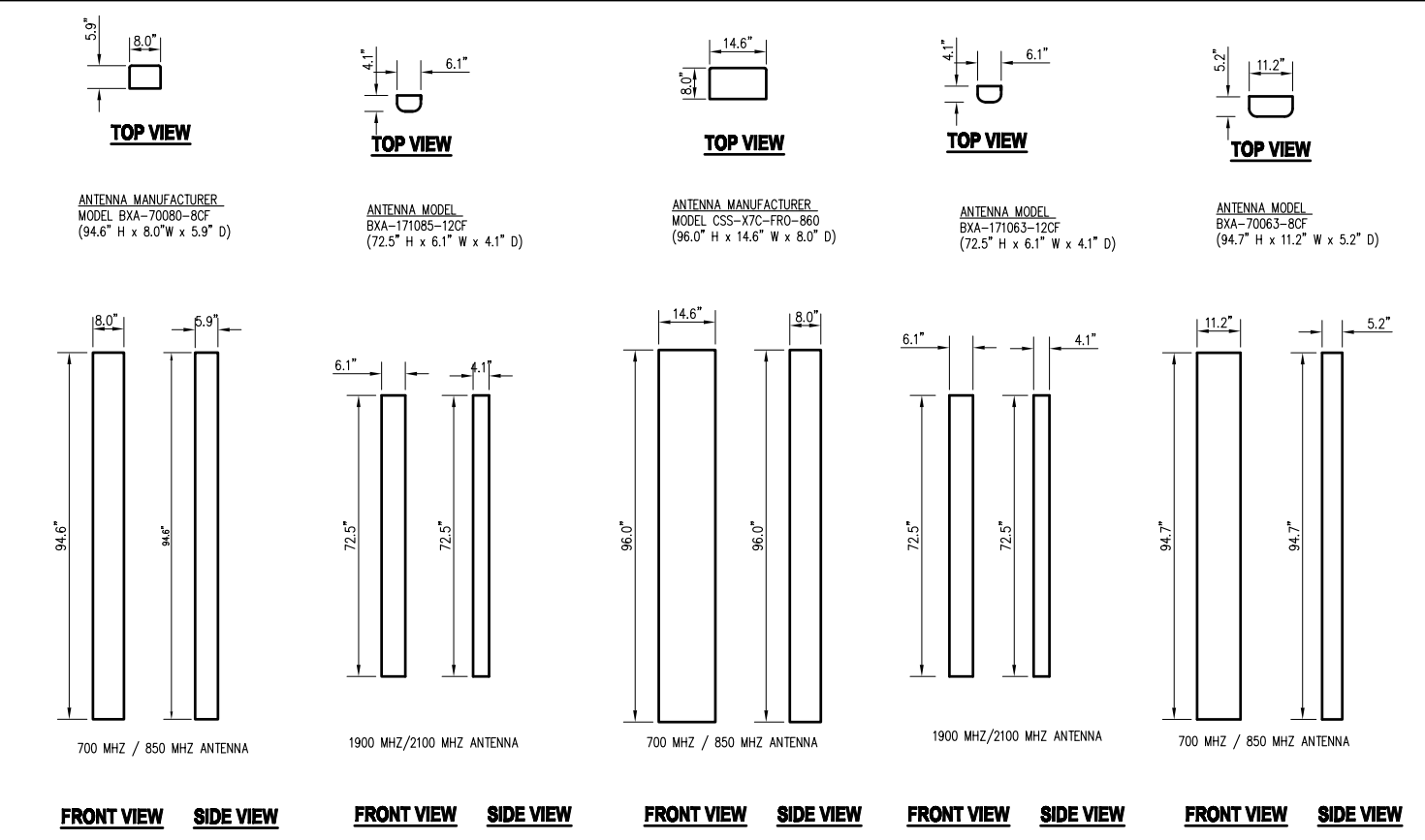


ANTENNA AND CABLE SCHEDULE									
ANTENNA SECTOR	ANTENNA MARK	RAD CENTER	ANTENNA	MECHANICAL DOWN-TILT	AZIMUTH	CABLE LENGTH	COAXIAL CABLE SIZE	COLOR CODE	FREQUENCY
ALPHA	# 1	128'-0"	BXA-70080-8CF (94.6" H x 8.0" W x 5.9" D)	-	330°	125'	(1) 6X12 HYBRID CABLE	R	850 MHZ
	# 2	128'-0"	BXA-171085-12CF (72.5" H x 6.1" W x 4.1" D)	-	330°	125'	(1) 6X12 HYBRID CABLE	O/R/O	1900 MHZ
	# 3	128'-0"	BXA-171085-12CF (72.5" H x 6.1" W x 4.1" D)	-	330°	-	SHARED HYBRID CABLE	G/R/G	2100 MHZ
	# 4	128'-0"	BXA-70080-8CF (94.6" H x 8.0" W x 5.9" D)	-	330°	-	SHARED HYBRID CABLE	B/R/B	700 MHZ
BETA	# 5	128'-0"	CSS-X7C-FRO-860 (96.0" H x 14.6" W x 8.0" D)	-	100°	-	SHARED HYBRID CABLE	BL	850 MHZ
	# 6	128'-0"	BXA-171063-12CF (72.5" H x 6.1" W x 4.1" D)	-	100°	-	SHARED HYBRID CABLE	O/BL/O	1900 MHZ
	# 7	128'-0"	BXA-171063-12CF (72.5" H x 6.1" W x 4.1" D)	-	100°	-	SHARED HYBRID CABLE	G/BL/G	2100 MHZ
	# 8	128'-0"	CSS-X7C-FRO-860 (96.0" H x 14.6" W x 8.0" D)	-	100°	-	SHARED HYBRID CABLE	B/BL/B	700 MHZ
GAMMA	# 9	128'-0"	BXA-70063-8CF (94.7" H x 11.2" W x 5.2" D)	-	210°	-	SHARED HYBRID CABLE	Y	850 MHZ
	# 10	128'-0"	BXA-171063-12CF (72.5" H x 6.1" W x 4.1" D)	-	210°	-	SHARED HYBRID CABLE	O/Y/O	1900 MHZ
	# 11	128'-0"	BXA-171063-12CF (72.5" H x 6.1" W x 4.1" D)	-	210°	-	SHARED HYBRID CABLE	G/Y/G	2100 MHZ
	# 12	128'-0"	BXA-70063-8CF (94.7" H x 11.2" W x 5.2" D)	-	210°	-	SHARED HYBRID CABLE	B/Y/B	700 MHZ
GPS	-	-	MAXRAD GPS-TMG-HR-26N	-	-	-	1/2"	-	-

NOTES:

- ALL ANTENNAS SHALL BE FURNISHED WITH DOWNTILT BRACKETS. CONTRACTOR SHALL COORDINATE REQUIRED MECHANICAL DOWNTILT FOR EACH ANTENNA WITH RF ENGINEER. ANTENNA DOWNTILT SHALL BE SET AND VERIFIED BY A SMART LEVEL.
- ANTENNA CENTERLINE HEIGHT IS IN REFERENCE TO ELEVATION 0.0'.
- FINAL CABLE LENGTHS SHALL BE DETERMINED AFTER INSTALLATION.
- COORDINATE THE ANTENNA DOWNTILT WITH THE RF ENGINEER.
- THE CABLE LENGTHS SHOWN ARE THE ACTUAL COMPUTED LENGTHS WITH NO OVERAGE ALLOWANCE.

CABLE MINIMUM BEND RADIUS				
7/8" Ø RF	1-1/4" Ø RF	1-5/8" Ø RF	2-1/4" Ø RF	1.1" Ø HYBRIFLEX
10"	15"	20"	22"	10"



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

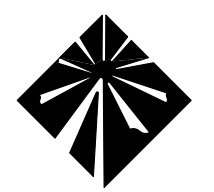


6600 Rockledge Drive, Suite 550
BETHESDA, MD 20817
PHONE: (202)408-0960
FAX: (202)408-0961

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	

SEAL:



Milestone
COMMUNICATIONS

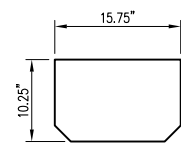
PROJECT NO: 1050.130
DESIGNER: M.A.
ENGINEER: M.M.

