**APPLICATION ACCEPTED**: January 24, 2017
**2232 APPLICATION ACCEPTED**: May 8, 2017
**PLANNING COMMISSION**: July 19, 2017
**BOARD OF SUPERVISORS**: TBD

# County of Fairfax, Virginia

**July 5, 2017**

**STAFF REPORT**

**SEA 2014-PR-032**
**2232A-P14-4-1**

**PROVIDENCE DISTRICT**

| | |
|---|---|
| **APPLICANT:** | Virginia Electric and Power Company<br>d/b/a Dominion Energy Virginia |
| **ZONING:** | R-3, Residential District |
| **PARCEL:** | 49-2 ((1)) 151, 49-2 ((12)) 1A |
| **ACREAGE:** | 7.15 acres |
| **PLAN MAP:** | Public Facility |
| **SE CATEGORY:** | Light Public Utility Uses (Category 1): Electrical Substation |
| **PROPOSAL:** | The applicants request an amendment of a special exception previously approved for an electric substation and telecommunications facility to permit the addition of temporary equipment at its existing facility. A review by the Planning Commission to determine whether the temporary equipment satisfies the criteria of location, character, and extent pursuant to Section 15.2-2232 of the Code of Virginia, as amended is also requested. |

**STAFF RECOMMENDATIONS:**

Staff recommends that the Planning Commission find that the telecommunications facility proposed under 2232A-P14-4-1 satisfies the criteria of location, character, and extent, as specified in Section 15.2-2232 of the Code of Virginia, as amended, and therefore, is substantially in accord with the Comprehensive Plan.

Kelly Posusney, AICP

**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 2014-PR-032, subject to the approval of the proposed development conditions contained in Appendix 1 of the staff report.

Staff recommends approval of a waiver of the major paved trail shown on the Countywide Trails Plan in favor of the five foot sidewalk that is proposed along the entire Shreve Road frontage.

Staff recommends approval of a waiver of the actual striping for the proposed bike lane along Shreve Road as shown on the Countywide Bicycle Master Plan.

Staff recommends that the previously approved waivers and modifications listed below be reaffirmed.

- Modification of transitional screening requirements along all boundaries of the site in favor of that shown on the special exception (SE) plat.

- Directed the Director of the Department of Public Works and Environmental Services (DPWES) to approve a modification of l0-year tree canopy requirements in favor of that shown on the SE plat.

- Directed the Director of DPWES to approve a waiver of the tree preservation target requirements in favor of that shown on the SE plat.

It should be noted that it is not the intent of staff to recommend that the Board of Supervisors, in adopting any 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 application 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.

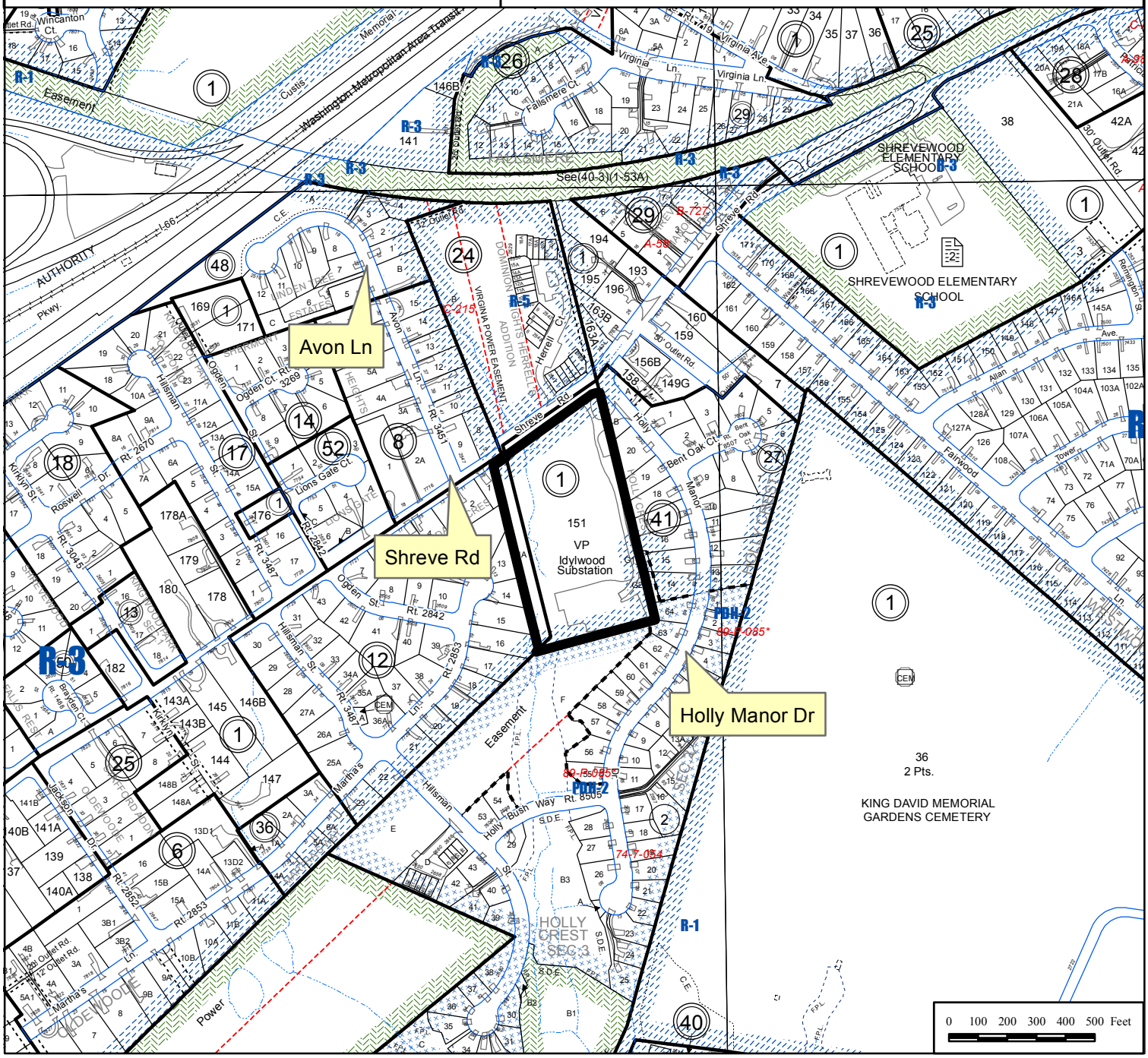
Americans with Disabilities Act (ADA): Reasonable accommodation is available upon 48 hours advance notice. For additional information on ADA call (703) 324-1334 or TTY 711 (Virginia Relay Center).

# Special Exception Amendment

**SEA 2014-PR-032**



| | |
|---|---|
| Applicant: | VA. ELECTRIC & POWER CO., D/B/A DOMINION ENERGY VIRGINIA |
| Accepted: | 01/24/2017 |
| Proposed: | AMEND SE 2014-PR-032 PREVIOUSLY APPROVED FOR ELECTRIC SUBSTATION AND TELECOMMUNICATION FACILITY TO MODIFY SITE AND DEVELOPMENT CONDITIONS |
| Area: | 7.15 AC; DISTRICT - PROVIDENCE |
| Zoning Dist Sect: | 03-030403-0304 |
| Located: | 7701 & 7707 SHREVE ROAD, FALLS CHURCH, VA 22043 |
| Zoning: | R- 3 |
| Plan Area: | 1, |
| Overlay Dist: | |
| Map Ref Num: | 049-2- /01/ /0151 /12/ /0001A |

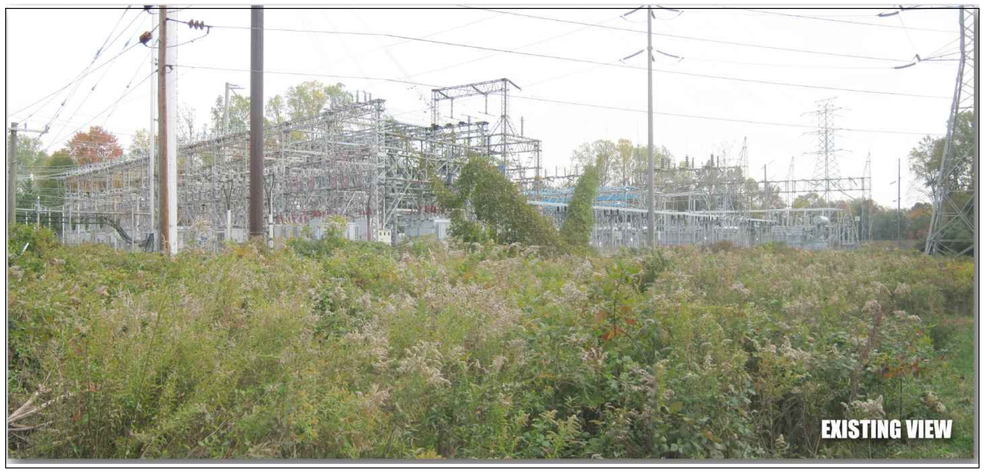


# Drawing Index

## Civil


| | |
|---|---|
| **1-SEA** | **COVER SHEET** |
| 1 | COVER SHEET |
| 2 | GENERAL NOTES & SOILS MAP |
| 3 | EXISTING CONDITIONS & DEMOLITION PLAN |
| 4 | PROPOSED FACILITY PLAN |
| **4-SEA** | **PROPOSED FACILITY PLAN** |
| 5 | ROADWAY IMPROVEMENTS & SIGHT DISTANCE PLAN |
| 6 | AT&T ENTRANCE SIGHT DISTANCE PLAN |
| 7A | PROPOSED UPPER YARD GRADING PLAN |
| **7A-SEA** | **PROPOSED UPPER YARD GRADING PLAN** |
| 7B | PROPOSED LOWER YARD GRADING PLAN |
| **7B-SEA** | **PROPOSED LOWER YARD GRADING PLAN** |
| 8 | STORMWATER MANAGEMENT INFORMATION |
| **8-SEA** | **STORMWATER MANAGEMENT INFORMATION** |
| 9 | DETENTION SYSTEM PROFILES |
| 10 | STORM SEWER PROFILES |
| 11 | PRE-DEVELOPED DRAINAGE AREA MAP |
| 12 | POST-DEVELOPED DRAINAGE AREA MAP |
| 13 | PROPOSED LANDSCAPING PLAN |
| 14A | NOTES, TABULATION, & EXISTING VEGETATION MAP |
| 14B | OFF-SITE TREE SURVEY |
| **14B-SEA** | **OFF-SITE TREE SURVEY** |
| **14C-SEA** | **OFF-SITE TREE AREA ENHANCEMENTS THRU PRIVATE AGREEMENTS** |
| **14D-SEA** | **MOBILE NOISE BARRIER / CONSTRUCTION BUS INFO** |
| 15 | EXISTING DIMENSION PLAN FROM ADJACENT PROPERTY LINES & RESIDENCES |
| 16 | PROPOSED DIMENSION PLAN FROM ADJACENT PROPERTY LINES & RESIDENCES |
| **16-SEA** | **PROPOSED DIMENSION PLAN FROM ADJACENT RESIDENCES TO CONSTRUCTION BUS** |
| 17 | SUBSTATION SECTION VIEW A-A' |
| **17-SEA** | **SUBSTATION SECTION VIEW A-A'** |
| 18 | SUBSTATION SECTION VIEW B-B' |
| **18-SEA** | **SUBSTATION SECTION VIEW B-B'** |
| 19 | DEVELOPMENT CONDITIONS |
| **32** | **TOTAL SHEETS (APPROVED SE 2014-PR-032 + ADDED SEA SHEETS)** |


## OVERALL SITE PHOTO




## PROJECT INFORMATION


CIVIL ENGINEER:

DEWBERRY ENGINEERS INC.
4805 LAKE BROOK DRIVE, SUITE 200
GLEN ALLEN, VA 23060

CONTACT: KEN WAGNER, SENIOR PROJECT MANAGER
PHONE: 804-205-3350
FAX: 804-290-7928
EMAIL: kwagner@dewberry.com

APPLICANT:

DOMINION VIRGINIA POWER
701 EAST CARY STREET, 12TH FLOOR
RICHMOND, VA 23219

CONTACT: COURTNEY FISHER, PERMIT SPECIALIST
PHONE: 804-771-6408
FAX: 804-771-6303
EMAIL: courtney.r.fisher@dom.com


# Idylwood Substation

## Fairfax County, VA

## Special Exception Plat Amendment & 2232 Plan

Client:
Dominion Virginia Power

## CODE INFORMATION

TAX MAP #: 0492-01-0151, 0492-12-0001A

ZONING: R-3

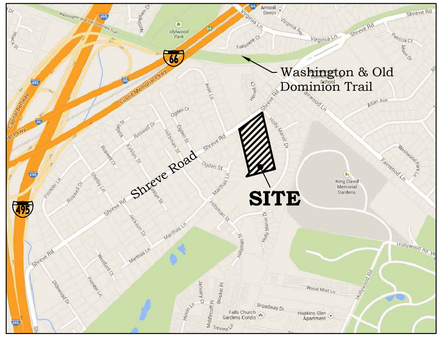
DISTRICT: PROVIDENCE

USE: LIGHT PUBLIC UTILITY USE (CATEGORY 1), ELECTRIC SUBSTATION, TELECOMMUNICATIONS FACILITY

PARCEL AREA: 7.148 ACRES (TOTAL)

| | REQUIRED | PROVIDED |
|---|---|---|
| MINIMUM LOT SIZE | 10,500 S.F. | 311,367 S.F. |
| MINIMUM LOT WIDTH | 80 FT. | 425 FT. |
| MAXIMUM BUILDING HEIGHT | EXEMPT | 32± FT. |
| MAXIMUM FLOOR AREA RATIO | EXEMPT | .043 |
| OPEN SPACE | 25% | 33% |

## VICINITY MAP




SCALE:
1" = 1000'

## CEMETERY NOTE

THERE ARE NO KNOWN GRAVES, OBJECTS, OR STRUCTURES MARKING A PLACE OF BURIAL ON SITE.

## WAIVERS

1. THERE IS A WAIVER REQUEST PENDING TO FCDOT FOR THE CONSTRUCTION OF AN ASPHALT TRAIL THAT CLIPS THE NORTHWEST CORNER OF THE SITE, ADJACENT TO SHREVE ROAD.
2. THERE IS A WAIVER REQUEST PENDING TO FCDOT FOR THE STRIPING OF A 5' BIKE LANE AT THE FRONT OF THE SITE IN SHREVE ROAD. THIS PROJECT WILL CONSTRUCT, BUT WILL NOT STRIPE, THE BIKE LANE.

SE 2014-PR-032


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
AMENDMENT & 2232 PLAN
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
05/15/17
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | MAY 2017 |

TITLE

COVER SHEET

PROJECT NO. 50058411

1-SEA

SHEET NO. 1 OF 32

## Drawing Index

### Civil


| | |
|---|---|
| 1 | COVER SHEET |
| 2 | GENERAL NOTES & SOILS MAP |
| 3 | EXISTING CONDITIONS & DEMOLITION PLAN |
| 4 | PROPOSED FACILITY PLAN |
| 5 | ROADWAY IMPROVEMENTS & SIGHT DISTANCE PLAN |
| 6 | AT&T ENTRANCE SIGHT DISTANCE PLAN |
| 7A | PROPOSED UPPER GRADING PLAN |
| 7B | PROPOSED LOWER YARD GRADING PLAN |
| 8 | STORMWATER MANAGEMENT INFORMATION |
| 9 | DETENTION SYSTEM PROFILES |
| 10 | STORM SEWER PROFILES |
| 11 | PRE-DEVELOPED DRAINAGE AREA MAP |
| 12 | POST-DEVELOPED DRAINAGE AREA MAP |
| 13 | PROPOSED LANDSCAPING PLAN |
| 14A | NOTES, TABULATION, & EXISTING VEGETATION MAP |
| 14B | OFF-SITE TREE SURVEY |
| 15 | EXISTING DIMENSION PLAN FROM ADJACENT PROPERTY LINES & RESIDENCES |
| 16 | PROPOSED DIMENSION PLAN FROM ADJACENT PROPERTY LINES & RESIDENCES |
| 17 | SUBSTATION SECTION VIEW A-A' |
| 18 | SUBSTATION SECTION VIEW B-B' |
| 19 | DEVELOPMENT CONDITIONS |


## OVERALL SITE PHOTO




## PROJECT INFORMATION


CIVIL ENGINEER:

DEWBERRY ENGINEERS INC.
4805 LAKE BROOK DRIVE, SUITE 200
GLEN ALLEN, VA 23060

CONTACT: KEN WAGNER, SENIOR PROJECT MANAGER
PHONE: 804-205-3350
FAX: 804-290-7928
EMAIL: kwagner@dewberry.com

APPLICANT:

DOMINION VIRGINIA POWER
701 EAST CARY STREET, 12TH FLOOR
RICHMOND, VA 23219

CONTACT: COURTNEY FISHER, PERMIT SPECIALIST
PHONE: 804-771-6408
FAX: 804-771-6303
EMAIL: courtney.r.fisher@dom.com


# Idylwood Substation

## Fairfax County, VA

## Special Exception Plat and 2232 Plan

Client:
Dominion Virginia Power

## CODE INFORMATION

TAX MAP #: 0492-01-0151, 0492-12-0001A

ZONING: R-3

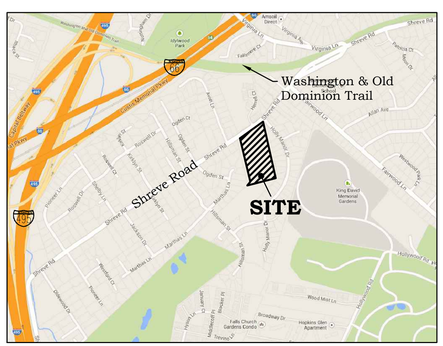
DISTRICT: PROVIDENCE

USE: LIGHT PUBLIC UTILITY USE (CATEGORY 1), ELECTRIC SUBSTATION, TELECOMMUNICATIONS FACILITY

PARCEL AREA: 7.148 ACRES (TOTAL)

| | REQUIRED | PROVIDED |
|---|---|---|
| MINIMUM LOT SIZE | 10,500 S.F. | 311,367 S.F. |
| MINIMUM LOT WIDTH | 80 FT. | 425 FT. |
| MAXIMUM BUILDING HEIGHT | EXEMPT | 32± FT. |
| MAXIMUM FLOOR AREA RATIO | EXEMPT | .043 |
| OPEN SPACE | 25% | 33% |

## VICINITY MAP




SCALE:
1" = 1000'

SE 2014-PR-032

*FOR INFORMATION ONLY*


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
2232 PLAN
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

TITLE

COVER SHEET

PROJECT NO. 50058411

1

SHEET NO. 1 OF 21

## SITE USE NOTES

A. TYPE OF OPERATION: ELECTRIC SUBSTATION; TELECOMMUNICATIONS FACILITY–TOWER AND CONTROL ENCLOSURE (EXISTING AND PROPOSED)

B. HOURS OF OPERATION: 24 HOURS A DAY FOR BOTH ELECTRIC SUBSTATION AND TELECOMMUNICATIONS FACILITY (EXISTING AND PROPOSED)

C. ESTIMATED NUMBERS OF PATRONS/CLIENTS/PATIENTS/PUPILS/ETC: ZERO (0) FOR BOTH ELECTRICAL SUBSTATION AND TELECOMMUNICATIONS FACILITY (EXISTING AND PROPOSED)

D. PROPOSED NUMBER OF EMPLOYEES/ATTENDANTS/TEACHERS/ETC: ZERO (0) EMPLOYEES WILL BE ON SITE FULL–TIME. IT IS EXPECTED THAT A DOMINION EMPLOYEE WILL VISIT THE ELECTRIC SUBSTATION ONE TO TIMES PER MONTH, AND AN AT&T EMPLOYEE WILL VISIT THE TELECOMMUNICATIONS FACILITY ONE TO TWO TIMES PER MONTH. (EXISTING AND PROPOSED)

E. ESTIMATE OF TRAFFIC IMPACT OF PROPOSED USE: (INCLUDE MAXIMUM EXPECTED TRIP GENERATION AND THE DISTRIBUTION OF SUCH TRIPS BY MODE AND TIME OF DAY) TRAFFIC IMPACT WILL BE NONE TO VERY MINIMAL. IT IS EXPECTED THAT DOMINION EMPLOYEES WILL VISIT THE ELECTRIC SUBSTATION SITE ONE TO TWO TIMES PER MONTH, USUALLY DURING DAYLIGHT HOURS; AND AN AT&T EMPLOYEE WILL VISIT THE TELECOMMUNICATIONS FACILITY ONE TO TWO TIMES PER MONTH. (EXISTING AND PROPOSED)

F. AREA TO BE SERVED BY PROPOSED USE: SURROUNDING COMMUNITIES – THE ELECTRIC SUBSTATION WILL SERVE FAIRFAX COUNTY, CITY OF FALLS CHURCH, CITY OF FAIRFAX, AND METRORAIL. THE TELECOMMUNICATIONS FACILITY WILL SERVE THE SURROUNDING AREA. (EXISTING AND PROPOSED)

G. DESCRIPTION OF BUILDING FACADE/ARCHITECTURE OF PROPOSED NEW BUILDINGS: THE ELECTRIC SUBSTATION EQUIPMENT ENCLOSURES WILL BE METAL AND ANSI GRAY IN COLOR, AND LOCATED COMPLETELY WITHIN THE 16' TO 20' TALL SOLID SCREENING WALL AROUND THE PERIMETER OF THE SITE. THE TELECOMMUNICATIONS CONTROL ENCLOSURE WILL BE PANELED AND LIGHT BROWN/TAN IN COLOR. (EXISTING AND PROPOSED)

H. LISTING OF BELOW HAZARDOUS OR TOXIC SUBSTANCES TO BE GENERATED, UTILIZED, STORED, TREATED, AND/OR DISPOSED OF ON SITE AND THE SIZE AND CONTENTS OF ANY EXISTING OR PROPOSED STORAGE TANKS OR CONTAINERS:

ALL HAZARDOUS OR TOXIC SUBSTANCES AS SET FORTH IN TITLE 40, CODE OF FEDERAL REGULATIONS PARTS 116.4, 302.4, AND 355:
ELECTRIC SUBSTATION:
–ELECTRICAL INSULATING OIL (TRANSFORMER OIL) IS PRESENT IN EACH TRANSFORMER AND REACTOR. WHENEVER THIS EQUIPMENT IS REPLACED, THE OIL IS REMOVED AND PLACED INTO TANK TRAILERS. THERE IS NO OIL STORAGE ONSITE. (EXISTING AND PROPOSED)
TELECOMMUNICATIONS FACILITY:
–NO HAZARDOUS OR TOXIC SUBSTANCES (EXISTING AND PROPOSED)

ALL HAZARDOUS WASTE AS SET FORTH IN VIRGINIA DEPARTMENT OF ENVIRONMENTAL QUALITY HAZARDOUS WASTE MANAGEMENT REGULATIONS:
ELECTRIC SUBSTATION:
–NO HAZARDOUS WASTE ON–SITE (EXISTING AND PROPOSED)
TELECOMMUNICATIONS FACILITY:
–NO HAZARDOUS WASTE ON–SITE (EXISTING AND PROPOSED)

PETROLEUM PRODUCTS AS DEFINED IN TITLE 40, CODE OF FEDERAL REGULATIONS PART 280
ELECTRIC SUBSTATION:
–ELECTRICAL INSULATING OIL (TRANSFORMER OIL) IS PRESENT IN EACH TRANSFORMER AND REACTOR. WHENEVER THIS EQUIPMENT IS REPLACED, THE OIL IS REMOVED AND PLACED INTO TANK TRAILERS. THERE IS NO OIL STORAGE ONSITE. (EXISTING AND PROPOSED)
TELECOMMUNICATIONS FACILITY:
–NO PETROLEUM PRODUCTS ON–SITE (EXISTING AND PROPOSED)

I. THE PROPOSED USE HEREIN CONFORMS TO THE PROVISIONS OF ALL APPLICABLE ORDINANCES, REGULATIONS, ADOPTED STANDARDS, AND ANY APPLICABLE CONDITIONS; EXCEPT THE FOLLOWING:

1. TREE PRESERVATION: A DEVIATION FROM PUBLIC FACILITY MANUAL (PFM) 12–0508.3A (3). A DEVIATION REQUEST IS BEING SUBMITTED FOR A CHANGE FROM THE TREE PRESERVATION TARGET. THIS REQUEST IS REQUIRED DUE TO THE CLEARING AND GRADING AND PROVISION OF UTILITIES FOR THE DEVELOPMENT PROGRAM FOR AN ELECTRICAL SUBSTATION PRECLUDING THE ACCOMMODATION OF THE TREE PRESERVATION TARGET. THE FEDERAL ENERGY REGULATORY COMMISSION (FERC) AND NORTH AMERICAN ELECTRICAL RELIABILITY (NERC) TREE MANAGEMENT STANDARDS DOES NOT ALLOW LARGE TREES TO REMAIN IN AND AROUND THE SUBSTATION AND TRANSMISSION LINES. SEE EXISTING VEGETATION MAP SHEET FOR DETAILS.

2. REDUCTION IN TRANSITIONAL SCREENING: A MODIFICATION REQUEST IS BEING SUBMITTED FOR A 2/3 REDUCTION IN THE TRANSITIONAL SCREENING YARD WIDTH. SEE PROPOSED LANDSCAPING SHEET FOR DETAILS.

3. FENCE/WALL HEIGHT: A WAIVER REQUEST IS BEING SUBMITTED FOR THE HEIGHT OF THE SCREENING WALL AROUND THE PERIMETER OF THE SUBSTATION PROPERTY. SEE PROPOSED FACILITY SHEET FOR WALL HEIGHTS (16' TO 20' HIGH, MEASURED FROM THE OUTSIDE OF THE WALL)

## SITE NOTES:

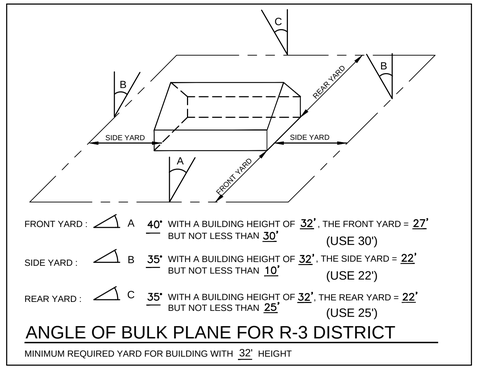
1. THIS PARCEL LIES IN FLOOD ZONE "X" (AREAS DETERMINED TO BE OUTSIDE THE 0.2% ANNUAL CHANCE FLOODPLAIN), AS DEFINED BY THE FEDERAL EMERGENCY MANAGEMENT AGENCY, MAP NUMBER 51059C0165E, EFFECTIVE DATE: SEPTEMBER 17, 2010.

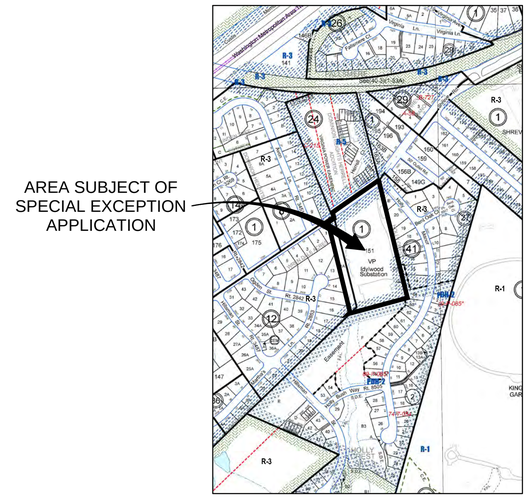
2. THIS SITE IS NOT WITHIN OR ADJACENT TO A RESOURCE PROTECTION AREA AS SHOWN ON THE CHESAPEAKE BAY PRESERVATION AREA MAP (SHEET 49–2) PREPARED BY COUNTY OF FAIRFAX.

3. TOPOGRAPHIC SURVEY (FIELD–RUN) PERFORMED BY BURGESS & NIPLE, INC. IN JUNE AND JULY, 2013 AND SUPPLEMENTED BY DEWBERRY ON FEBRUARY 13, 2015.

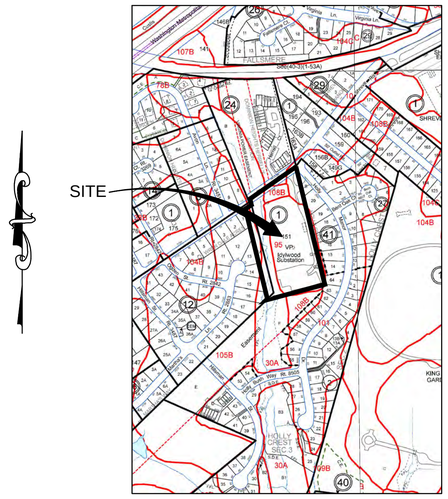
4. EXISTING SITE ZONING IS R–3. BUILDING SETBACKS: FRONT = 30', REAR = 25', SIDES = 10'. SETBACKS BASED ON FAIRFAX COUNTY ZONING ORDINANCE, SEC. 3–307. ADDITIONAL SETBACKS OR BUFFERS MAY BE REQUIRED, REFER TO FAIRFAX COUNTY ZONING ORDINANCES PART 3.

5. PROPERTY LINES SHOWN HEREON ARE BASED UPON FIELD MONUMENTATION, REFERENCED DEEDS, AND PLATS.




OVERALL SITE ZONING MAP
SCALE: 1" = 500'




SOILS MAP
SCALE: 1" = 500'

SOIL LEGEND:

30A: CODORUS AND HATBORO SOILS

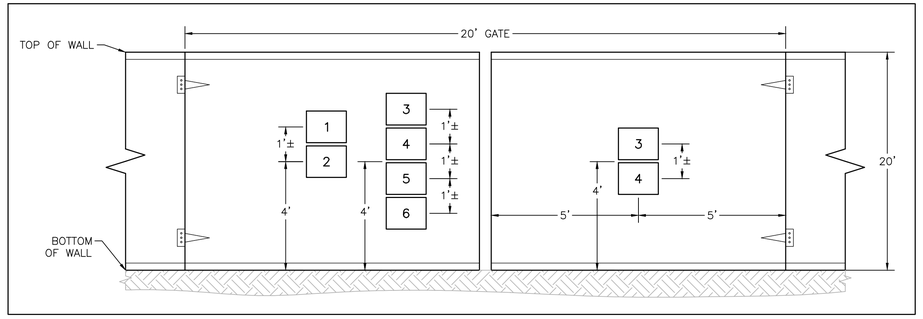
95: URBAN LAND

101: URBAN LAND–WHEATON COMPLEX

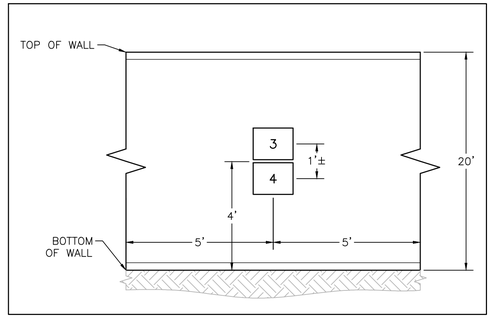
104B: WHEATON–FAIRFAX COMPLEX

105B: WHEATON–GLENELG COMPLEX

108B: WHEATON–SUMERDUCK COMPLEX




TYPICAL 20' GATE SIGNAGE DETAIL
NOT TO SCALE



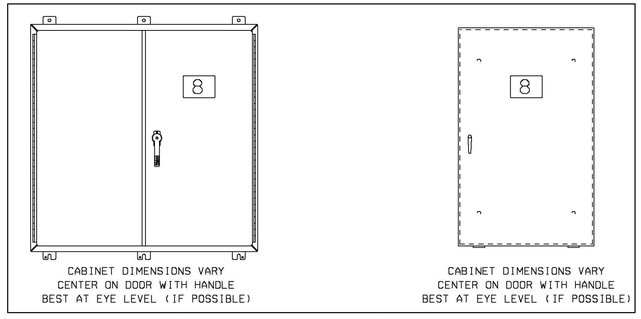

TYPICAL WALL PANEL SIGNAGE DETAIL
NOT TO SCALE
NOTE: SIGNS WILL BE SPACED NOMINALLY EVERY 30' ALONG WALL.