SCALE:
0 1/2 1
GRAPHIC SCALE IN INCHES

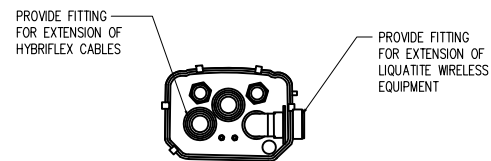
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:
ANTENNA
SCHEDULE
AND DETAILS

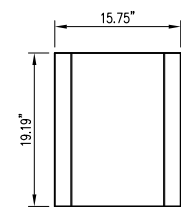
SHEET NUMBER:
Z-8



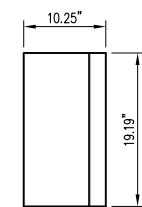
PLAN VIEW



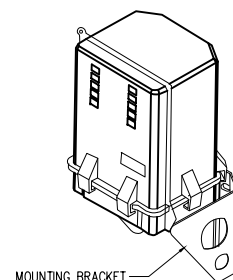
BOTTOM VIEW



PLAN VIEW



SIDE VIEW



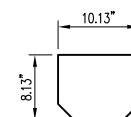
MOUNTING BRACKET

MANUFACTURER: RAYCAP
 DIMENSIONS: 10.25Dx15.73Wx19.18"H
 WEIGHT 21.4 LBS (SYSTEM)
 5.5 LBS (MOUNT)
 26.9 LBS (TOTAL)

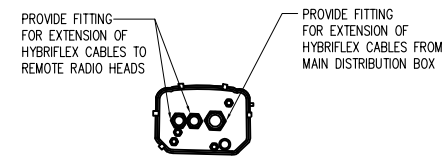
MAIN DISTRIBUTION BOX DETAILS

SCALE: N.T.S.

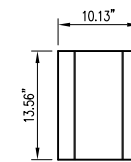
1
Z-9



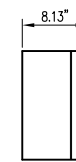
PLAN VIEW



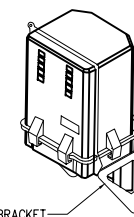
BOTTOM VIEW



PLAN VIEW



SIDE VIEW



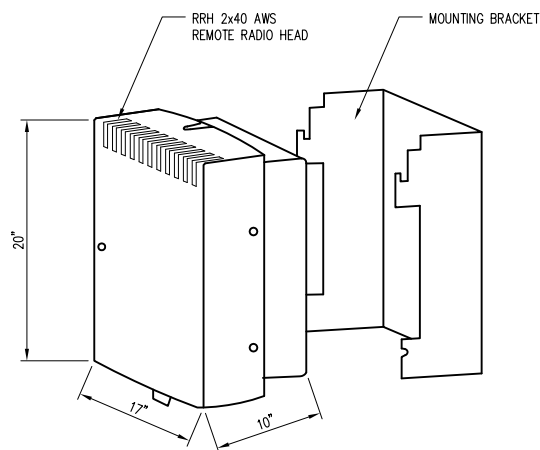
MOUNTING BRACKET

MANUFACTURER: RAYCAP
 DIMENSIONS: 8.15Dx 10.15W x13.58"H
 WEIGHT 8.9 LBS (SYSTEM)
 3.2 LBS (MOUNT)
 12.1 LBS (TOTAL)

SECTOR DISTRIBUTION BOX DETAILS

SCALE: N.T.S.

2
Z-9



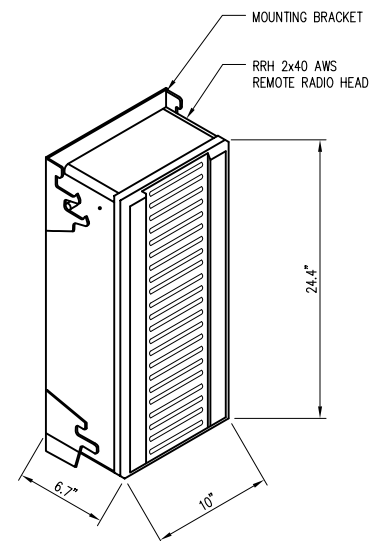
MANUFACTURER: ALCATEL-LUCENT
 POWER SUPPLY: 48 VDC
 DIMENSION: 10"Dx17"Wx20"H
 WEIGHT: 51 LBS WITH MOUNTING HARDWARE

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



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	

SEAL:



Milestone
 COMMUNICATIONS

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

SCALE:
 0 1/2 1
 GRAPHIC SCALE IN INCHES

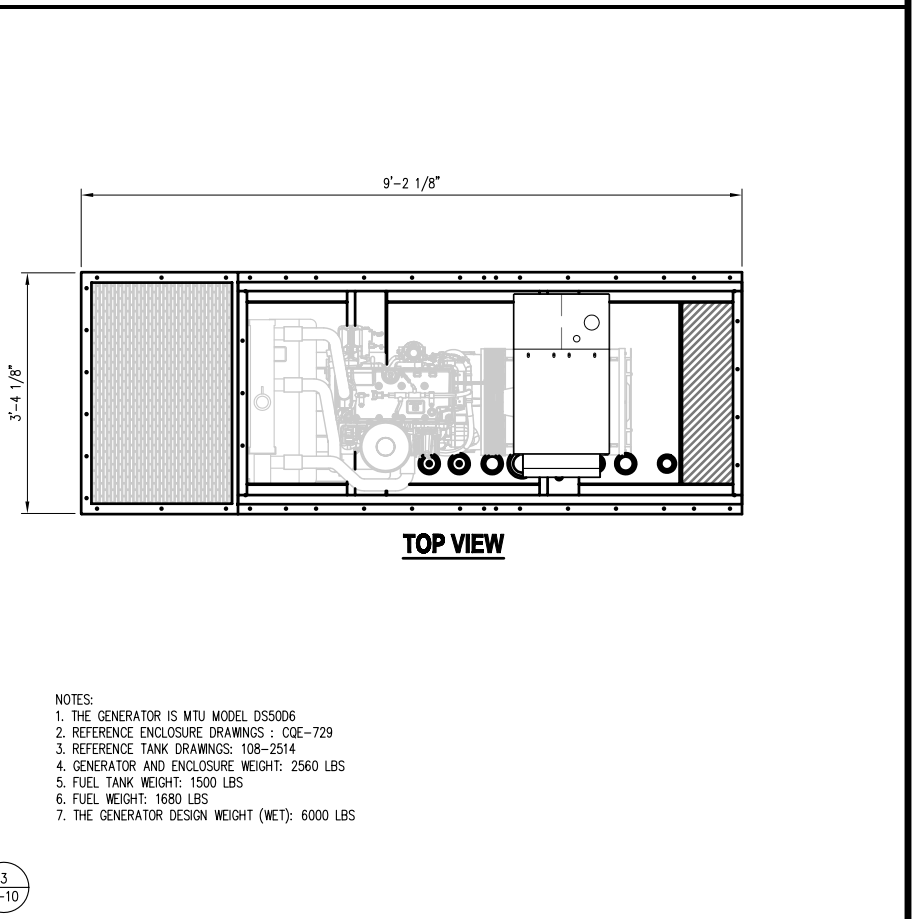
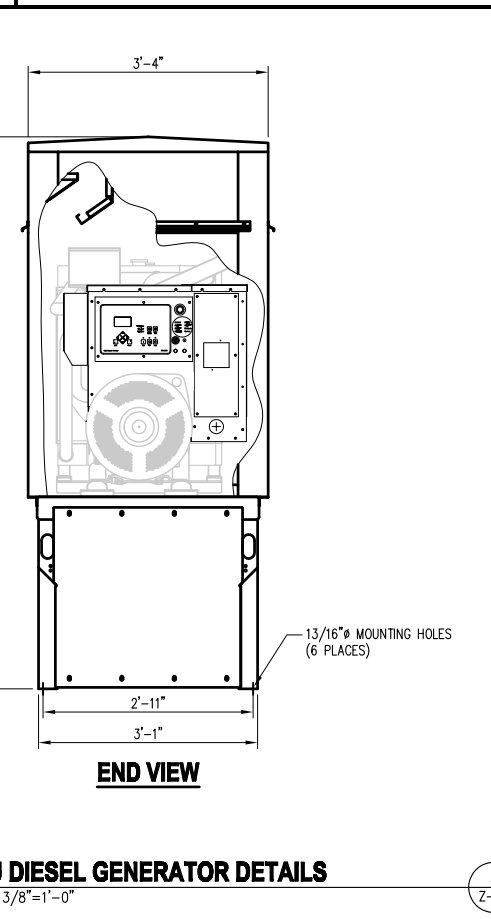
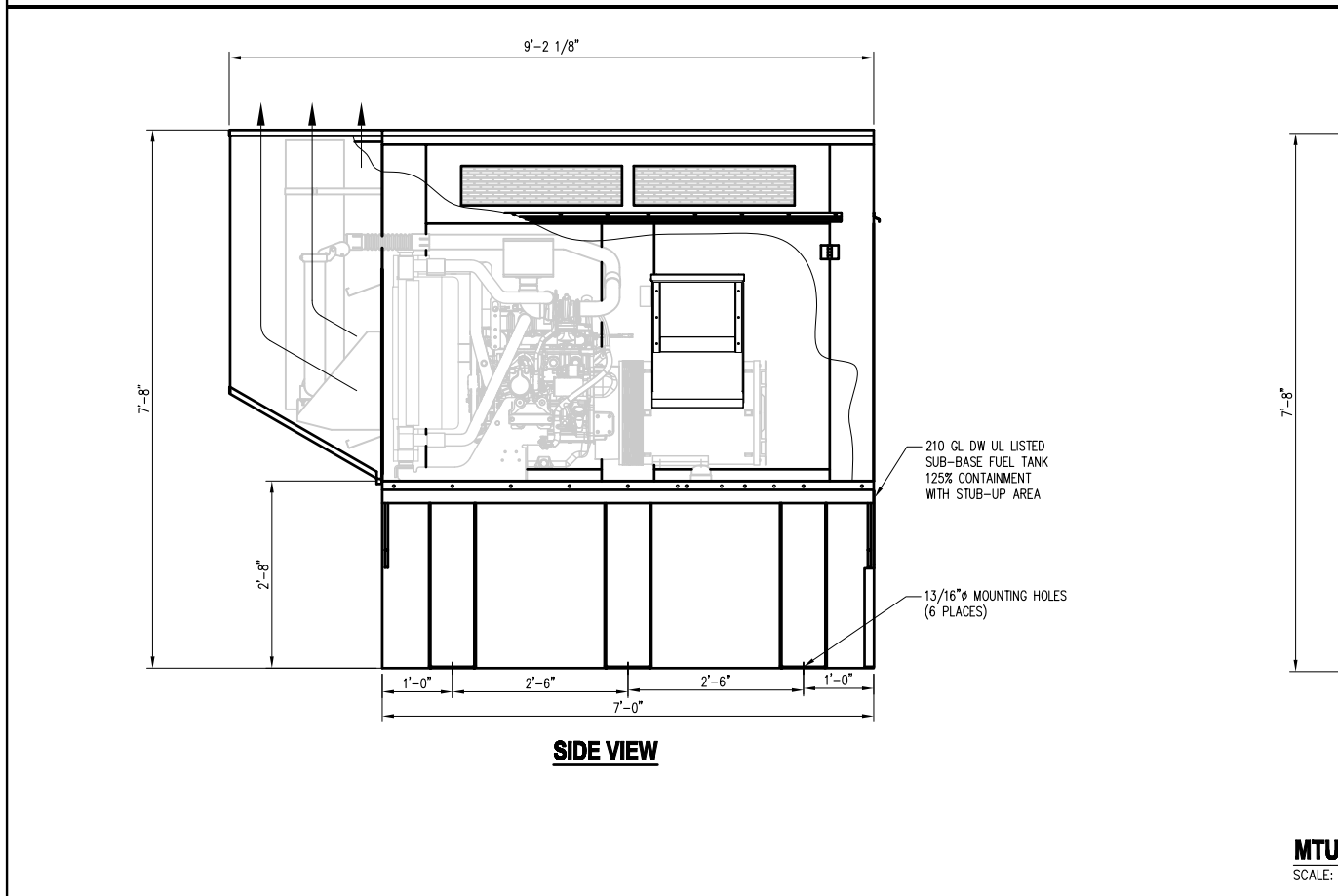
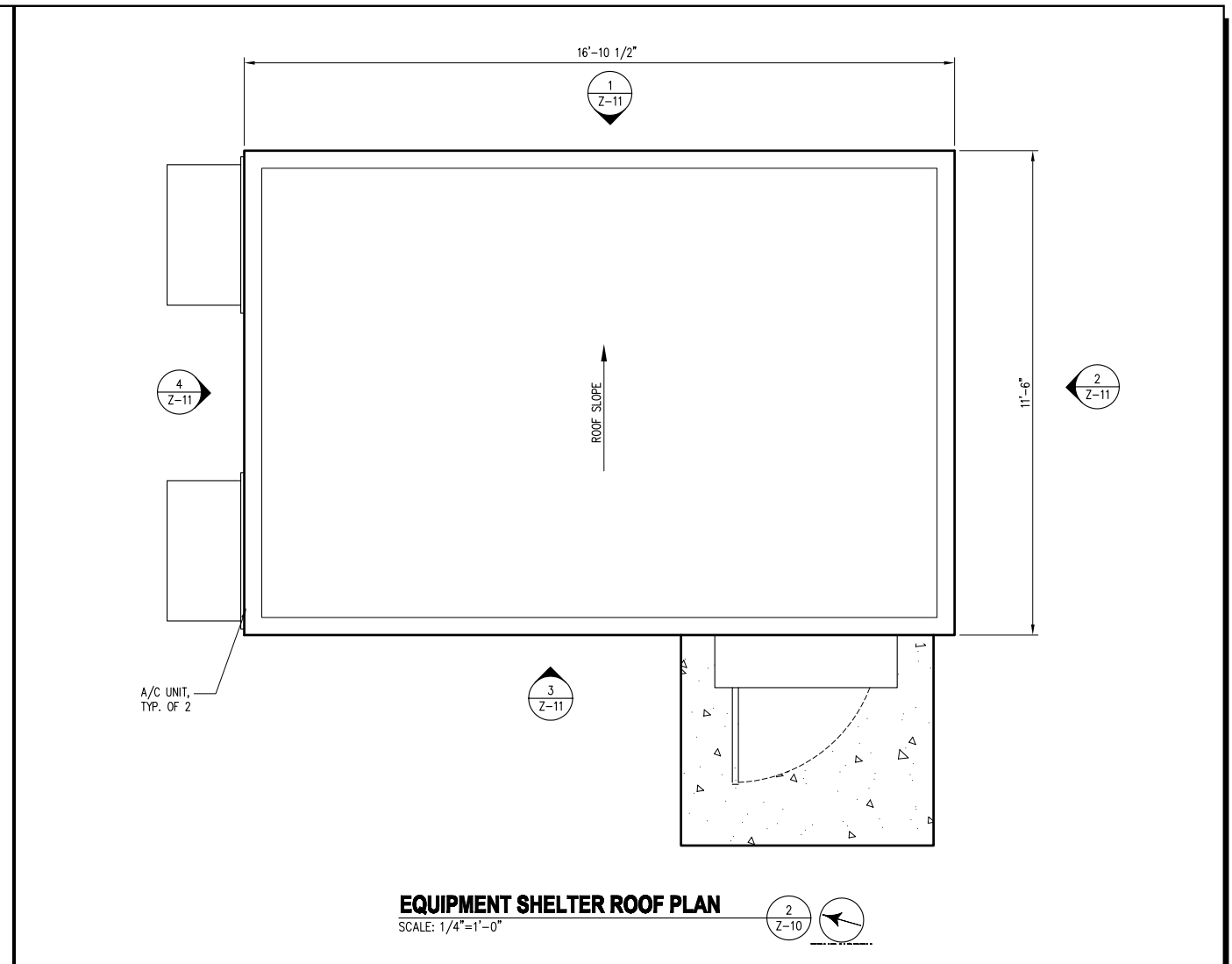
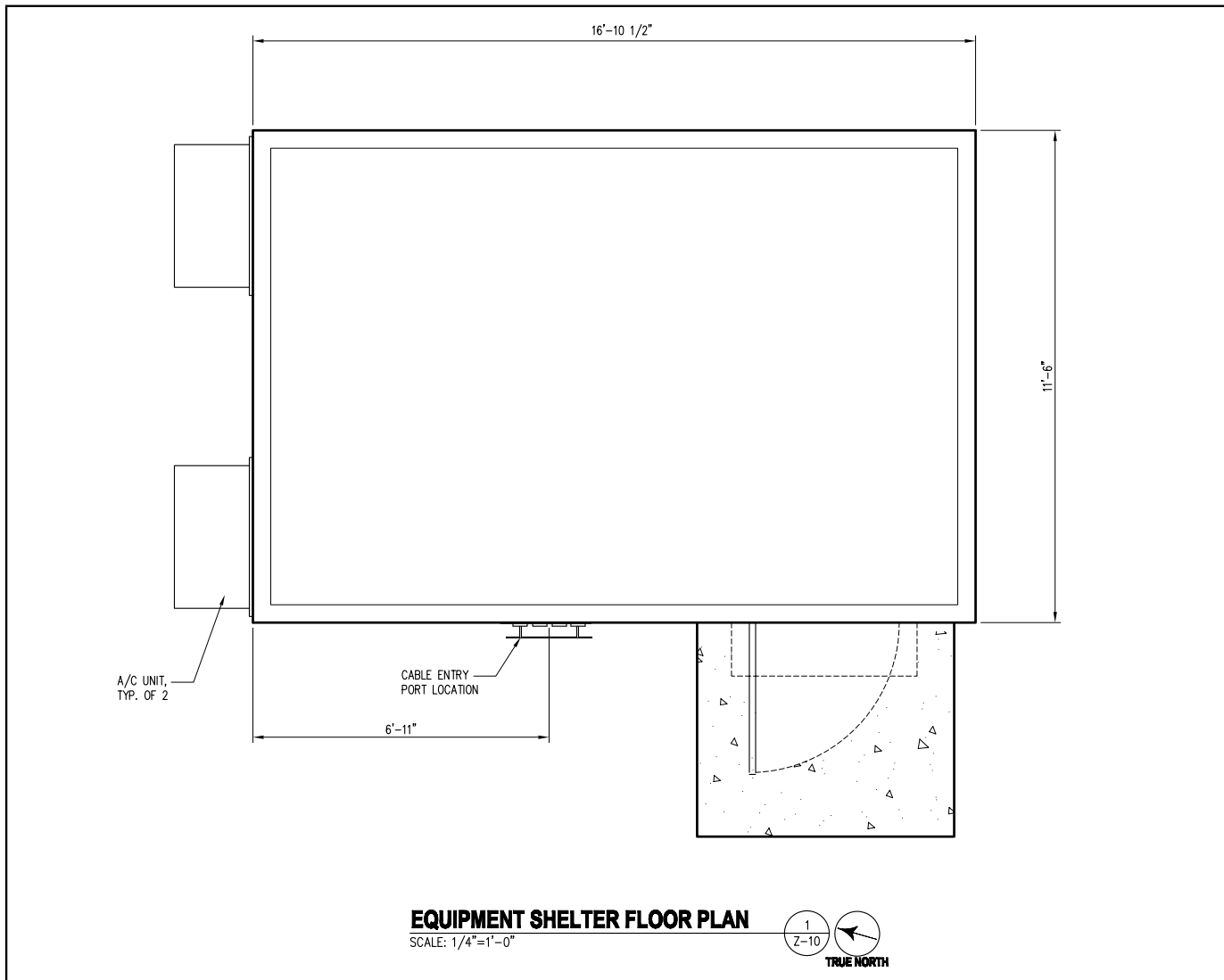
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