## CONSTRUCTION ACCESS NOTE:

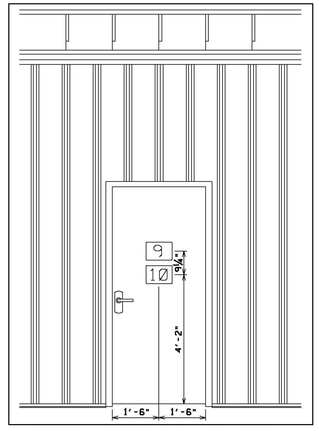
1. THE STAGING AND PARKING OF CONSTRUCTION VEHICLES SHALL OCCUR ON THE PROPERTY, INCLUDING PERSONAL VEHICLES UTILIZED BY CONSTRUCTION WORKERS. THE HOURS OF CONSTRUCTION SHALL BE POSTED IN ENGLISH AND IN SPANISH AND SHALL BE SET FORTH IN THE DEVELOPMENT CONDITIONS. THE APPLICANT SHALL PROVIDE THE PROVIDENCE DISTRICT SUPERVISOR'S OFFICE WITH A POINT OF CONTACT FOR CONSTRUCTION RELATED ISSUES. THE APPLICANT SHALL PROVIDE AN INITIAL RESPONSE TO CONSTRUCTION RELATED ISSUES WITHIN 24 HOURS OF RECEIVING NOTICE.

## GENERAL PLAN NOTE:

1. PROPOSED EQUIPMENT, WALL, LANDSCAPING, STORMWATER FACILITIES AND IMPROVEMENTS SHOWN ON THIS PLAN ARE SUBJECT TO FINAL ENGINEERING. FINAL CONFIGURATION OF STORMWATER MANAGEMENT DEVICES (SHOWN OR EQUIVALENT) TO BE DETERMINED DURING SITE PLAN REVIEW BUT SHALL REMAIN IN SUBSTANTIAL CONFORMANCE AS DEPICTED.




TYPICAL OUTDOOR CABINET SIGNAGE DETAIL




TYPICAL DOOR SIGNAGE DETAIL

| SIGN NUMBER | DISCRIPTION | STOCK NUMBER |
|---|---|---|
| **REQUESTED BY SUBSTATION ENGINEERING** | | |
| 1 | SIGN, SITE IDENTIFICATION | N/A SEE NOTE |
| 2 | SIGN, ACCESS INSTRUCTIONS | 42214023 |
| 3 | SIGN, NOTICE NO TRESPASSING PROPERTY OF DOMINION | 76711000 |
| 4 | SIGN, DANGER HAZARDOUS VOLTAGE, KEEP OUT | 42009566 |
| **REQUESTED BY SUBSTATION SUPERVISOR** | | |
| 5 | SIGN, WARNING ARC FLASH HAZARD | 42211775 |
| 6 | SIGN, WARNING ELECTRIC FENCE INSIDE | 42114440 |
| 7 | LABEL, DANGER ELECTRIC FENCE (ON SUPPORTING PVC) | 42211867 |
| 8 | LABEL, DANGER ARC FLASH HAZARD (ON BOX/CABINET) | 42211776 |
| 9 | LABEL, ACCESS INSTRUCTIONS, ENTRY DOORS ONLY | 42214630 |
| 10 | LABEL, WARNING ENERGIZED BATTERY SYSTEM (ENTRY DOOR) | 42211868 |

SUBSTATION SIGNAGE LEGEND


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
2232 PLAN
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

DRAWN BY BKJ
APPROVED BY KWW
CHECKED BY KWW
DATE APRIL 2015

TITLE

GENERAL NOTES & SOILS MAP

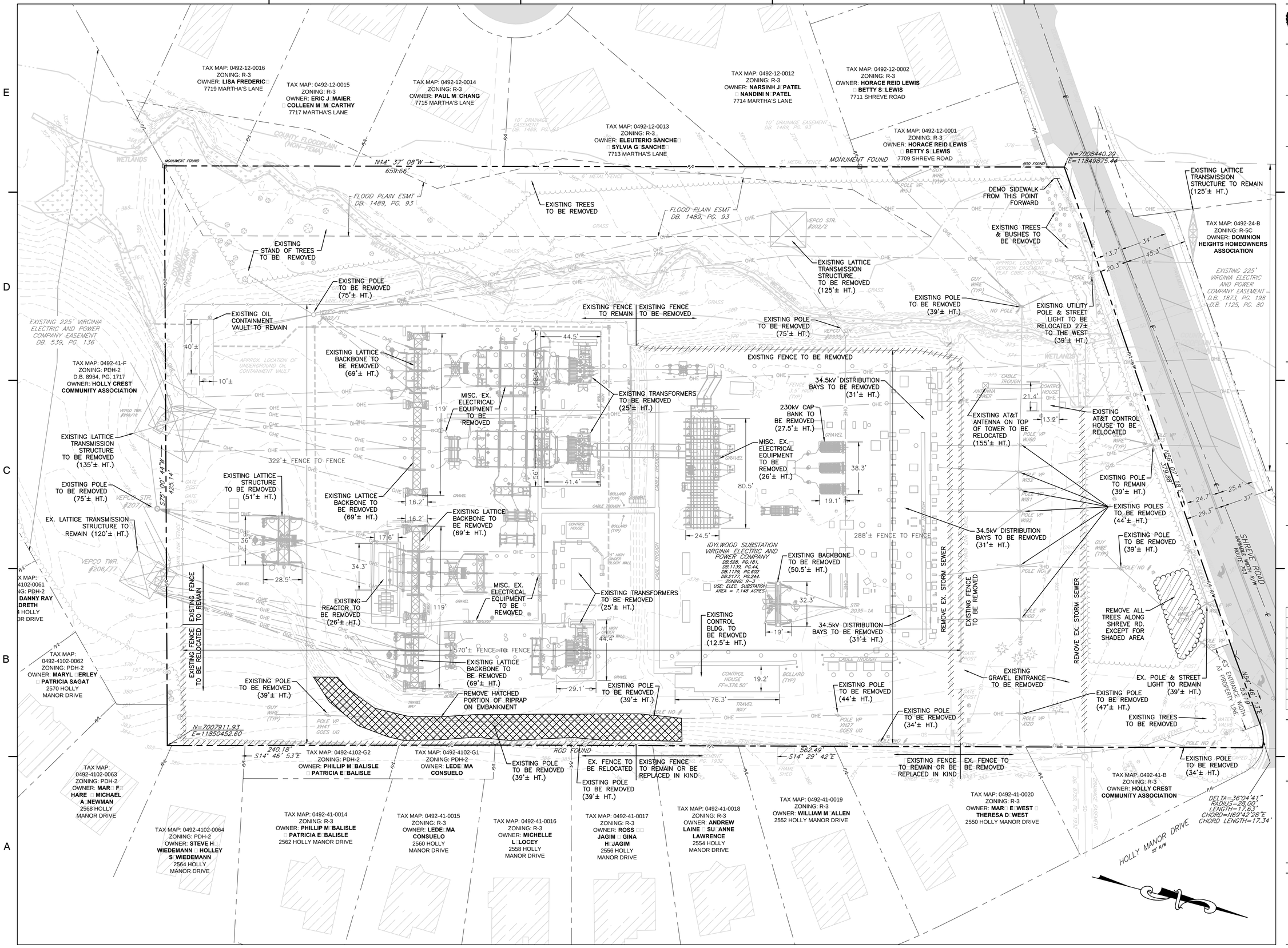
PROJECT NO. 50058411

2

SHEET NO. 2 OF 21

*FOR INFORMATION ONLY*

SHEET 3 OF 32




Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT
## 2232 PLAN

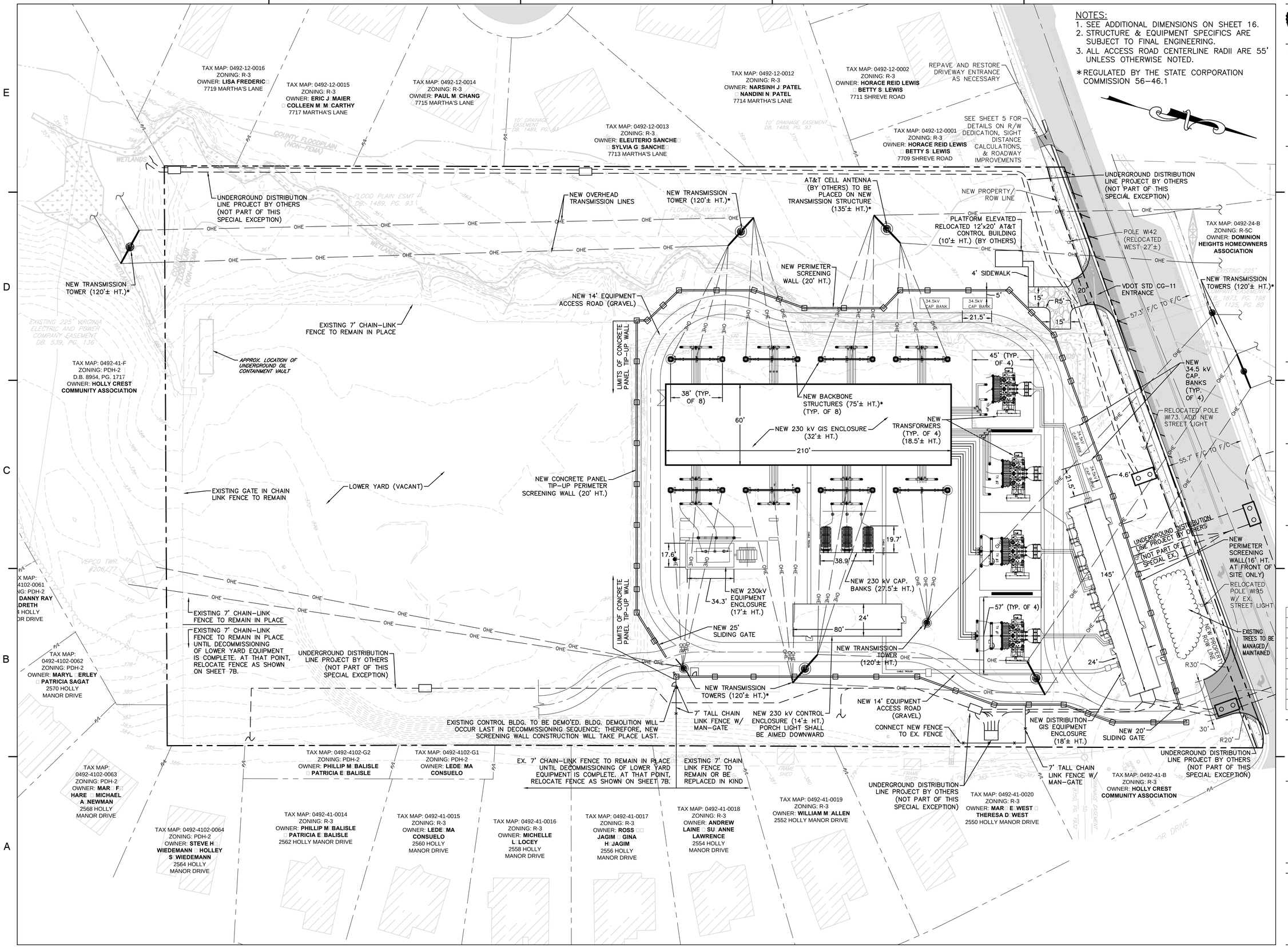
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

*FOR INFORMATION ONLY*

SHEET 4 OF 32




Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT
## 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

TITLE

PROPOSED FACILITY PLAN

PROJECT NO. 50058411

4

SHEET NO. 4 OF 21

*FOR INFORMATION ONLY*

SHEET 5 OF 32

NOTES:
1. SEE ADDITIONAL DIMENSIONS ON SHEET 16.
2. STRUCTURE & EQUIPMENT SPECIFICS ARE SUBJECT TO FINAL ENGINEERING.
3. ALL ACCESS ROAD CENTERLINE RADII ARE 55' UNLESS OTHERWISE NOTED.

*REGULATED BY THE STATE CORPORATION COMMISSION 56-46.1

TAX MAP: 0492-12-0016
ZONING: R-3
OWNER: **LISA FREDERICK**
7719 MARTHA'S LANE

TAX MAP: 0492-12-0015
ZONING: R-3
OWNER: **ERIC J. MAIER & COLLEEN M. McCARTHY**
7717 MARTHA'S LANE

TAX MAP: 0492-12-0014
ZONING: R-3
OWNER: **PAUL M. CHANG**
7715 MARTHA'S LANE

TAX MAP: 0492-12-0013
ZONING: R-3
OWNER: **ELEUTERIO SANCHEZ & SYLVIA G. SANCHEZ**
7713 MARTHA'S LANE

TAX MAP: 0492-12-0012
ZONING: R-3
OWNER: **NARSINH J. PATEL & NANDINI N. PATEL**
7714 MARTHA'S LANE

TAX MAP: 0492-12-0002
ZONING: R-3
OWNER: **HORACE REID LEWIS & BETTY S. LEWIS**
7711 SHREVE ROAD

TAX MAP: 0492-12-0001
ZONING: R-3
OWNER: **HORACE REID LEWIS & BETTY S. LEWIS**
7709 SHREVE ROAD

TAX MAP: 0492-24-B
ZONING: R-5C
OWNER: **DOMINION HEIGHTS HOMEOWNERS ASSOCIATION**

TAX MAP: 0492-41-F
ZONING: PDH-2
D.B. 8964, PG. 1717
OWNER: **HOLLY CREST COMMUNITY ASSOCIATION**

TAX MAP: 0492-4102-0061
ZONING: PDH-2
OWNER: **DANNY RAY LDRETH**
4 HOLLY
OR DRIVE

TAX MAP: 0492-4102-0062
ZONING: PDH-2
OWNER: **MARYL KERLEY & PATRICIA SAGAT**
2570 HOLLY MANOR DRIVE

TAX MAP: 0492-4102-0063
ZONING: PDH-2
OWNER: **MARK F. HARE & MICHAEL A. NEWMAN**
2568 HOLLY MANOR DRIVE

TAX MAP: 0492-4102-0064
ZONING: PDH-2
OWNER: **STEVE H. WIEDEMANN & HOLLEY S. WIEDEMANN**
2564 HOLLY MANOR DRIVE

TAX MAP: 0492-4102-G2
ZONING: PDH-2
OWNER: **PHILLIP M. BALISLE & PATRICIA E. BALISLE**

TAX MAP: 0492-4102-G1
ZONING: PDH-2
OWNER: **LEDEZMA CONSUELO**

TAX MAP: 0492-41-0014
ZONING: R-3
OWNER: **PHILLIP M. BALISLE & PATRICIA E. BALISLE**
2562 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0015
ZONING: R-3
OWNER: **LEDEZMA CONSUELO**
2560 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0016
ZONING: R-3
OWNER: **MICHELLE L. LOCEY**
2558 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0017
ZONING: R-3
OWNER: **ROSS K. JAGIM & GINA H. JAGIM**
2556 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0018
ZONING: R-3
OWNER: **ANDREW LAINE & SUZANNE LAWRENCE**
2554 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0019
ZONING: R-3
OWNER: **WILLIAM M. ALLEN**
2552 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0020
ZONING: R-3
OWNER: **KATHERINE DARBY DOBBINS**
2550 HOLLY MANOR DRIVE

TAX MAP: 0492-41-B
ZONING: R-3
OWNER: **HOLLY CREST COMMUNITY ASSOCIATION**

HOLLY MANOR DRIVE

WETLANDS

COUNTY FLOODPLAIN (NON-FEMA)

FLOOD PLAIN ESMT DB. 1489, PG. 93

10' DRAINAGE EASEMENT DB. 1489, PG. 93

EXISTING 225' VIRGINIA ELECTRIC AND POWER COMPANY EASEMENT DB. 539, PG. 136

APPROX. LOCATION OF UNDERGROUND OIL CONTAINMENT VAULT

VEPCO TWR. #206/177

UNDERGROUND DISTRIBUTION LINE PROJECT BY OTHERS (NOT PART OF THIS SPECIAL EXCEPTION)

NEW OVERHEAD TRANSMISSION LINES

NEW TRANSMISSION TOWER (120'± HT.)*

NEW PROPERTY/ ROW LINE

REPAVE AND RESTORE DRIVEWAY ENTRANCE AS NECESSARY

SEE SHEET 5 FOR DETAILS ON R/W DEDICATION, SIGHT DISTANCE CALCULATIONS, & ROADWAY IMPROVEMENTS

PLATFORM ELEVATED RELOCATED 12'x20' AT&T CONTROL BUILDING (10'± HT.) (BY OTHERS)

4' SIDEWALK

32' C/L TO R/W

POLE W42 (RELOCATED WEST 27'±)

20.3' C/L TO EP

VDOT STD CG-11 ENTRANCE

57.3' F/C TO F/C

EXISTING 225' VIRGINIA ELECTRIC

NEW TRANSMISSION TOWER (120'± HT.)* RTE. 1125, PG. 80

NEW 14' EQUIPMENT ACCESS ROAD (GRAVEL)

NEW PERIMETER SCREENING WALL

EXISTING 7' CHAIN-LINK FENCE TO REMAIN IN PLACE

LIMITS OF CONCRETE PANEL TIP-UP WALL

NEW CONCRETE PANEL TIP-UP PERIMETER SCREENING WALL

38' (TYP. OF 8)

NEW BACKBONE STRUCTURES (75'± HT.)* (TYP. OF 8)

60'

NEW 230 kV GIS ENCLOSURE (32'± HT.)

210'

NEW TRANSFORMERS (TYP. OF 4) (18.5'± HT.)

34.5kV CAP BANK

21.5'

45' (TYP. OF 4)

NEW 34.5 kV CAP BANKS (TYP. OF 4)

RELOCATED POLE W173, ADD NEW STREET LIGHT

55.7' F/C TO F/C

25.2' C/L TO EP

38.1' C/L TO R/W

4.6'

LOWER YARD

EXISTING GATE IN CHAIN LINK FENCE TO REMAIN

230kV CONSTRUCTION BUS (37'± HT.)

17.6'

19.7'

38.9'

NEW 230 kV CAP. BANKS (27.5'± HT.)

NEW 230kV EQUIPMENT ENCLOSURE (17'± HT.)

34.3'

NEW 230 kV CONTROL ENCLOSURE (14'± HT.) PORCH LIGHT SHALL BE AIMED DOWNWARD

24'

NEW TRANSMISSION TOWER (120'± HT.)

80'

57' (TYP. OF 4)

145'

NEW DISTRIBUTION GIS EQUIPMENT ENCLOSURE (18'± HT.)

UNDERGROUND DISTRIBUTION LINE PROJECT BY OTHERS (NOT PART OF THIS SPECIAL EX.)

NEW PERIMETER SCREENING WALL

RELOCATED POLE W135 W/ EX. STREET LIGHT

EXISTING TREES TO BE MANAGED / MAINTAINED

NEW RIGHT-OF-WAY LINE

R30'

EXISTING 7' CHAIN-LINK FENCE TO REMAIN IN PLACE

EXISTING 7' CHAIN-LINK FENCE TO REMAIN IN PLACE UNTIL DECOMMISSIONING OF LOWER YARD EQUIPMENT IS COMPLETE. AT THAT POINT, RELOCATE FENCE AS SHOWN ON SHEET 7B.

UNDERGROUND DISTRIBUTION LINE PROJECT BY OTHERS (NOT PART OF THIS SPECIAL EXCEPTION)

EXISTING CONTROL BLDG. TO BE DEMO'ED. LATE IN CONSTRUCTION SEQUENCE

TEMPORARY MOBILE NOISE BARRIERS, INSTALL AT AN ANGLE TO AVOID CRZ OF OFF-SITE TREES (15'± HT.)

TEMPORARY NOISE BLANKET TO BE PLACED ON EX. CHAIN-LINK FENCE

7' TALL CHAIN LINK FENCE W/ MAN-GATE

NEW 25' SLIDING GATE

NEW TRANSMISSION TOWER (120'± HT.)*

EX. 7' CHAIN-LINK FENCE TO REMAIN IN PLACE UNTIL DECOMMISSIONING OF LOWER YARD EQUIPMENT IS COMPLETE. AT THAT POINT, RELOCATE FENCE AS SHOWN ON SHEET 7B.

EXISTING 7' CHAIN LINK FENCE TO REMAIN OR BE REPLACED IN KIND

TEMPORARY MOBILE NOISE BARRIERS (15'± HT.)

230kV CONSTRUCTION BUS (37'± HT.)

NEW PERIMETER SCREENING WALL

CONNECT NEW FENCE TO EX. FENCE

7' TALL CHAIN LINK FENCE W/ MAN-GATE

UNDERGROUND DISTRIBUTION LINE PROJECT BY OTHERS (NOT PART OF THIS SPECIAL EXCEPTION)

NEW TRANSMISSION TOWER (120'± HT.)