RRH AND
DISTRIBUTION
BOX DETAILS

SHEET NUMBER:

Z-9

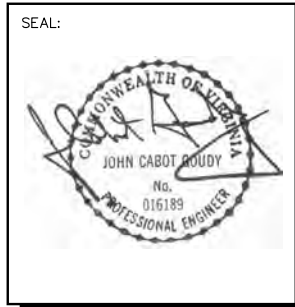


entrex
communication services, inc.

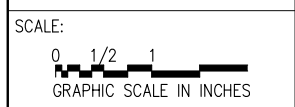
6600 Rockledge Drive, Suite 550
BETHESDA, MD 20817
PHONE: (202)408-0960
FAX: (202)408-0961

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	



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

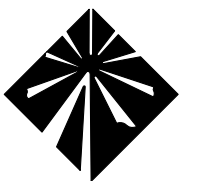
TITLE:
SHELTER PLANS
AND GENERATOR
DETAILS

SHEET NUMBER:
Z-10

SUBMITTALS

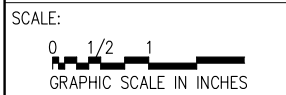
DATE	DESCRIPTION	REV.
05-28-13	ZONING REVIEW	
08-20-13	ZONING	
11-07-13	COUNTY COMMENTS	
02-19-14	COUNTY COMMENTS	
06-24-14	COUNTY COMMENTS	
08-08-14	COUNTY COMMENTS	

SEAL:



Milestone
 COMMUNICATIONS

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

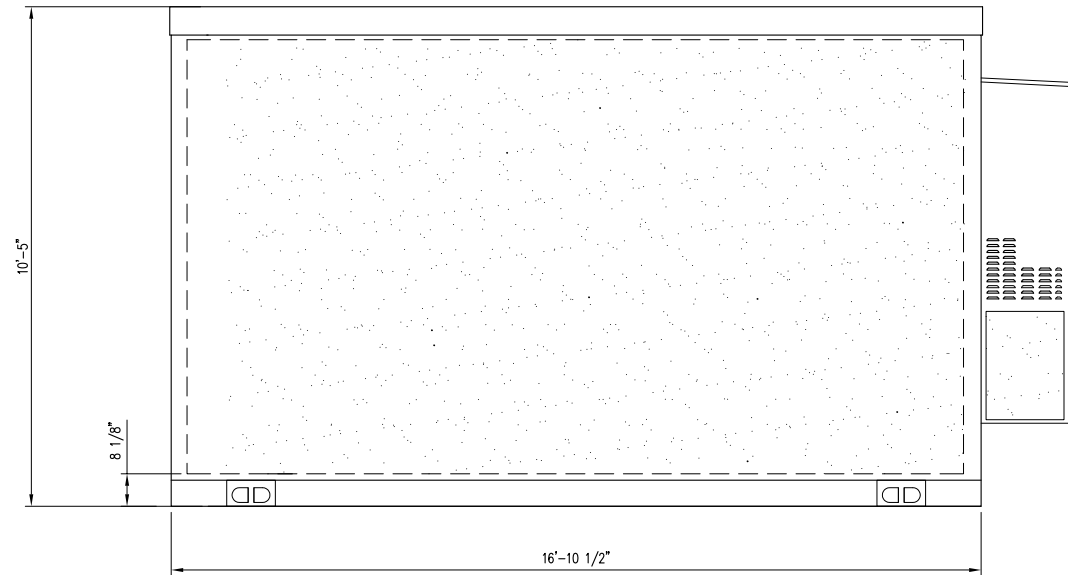


SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:
SHELTER ELEVATIONS

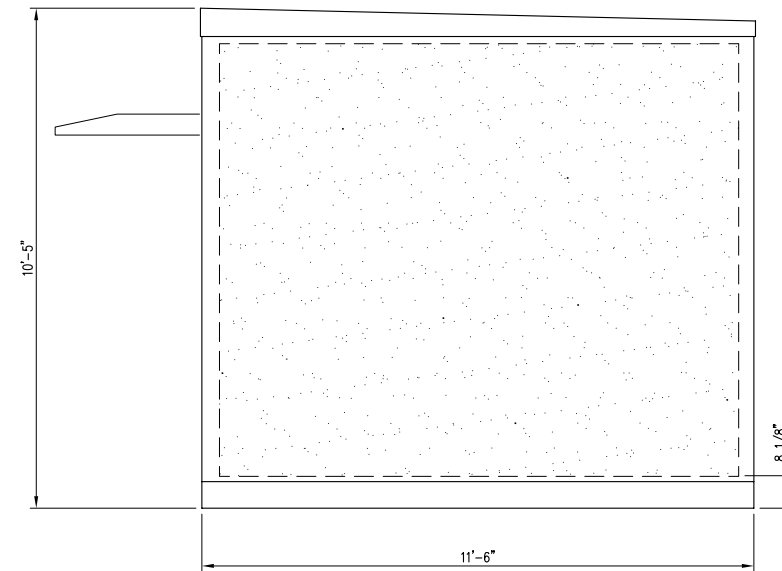
SHEET NUMBER:

Z-11



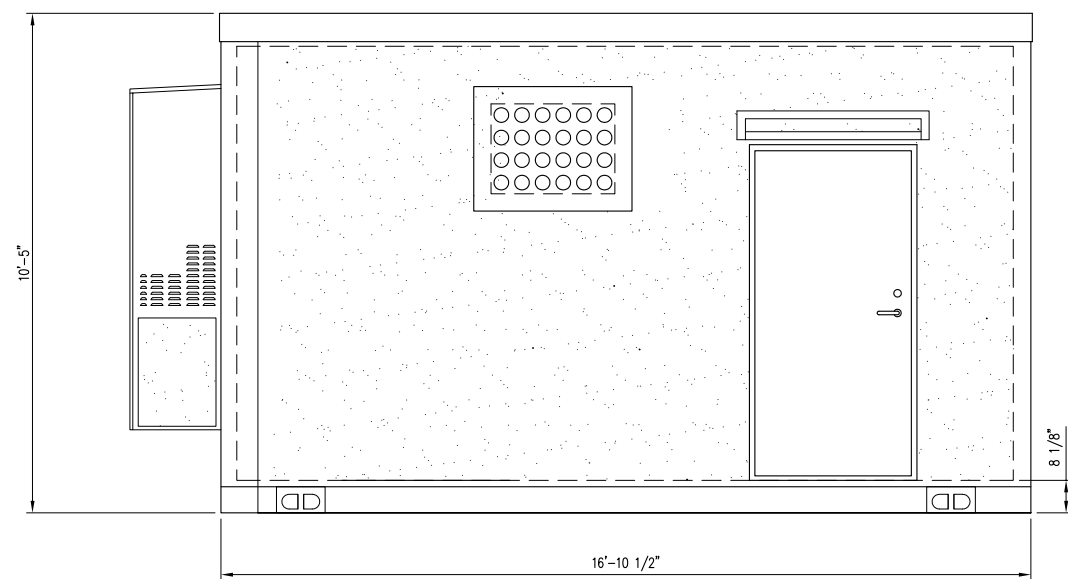
SHELTER ELEVATION
 SCALE: 1/4"=1'-0"

1
 Z-11



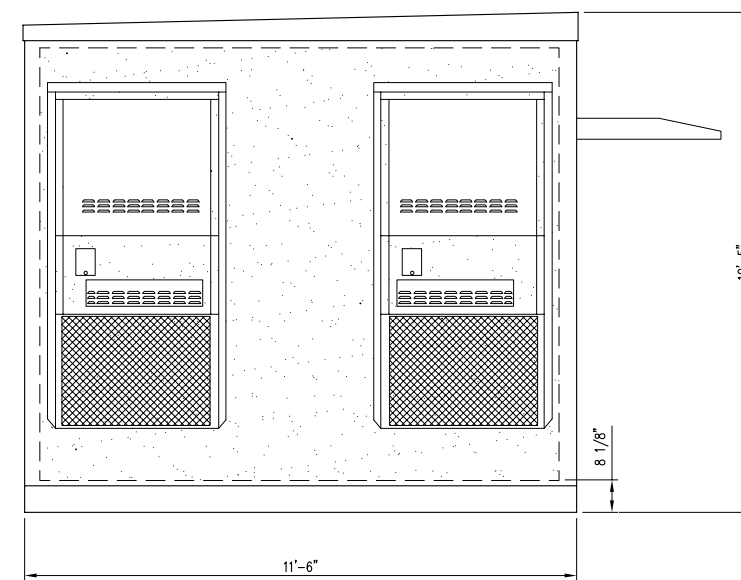
SHELTER ELEVATION
 SCALE: 1/4"=1'-0"

2
 Z-11



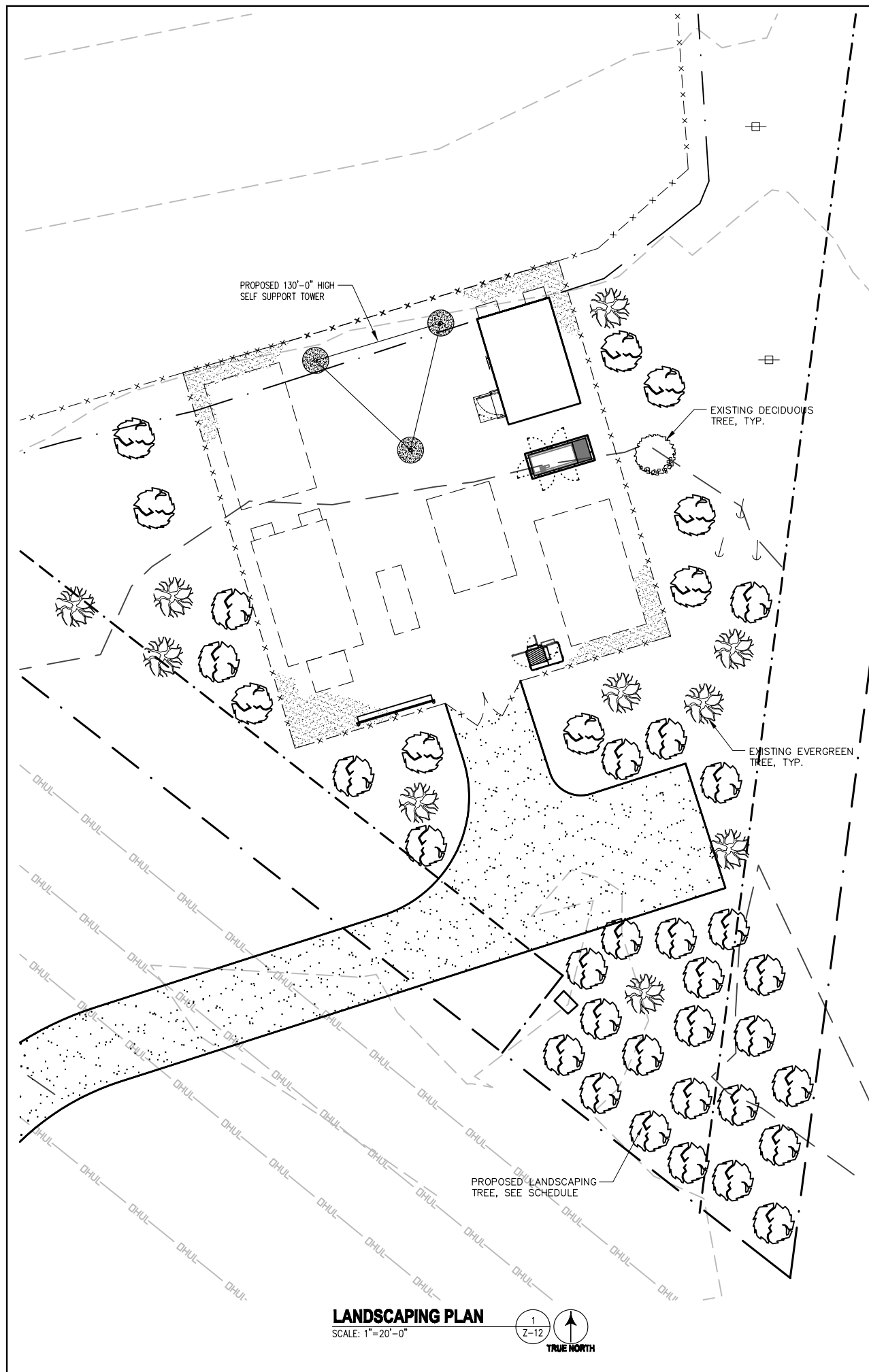
SHELTER ELEVATION
 SCALE: 1/4"=1'-0"

3
 Z-11



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

4
 Z-11

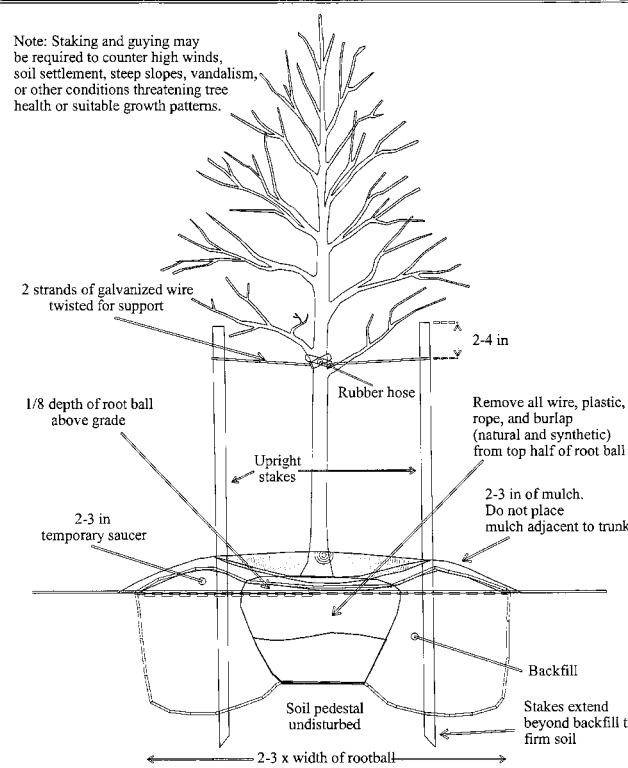


LANDSCAPING PLAN
SCALE: 1"=20'-0"



FAIRFAX COUNTY PUBLIC FACILITIES MANUAL

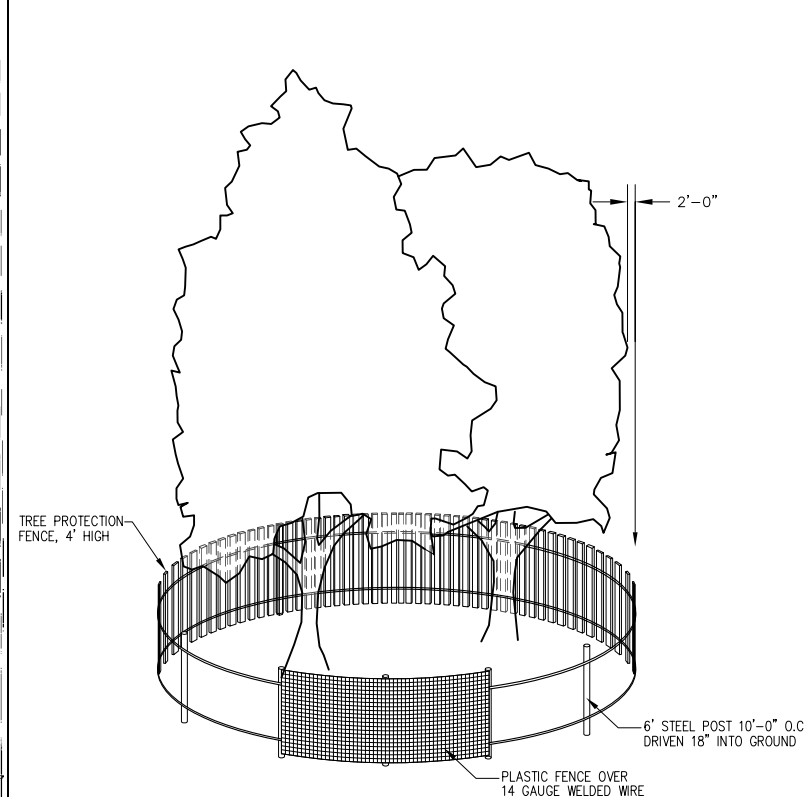
Note: Staking and guying may be required to counter high winds, soil settlement, steep slopes, vandalism, or other conditions threatening tree health or suitable growth patterns.