R120'

Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT AMENDMENT & 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
05/15/17
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | MAY 2017 |

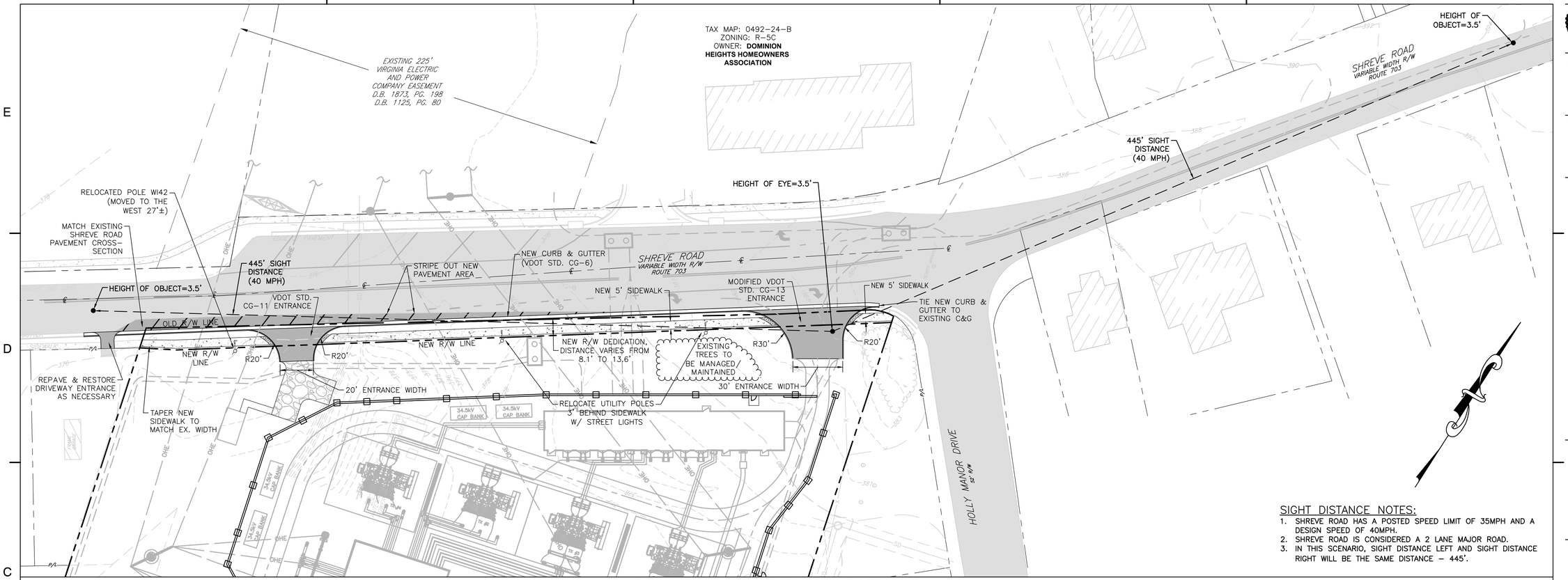
TITLE

# PROPOSED FACILITY PLAN

PROJECT NO. 50058411

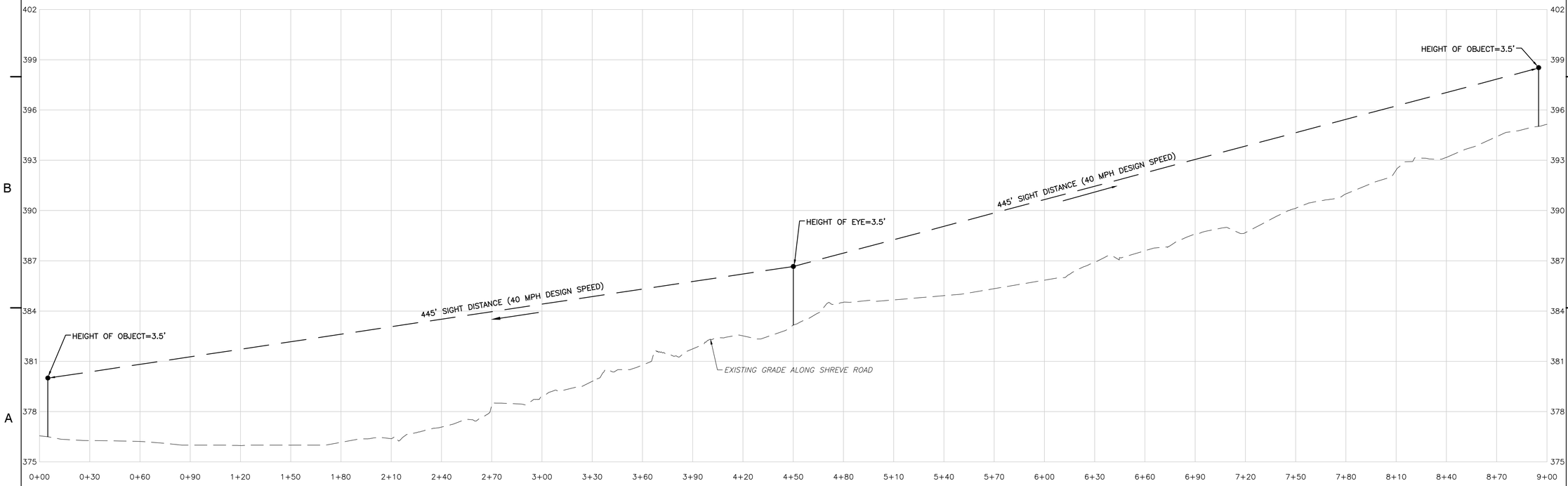
# 4-SEA

SHEET NO. 6 OF 32




SHREVE ROAD IMPROVEMENTS AND SIGHT DISTANCE PLAN

SCALE:
H: 1" = 30'




SUBSTATION ENTRANCE - SIGHT DISTANCE PROFILE

SCALES:
H: 1" = 30', V: 1" = 3'

SIGHT DISTANCE NOTES:

1. SHREVE ROAD HAS A POSTED SPEED LIMIT OF 35MPH AND A DESIGN SPEED OF 40MPH.
2. SHREVE ROAD IS CONSIDERED A 2 LANE MAJOR ROAD.
3. IN THIS SCENARIO, SIGHT DISTANCE LEFT AND SIGHT DISTANCE RIGHT WILL BE THE SAME DISTANCE – 445'.

Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE
0' 30' 60'
HORIZONTAL SCALE
0' 3' 6'
VERTICAL SCALE

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

TITLE

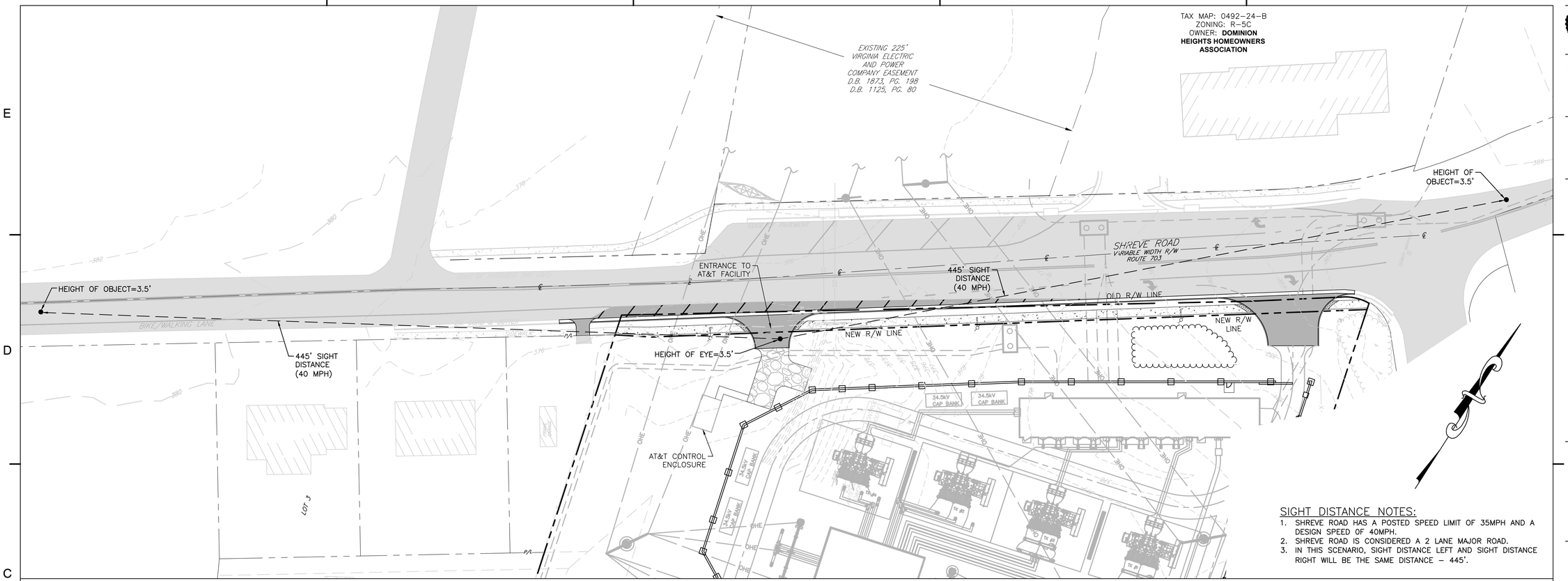
ROADWAY IMPROVEMENTS & SIGHT DISTANCE PLAN

PROJECT NO. 50058411

5

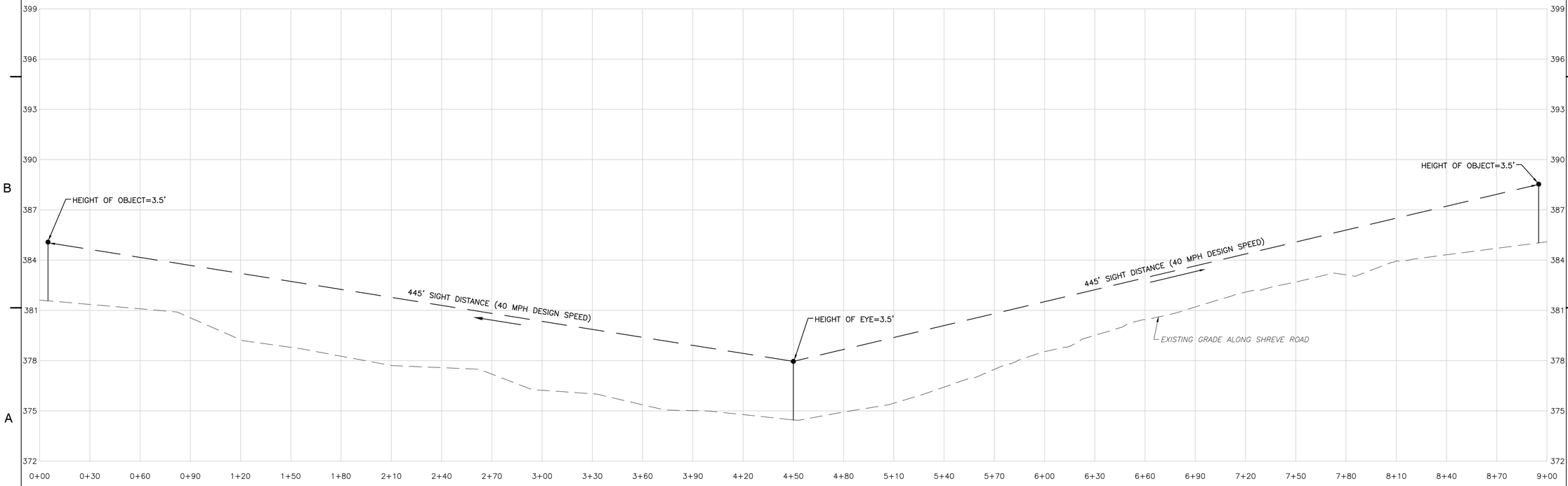
SHEET NO. 5 OF 21

*FOR INFORMATION ONLY*




AT&T ENTRANCE - SIGHT DISTANCE PLAN

SCALE:
H: 1" = 30'




AT&T ENTRANCE - SIGHT DISTANCE PROFILE

SCALES:
H: 1" = 30', V: 1" = 3'

**Dewberry**

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT
## 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE
0' 30' 60'
HORIZONTAL SCALE
0' 3' 6'
VERTICAL SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

TITLE

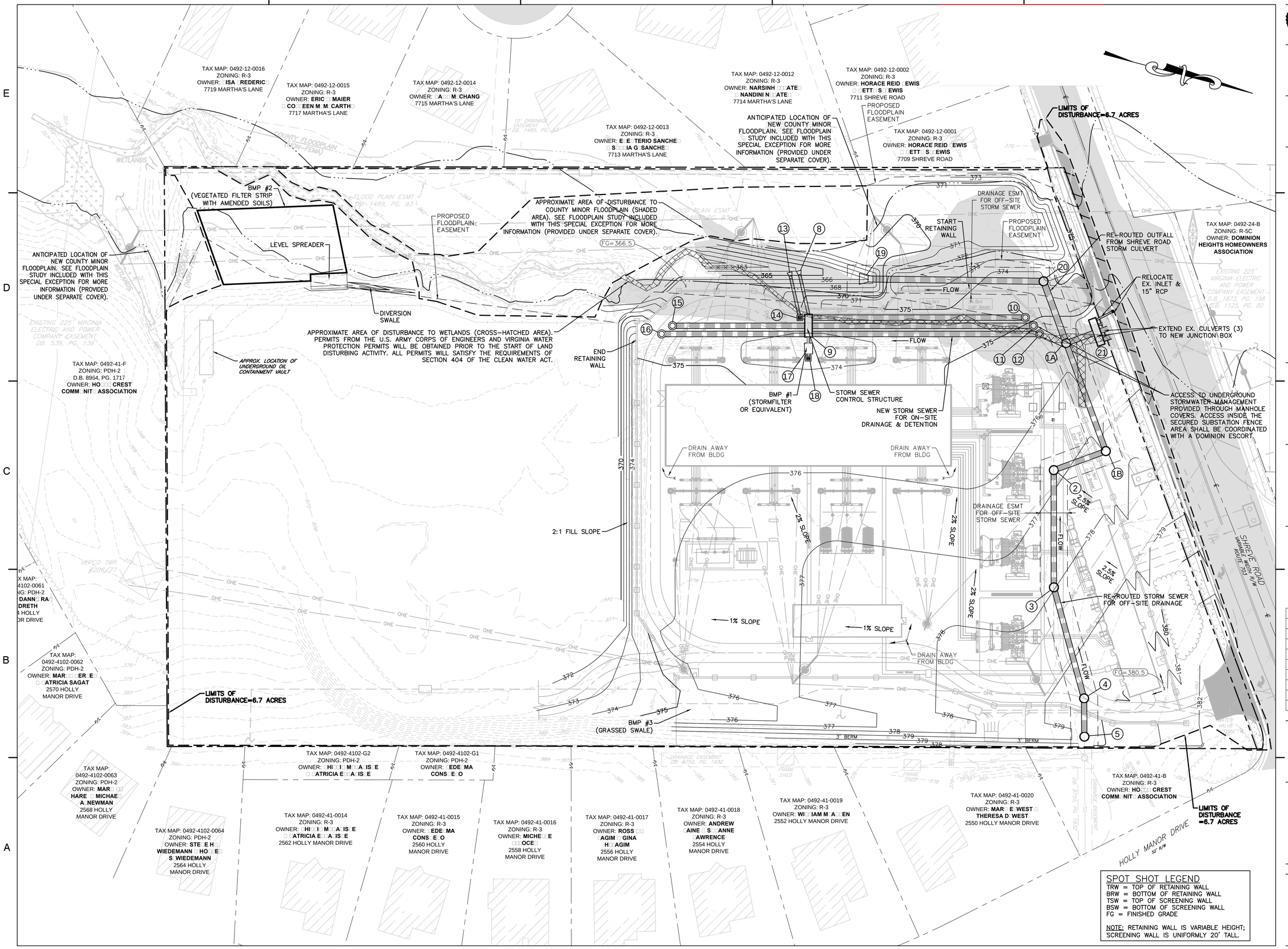
**AT&T ENTRANCE SIGHT DISTANCE PLAN**

PROJECT NO. 50058411

6

SHEET NO. 6 OF 21

*FOR INFORMATION ONLY*





Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion


# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT
## 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

TITLE

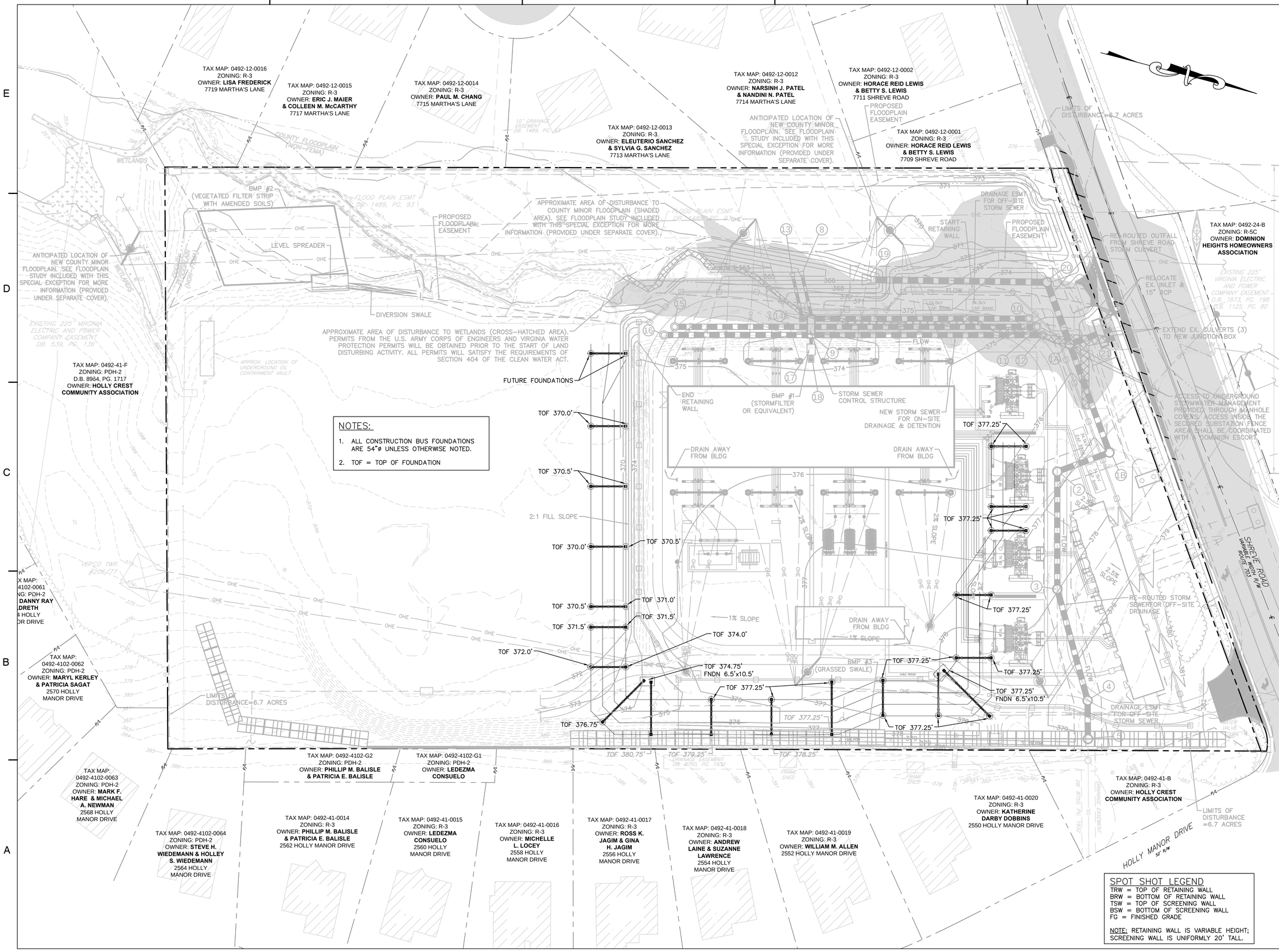
## UPPER YARD GRADING PLAN

PROJECT NO. 50058411

7A

SHEET NO. 7 OF 21

*FOR INFORMATION ONLY*




NOTES:

1. ALL CONSTRUCTION BUS FOUNDATIONS ARE 54"ø UNLESS OTHERWISE NOTED.
2. TOF = TOP OF FOUNDATION

SPOT SHOT LEGEND

TRW = TOP OF RETAINING WALL
BRW = BOTTOM OF RETAINING WALL
TSW = TOP OF SCREENING WALL
BSW = BOTTOM OF SCREENING WALL
FG = FINISHED GRADE

NOTE: RETAINING WALL IS VARIABLE HEIGHT; SCREENING WALL IS UNIFORMLY 20' TALL.

**Dewberry**


Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


**Dominion**

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT AMENDMENT & 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
05/15/17
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | MAY 2017 |

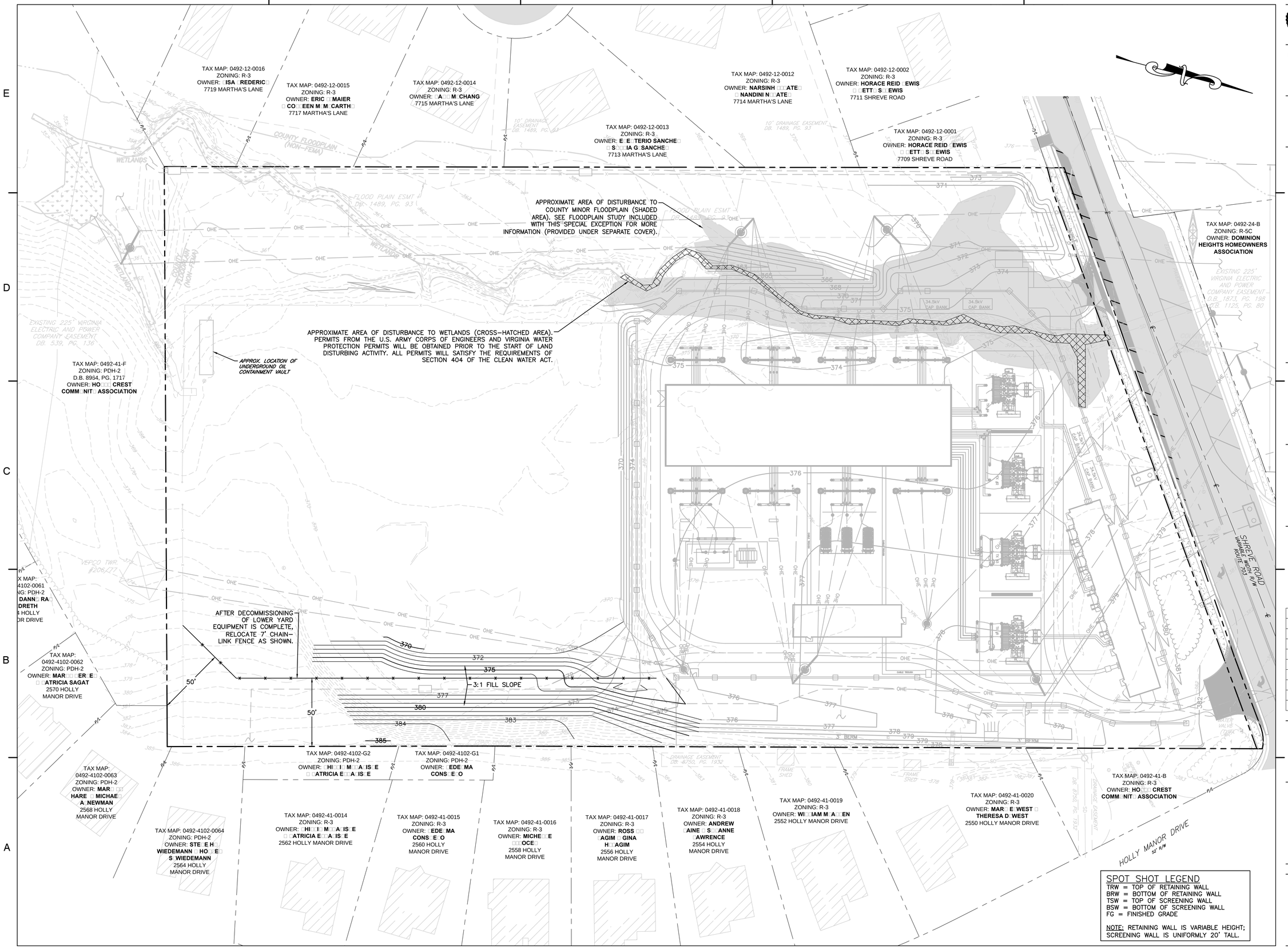
TITLE

## UPPER YARD GRADING PLAN

PROJECT NO. 50058411

# 7A-SEA

SHEET NO. 10 OF 32




**Dewberry**


Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT
## 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