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.





TREE PROTECTION DETAIL

SCALE: N.T.S.



LEGEND

-  EXISTING EVERGREEN TREE
-  EXISTING DECIDUOUS TREE

PLANTING SCHEDULE

BOTANICAL NAME	COMMON NAME	CALIPER	HEIGHT	SPREAD	QUANTITY	REMARKS	SYMBOL

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

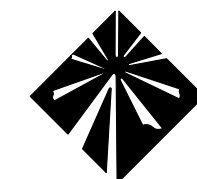


6600 Rockledge Drive, Suite 550
BETHESDA, MD 20817
PHONE: (202)408-0960
FAX: (202)408-0961

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	

SEAL:



Milestone
COMMUNICATIONS

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

SCALE:
0 1/2 1
GRAPHIC SCALE IN INCHES

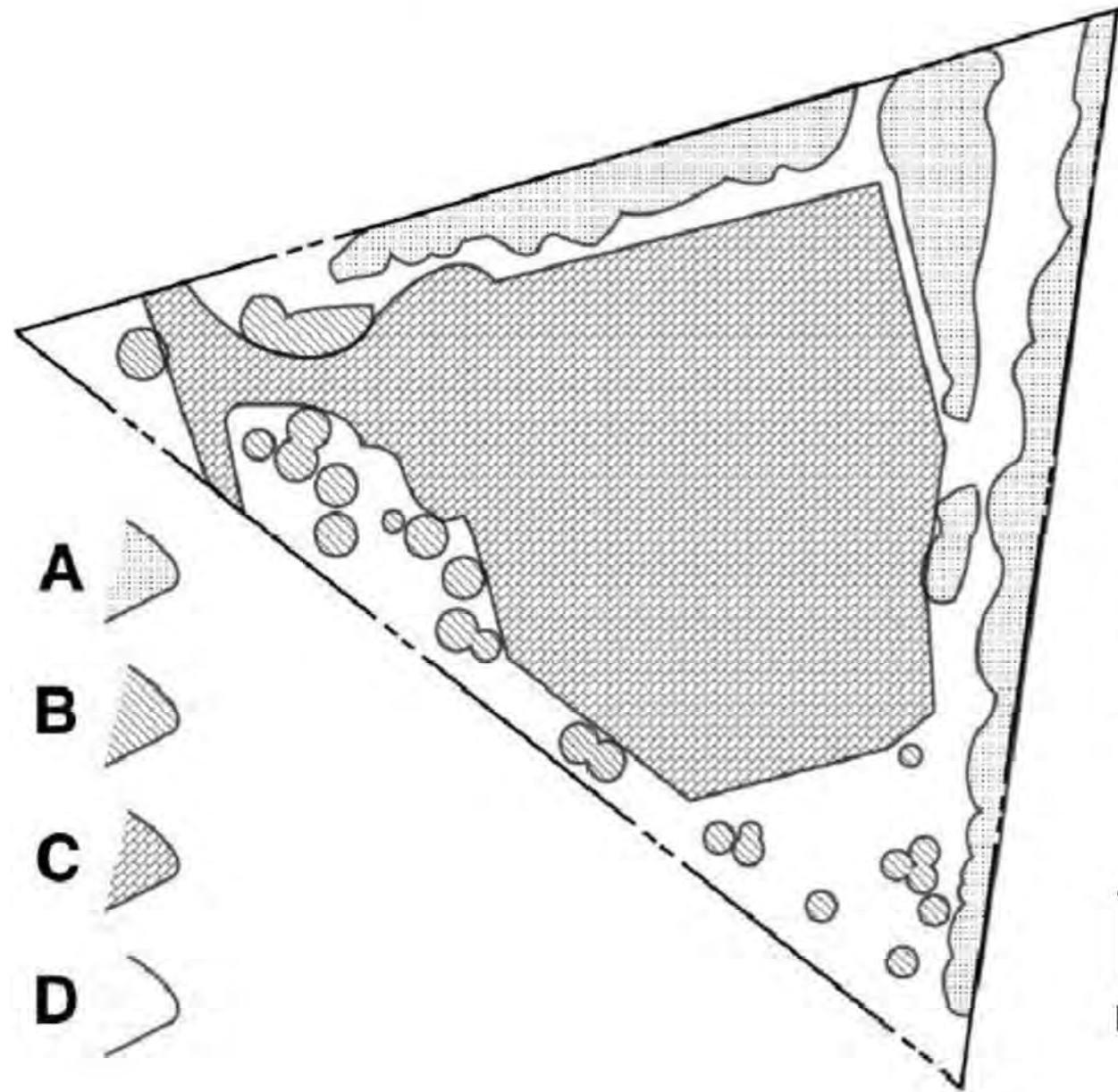
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

LANDSCAPE PLAN,
DETAILS AND NOTES

SHEET NUMBER:

Z-12



10-Year Tree Canopy

15001 Lee Hwy.
Centreville, VA

Cover Type	Canopy Area (sq. ft.)
A - Forested/Early Successional (1.5 X)	20887
B - Developed/Free-standing trees	3573

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	30,575
Total of canopy area provided through tree planting	5,550
Total of 10-year Tree Canopy Provided	36,125



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) =	30,575
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 =	24,460	
C3	C2 x 1.25 =	30,575	§ 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 =	30,575	If area of C10 is less than B7 then remainder of requirement must be met through tree planting - go to D2

D. Tree Planting			
D1	Area of canopy to be met through tree planting (B7-C10) =	3,700	
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 =	3,700	
D11	D10 x 1.5 =	5,550	§ 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	D16 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 =		
D20	Is an off-site planting relief requested?	Yes or No	
D21	Tree Bank or Tree Fund?		
D22	Canopy area requested to be provided through off-site mechanism (D19) =		§ 12-0512
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) =	30,575	
E2	Total of canopy area provided through tree planting (D17) =	5,550	
E3	Total of canopy area provided through off-site mechanism (D19) =		
E4	Total of 10-year Tree Canopy Provided = (E1-E2+E3)	36,125	Total of E1 through E3 Area should meet or exceed area required by B7

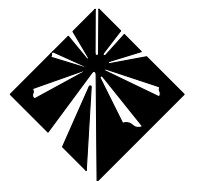


6600 Rockledge Drive, Suite 550
BETHESDA, MD 20817
PHONE: (202)408-0960
FAX: (202)408-0961

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	

SEAL:



Milestone
COMMUNICATIONS

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

SCALE:



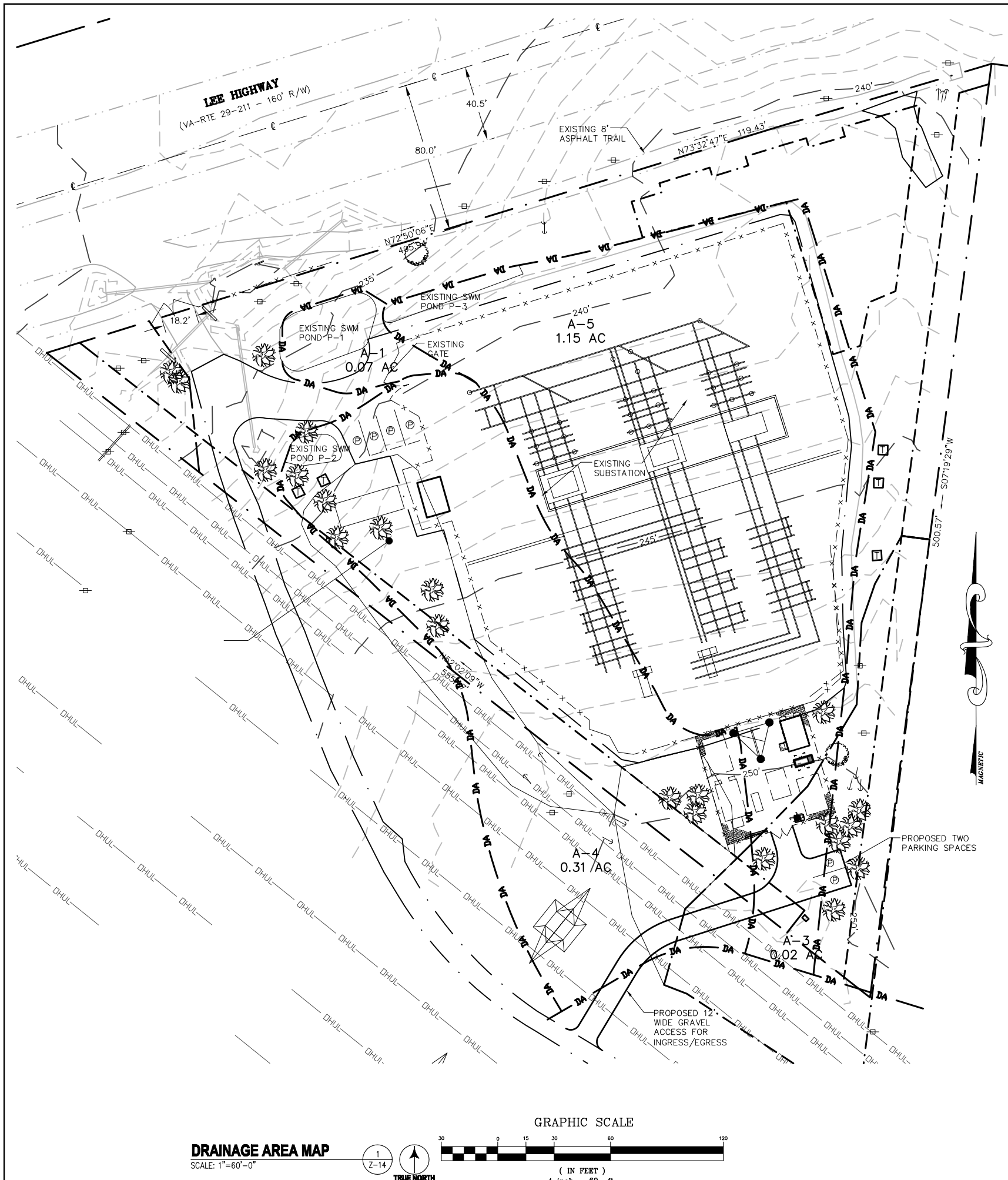
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:

TREE
CANOPY
CALCULATION

SHEET NUMBER:

Z-13



OUTFALL NARRATIVE

THIS PROJECT PROPOSES A GRAVEL COMPOUND FOR TELECOMMUNICATIONS AND GRAVEL ACCESS ROAD. THE INCREASE IN RUNOFF DUE TO THIS PROJECT WILL BE HANDLED BY THREE ON SITE EXISTING PONDS. DUE TO MINIMAL INCREASE IN DISTURBED AREA, THE PRE DEVELOPMENT AND POST DEVELOPMENT RUNOFF COEFFICIENT FOR THE DRAINAGE AREA GOING TO THE EXISTING PONDS AND ALMOST SAME. THE TOTAL INCREASE IN RUNOFF DUE TO THE SITE IS 0.13 CFS WHICH WILL FLOW AS SHEET FLOW TO THE PROPOSED BMP'S BEFORE ENTERING THE EXISTING PONDS. HENCE, THERE WILL BE NO ADVERSE EFFECT OR IMPACT ON THE EXISTING CONDITION OF THE DOWNSTREAM PROPERTIES AFTER THIS DEVELOPMENT.

EXISTING SWM AND BMP

THERE ARE THREE ONSITE DRY PONDS, POND 1, 2 AND 3 AND ARE LOCATED ABOVE THE EXISTING SITE OUTFALL AT ROUTE 29 ADJACENT TO THE EXISTING GRAVEL ENTRANCE. THE DRAINAGE AREA FOR THESE PONDS ARE LABELLED AS AREA 1 THROUGH 5. AREA A-1 AND A-5 ARE ONSITE CONTROLLED, A-2 IS ONSITE UNCONTROLLED (BMP CONTROLLED) AND AREA A-3 AND A-4 ARE OFFSITE BMP CONTROL. DRAINAGE AREA A-2 AND A-4 DRAINS TO POND P-2. DRAINAGE AREA A-3 AND A-5 DRAINS TO POND P-3 AND EXCESS RUNOFF FROM P-3 SPILLS INTO THE ADJACENT POND P-1. POND P-1 ALSO HAVE DRAINAGE AREA A-1.

EXISTING AREA AND RUNOFF COEFFICIENT FOR ALL DRAINAGE AREAS:

AREA (AC)	RUNOFF COEFFICIENT "C"
A-1: 0.08	0.44
A-2: 0.58	0.38
A-3: 0.02	0.30
A-4: 0.31	0.32
A-5: 1.15	0.32

PROPOSED CONDITION

PROPOSED GRAVEL COMPOUND AND GRAVEL ACCESS DRIVE ARE ON DRAINAGE AREA A-2, A-4 AND A-5. PROPOSED AREA ON:
 A-2: 0.02 AC
 A-4: 0.02 AC
 A-5: 0.07 AC

RAINFALL INTENSITY

(ALL RAINFALL INTENSITY ARE USED FOR 5 MIN. TRAVEL TIME)
 2 YR: 5.45 IN/HR
 10 YR: 7.27 IN/HR

CALCULATIONS

POND 1
 PRE-DEVELOPMENT CONDITION:
 TOTAL AREA: 1.25 AC, C: 0.33

DRAINAGE AREA A-5

PRE-DEVELOPMENT CONDITION:
 DA: 1.15, C: 0.32

POST-DEVELOPMENT CONDITION:
 REPLACING 0.07 AC OF GRASSED AREA (C: 0.35) WITH GRAVEL AREA (C:0.6)
 WEIGHTED C: 0.33

WEIGHTED C FROM DRAINAGE AREA A-1, A-3 AND A-5 GOING TO P-1

$$C = ((0.08 \times 0.44) + (1.15 \times 0.33) + (0.02 \times 0.3)) / 1.25 = 0.336 \text{ WHICH IS ALMOST EQUAL TO PRE-DEVELOPMENT CONDITION.}$$

PRE-DEVELOPMENT FLOW:
 2 YR: $0.33 \times 5.45 \times 1.25 = 2.24 \text{ CFS}$
 10 YR: $0.33 \times 7.27 \times 1.25 = 2.76 \text{ CFS}$

POST-DEVELOPMENT FLOW:
 2 YR: $0.336 \times 5.45 \times 1.25 = 2.29 \text{ CFS}$
 10 YR: $0.336 \times 7.27 \times 1.25 = 2.80 \text{ CFS}$

POND 2
 PRE-DEVELOPMENT CONDITION:
 TOTAL AREA: 0.89 AC, C: 0.32

DRAINAGE AREA A-2

PRE-DEVELOPMENT CONDITION:
 DA: 0.58, C: 0.38

POST-DEVELOPMENT CONDITION:
 REPLACING 0.02 AC OF GRASSED AREA (C: 0.35) WITH GRAVEL AREA (C:0.6)
 WEIGHTED C: 0.384

DRAINAGE AREA A-4

PRE-DEVELOPMENT CONDITION:
 DA: 0.31, C: 0.32

POST-DEVELOPMENT CONDITION:
 REPLACING 0.02 AC OF GRASSED AREA (C: 0.35) WITH GRAVEL AREA (C:0.6)
 WEIGHTED C: 0.33

WEIGHTED C FROM DRAINAGE AREA A-2 AND A-4 GOING TO P-2

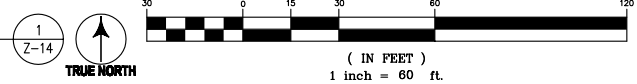
$$C = ((0.58 \times 0.384) + (0.31 \times 0.32)) / 0.89 = 0.324 \text{ WHICH IS ALMOST EQUAL TO PRE-DEVELOPMENT CONDITION.}$$

PRE-DEVELOPMENT FLOW:
 2 YR: $0.32 \times 5.45 \times 0.89 = 1.55 \text{ CFS}$
 10 YR: $0.32 \times 7.27 \times 0.89 = 2.07 \text{ CFS}$

POST-DEVELOPMENT FLOW:
 2 YR: $0.324 \times 5.45 \times 0.89 = 1.57 \text{ CFS}$
 10 YR: $0.324 \times 7.27 \times 0.89 = 2.09 \text{ CFS}$

DRAINAGE AREA MAP

SCALE: 1"=60'-0"



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	

SEAL:



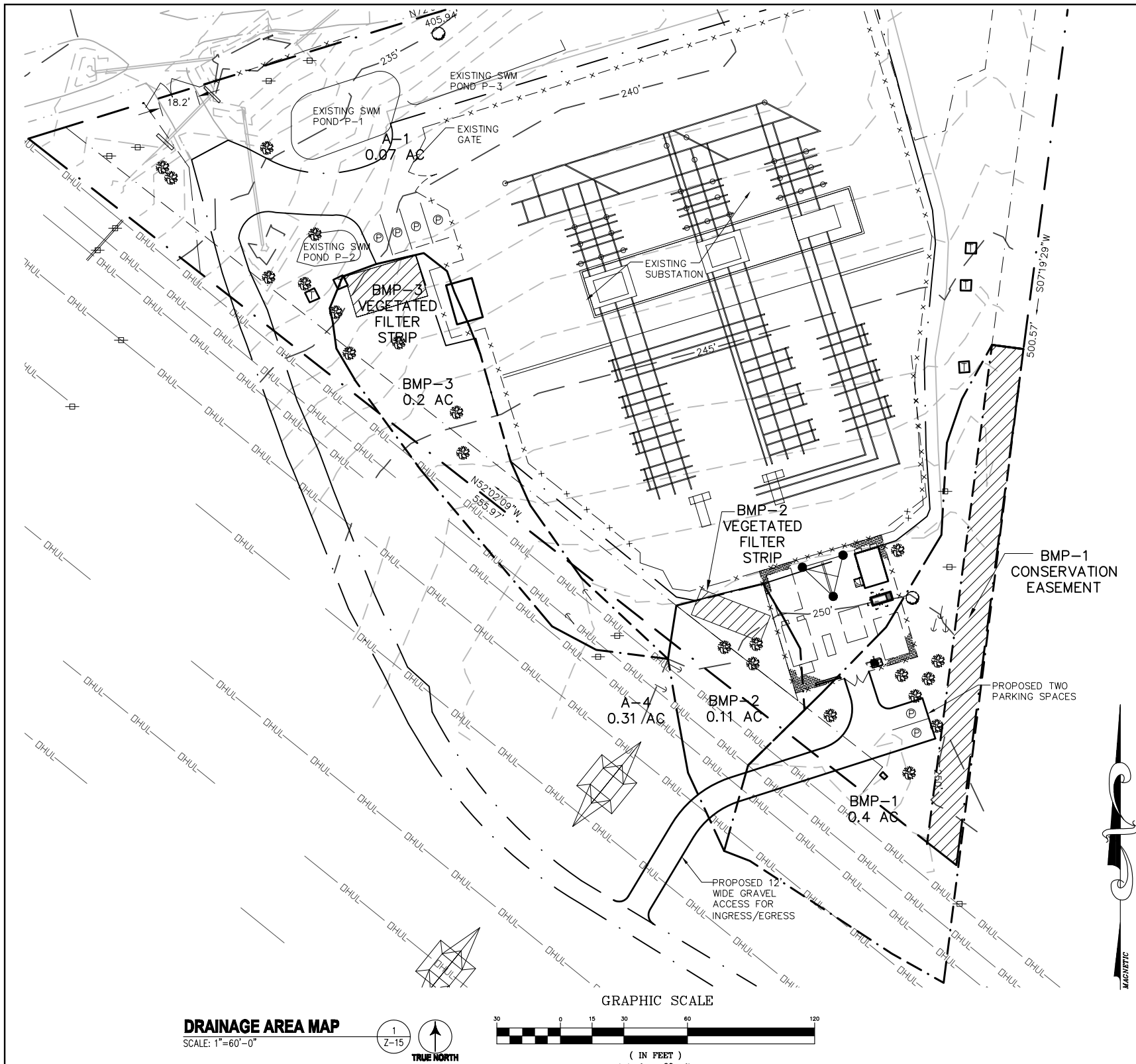
PROJECT NO: 1050.130
 DESIGNER: M.A.
 ENGINEER: M.M.

SCALE:
 0 1/2 1
 GRAPHIC SCALE IN INCHES

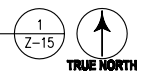
SEA 90-S-021
2232-Y13-10
NOVEC - JOHNSON
SUBSTATION
15001 LEE HWY
CENTREVILLE, VA 20121

TITLE:
DRAINAGE AREA
MAP AND
CALCULATIONS

SHEET NUMBER:
Z-14



DRAINAGE AREA MAP
SCALE: 1"=60'-0"



Virginia Runoff Reduction Method New Development Worksheet -- v2.8 _2011Specs
Site Data Revised April 2014

Project Name: NOVEC- JOHNSON SUBSTATION
Date: 08/07/2014

1. Post-Development Project & Land Cover Information

Constants	
Annual Rainfall (inches)	43
Target Rainfall Event (inches)	1.00
Phosphorus EMC (mg/L)	0.26
Target Phosphorus Target Load (lb/acre/yr)	0.41
Pj	0.90
Nitrogen EMC (mg/L)	1.86

Land Cover (acres)	Soils				Totals
	A soils	B Soils	C Soils	D Soils	
Forest/Open Space (acres) -- undisturbed, protected forest/open space or reforested land	0.00	0.00	0.00	0.00	0.00
Managed Turf (acres) -- disturbed, graded for yards or other turf to be mowed/managed	0.00	0.00	0.00	0.03	0.03
Impervious Cover (acres)	0.00	0.00	0.00	0.14	0.14
	Total				0.17

Rv Coefficients	Soils			
	A soils	B Soils	C Soils	D Soils
Forest/Open Space	0.02	0.03	0.04	0.05
Managed Turf	0.15	0.20	0.22	0.25
Impervious Cover	0.95	0.95	0.95	0.95

Land Cover Summary	
Forest/Open Space Cover (acres)	0.00
Weighted Rv(orest)	0.00
% Forest	0%
Managed Turf Cover (acres)	0.03
Weighted Rv(turf)	0.25
% Managed Turf	18%
Impervious Cover (acres)	0.14
Rv(imperious)	0.95
% Imperious	82%
Total Site Area (acres)	0.17
Site Rv	0.83
Post-Development Treatment Volume (acre-ft)	0.01
Post-Development Treatment Volume (cubic feet)	510
Post-Development Load (TP) (lb/yr)	0.32
Total Load (TP) Reduction Required (lb/yr)	0.25
Post-Development Load (TN) (lb/yr)	2.29

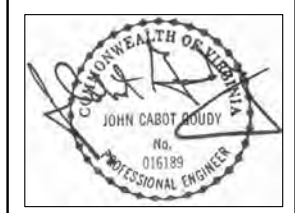


6600 Rockledge Drive, Suite 550
BETHESDA, MD 20817
PHONE: (202)408-0960
FAX: (202)408-0961

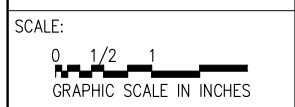
SUBMITTALS

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	

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:
BMP CALCULATIONS

SHEET NUMBER:
Z-15

Drainage Area A																															
Drainage Area A Land Cover (acres)																															
	<table border="1"> <thead> <tr> <th>A soils</th> <th>B Soils</th> <th>C Soils</th> <th>D Soils</th> <th>Totals</th> <th>Land Cover Rv</th> </tr> </thead> <tbody> <tr> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.00</td> </tr> <tr> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.03</td> <td>0.03</td> <td>0.25</td> </tr> <tr> <td>0.00</td> <td>0.00</td> <td>0.00</td> <td>0.09</td> <td>0.09</td> <td>0.95</td> </tr> <tr> <td colspan="5" style="text-align: center;">Total</td> <td>0.71</td> </tr> </tbody> </table>	A soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.00	0.03	0.03	0.25	0.00	0.00	0.00	0.09	0.09	0.95	Total					0.71
A soils	B Soils	C Soils	D Soils	Totals	Land Cover Rv																										
0.00	0.00	0.00	0.00	0.00	0.00																										
0.00	0.00	0.00	0.03	0.03	0.25																										
0.00	0.00	0.00	0.09	0.09	0.95																										
Total					0.71																										
Post-Development Treatment Volume (cf) = 848																															
Apply Runoff Reduction Practices to Reduce Treatment Volume & Post-Development Load in Drainage Area A																															
Practice	Unit	Description of Credit	Credit	Credit Area (acres)	Volume from Upstream RR Practice (cf)	Runoff Reduction Volume (cf)	Remaining Runoff Volume (cf)	Phosphorus Efficiency (%)	Phosphorus Load from Upstream RR Practices	Untreated Phosphorus Load to Practice	Phosphorus Removed By Practice	Remaining Phosphorus Load (lbs.)	Downstream Treatment to be Employed																		
3.b. Sheeflow to Conservation Area with CID Soils (Spec #2)	Impervious acres draining to conserved open space	50% runoff volume reduction for treated area	0.50	0.08	0	103	103	0	0.00	0.13	0.06	0.08																			
	turf acres draining to conserved open space	50% runoff reduction volume for treated area	0.50	0.34	0	154	154	0	0.00	0.19	0.10	0.10																			
3.c. Sheeflow to Vegeated Filter Strip in A Soils or Compost Amended B/C/D Soils (Spec #2 & #4)	Impervious acres draining to filter strip	50% runoff volume reduction for treated area	0.50	0.02	0	34	34	0	0.00	0.04	0.02	0.02																			
	turf acres draining to filter strip	50% runoff reduction volume for treated area	0.50	0.29	0	132	132	0	0.00	0.17	0.08	0.08																			
TOTAL IMPERVIOUS COVER TREATED (ac)			0.08																												
TOTAL TURF AREA TREATED (ac)			0.63																												
AREA CHECK OK																															
TOTAL PHOSPHORUS REMOVAL REQUIRED ON SITE (lb/yr)			0.25																												
TOTAL RUNOFF REDUCTION IN D.A. A (cf)			424																												
PHOSPHORUS REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)			0.27																												
TOTAL RUNOFF REDUCTION IN D.A. A (cf)			424																												
NITROGEN REMOVAL FROM RUNOFF REDUCTION PRACTICES IN D.A. A (lb/yr)			3.31																												