TITLE

## LOWER YARD GRADING PLAN

PROJECT NO. 50058411

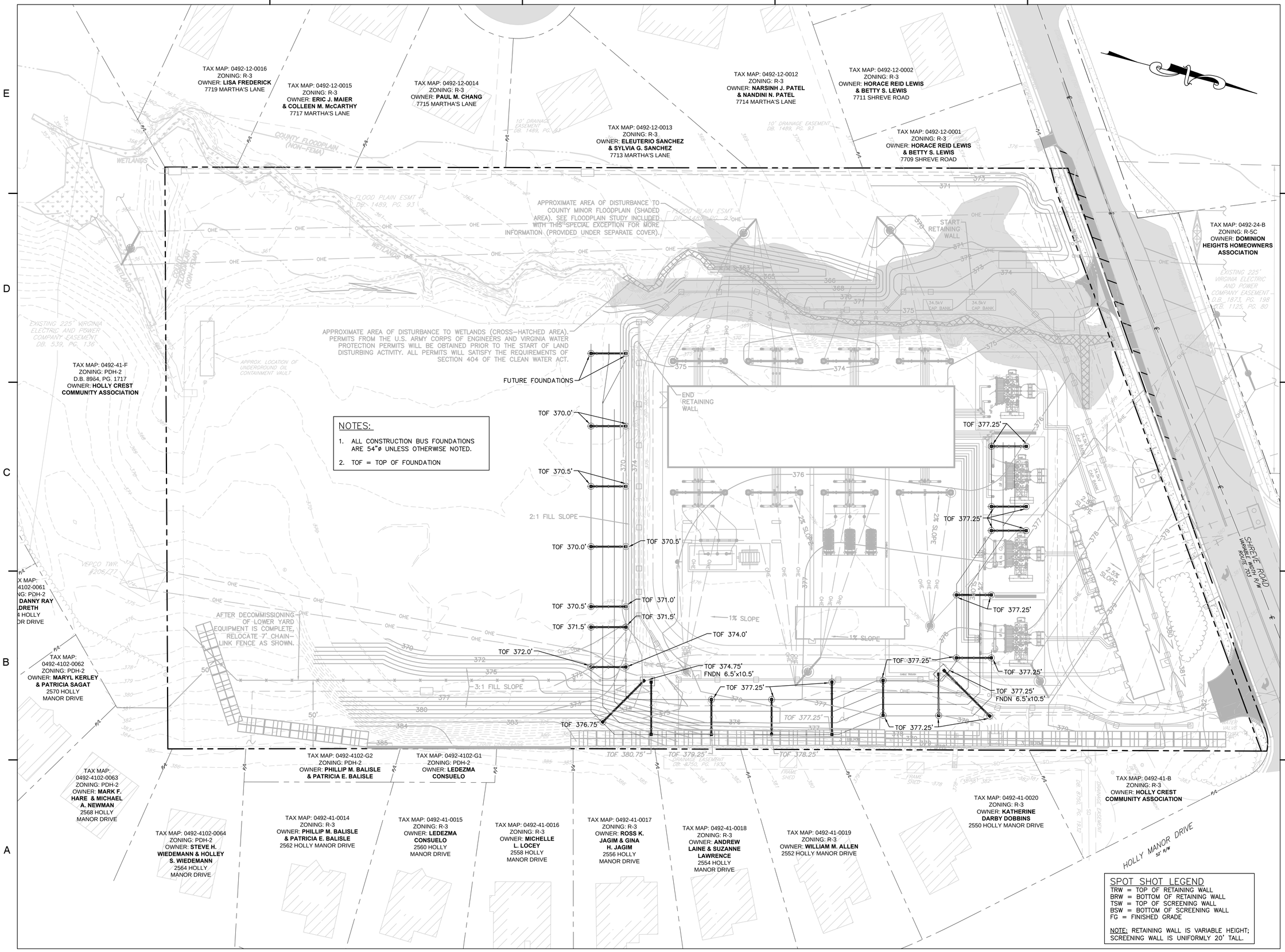
**7B**

SHEET NO. 8 OF 21

SPOT SHOT LEGEND
TRW = TOP OF RETAINING WALL
BRW = BOTTOM OF RETAINING WALL
TSW = TOP OF SCREENING WALL
BSW = BOTTOM OF SCREENING WALL
FG = FINISHED GRADE

NOTE: RETAINING WALL IS VARIABLE HEIGHT; SCREENING WALL IS UNIFORMLY 20' TALL.

*FOR INFORMATION ONLY*




## NOTES:

1. ALL CONSTRUCTION BUS FOUNDATIONS ARE 54"ø UNLESS OTHERWISE NOTED.
2. TOF = TOP OF FOUNDATION

## SPOT SHOT LEGEND

TRW = TOP OF RETAINING WALL
BRW = BOTTOM OF RETAINING WALL
TSW = TOP OF SCREENING WALL
BSW = BOTTOM OF SCREENING WALL
FG = FINISHED GRADE

NOTE: RETAINING WALL IS VARIABLE HEIGHT; SCREENING WALL IS UNIFORMLY 20' TALL.

**Dewberry**


Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT AMENDMENT & 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
05/15/17
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | MAY 2017 |

TITLE

## LOWER YARD GRADING PLAN

PROJECT NO. 50058411

# 7B-SEA

SHEET NO. 12 OF 32

Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, VA 23060-9278
804.290.7957
804.290.7928 fax
www.dewberry.com

**Dominion Virginia Power**
**Idylwood Substation**
**Fairfax County, Virginia**

**STORMWATER NARRATIVE**

Project Description

Dominion Virginia Power (Dominion) will be expanding an existing electrical substation in Fairfax County, Virginia on a 7.148 acre parcel of land located just southeast of Shreve Road and southwest of Holly Manor Drive.

Stormwater runoff from the site will enter a proposed stormwater quality BMP (Stormfilter) to help meet water quality requirements. Just downstream of the Stormfilter structure, an underground detention system is proposed to meet stormwater quantity control requirements. This system consists of 700 feet of 48"-diameter pipe laid out in 3 rows with 2-24"-diameter pipes at the outlet through 2 separate structures. In order to detain runoff for the various requirements for different storm events, a 8"-diameter orifice would be attached at the upstream end of the first 24"-diameter pipe and a 15"-diameter orifice would be attached at the upstream end of the second 24"-diameter pipe (at a higher invert elevation than the first 24"-diameter pipe).

The total drainage area to the stormwater BMP/underground detention system is 2.21 acres. The total volume of storage within the underground pipe system being provided to control runoff is 8,799 cubic feet.

Stormwater discharge from the underground detention system will outlet into a non-FEMA county floodplain. A formal floodplain study has been done to analyze the effect of the proposed development on the floodplain and will be submitted under a separate cover.

This project also involves the re-routing of offsite drainage around the majority of the proposed development. An existing set of culverts (under Shreve Road) will be extended and a section of storm sewer running through the site will be removed and replaced with a new series of pipes. The outlets of these new these pipes will also outlet into the same non-FEMA county floodplain referenced earlier.

Hydrology:

The SCS Method was used to determine flows for this project. For both pre- and post-developed conditions, the following "C" coefficients were used: 0.35 used for all non-road gravel areas, 0.90 for impervious areas (i.e. roads, foundations, etc.) and 0.20 for all lawn and vegetative areas. Computations are included in this report that show that show the breakdown of the different land cover characteristics needed to calculate the weighted runoff coefficients.

Also included in this report are computations for times of concentration for the pre- and post-developed drainage areas and computations that show the reduction in peak runoff for the various storms.

Water Quality

This project site meets state requirements for stormwater quality control through a manufactured BMP (Stormfilter) that will collect runoff from the site prior to entering the underground detention system, the designation of one area of the site as a Conserved Open Space BMP area that is to remain undisturbed throughout construction, and a Grass Swale. The Virginia Runoff Reduction Method Re-Development Worksheet (version 2.8) has been completed and included in this report. This worksheet shows that the site meets the requirement for phosphorus load reduction by exceeding the target reduction requirement by 0.1 lb/year.

Water Quantity

An underground stormwater detention system has been designed which will control the post-developed runoff rates to pre-developed conditions for the 2-year and 10-year storms. The detention system also over-detains the 1-year storm. The table below shows this reduction in the runoff rates.

| Pre-Developed | | | Post-Developed | | | Controlled Release | | |
|---|---|---|---|---|---|---|---|---|
| Q1 ($ft^3/s$) | Q2 ($ft^3/s$) | Q10 ($ft^3/s$) | Q1 ($ft^3/s$) | Q2 ($ft^3/s$) | Q10 ($ft^3/s$) | Q1 ($ft^3/s$) | Q2 ($ft^3/s$) | Q10 ($ft^3/s$) |
| 5.2 | 7.3 | 14.1 | 2.37 | 3.82 | 14.06 | 2.83 | 3.48 | 0.04 |

The post-developed 2 and 10-year peak discharges from the site have been reduced from the pre-developed values and will discharge to an existing waterway along the southwestern property boundary. In order to comply with requirements of Fairfax County Code Section 124-4-4(b)(3)c, the detention system also over-detains the 1-year storm to a flow rate as required by the code section since it has been shown (computations included in this report) that the outfall channel at the limit of analysis is able to convey the 2-year 24-hour storm without causing erosion.

The project also meets state requirements for flood protection (per Fairfax County Code Section 124-4-4(c)(1)) since it has been shown (computations included in this report) that the 10-year 24-hour storm can be contained in the outfall channel at the limit of analysis.

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) | Special Exceptions (9-011 2J & 2L) |
| Cluster Subdivision (9-615 1G & 1N) | Commercial Revitalization Districts (9-622 2A (12) & (14)) |
| Development Plans PRC District (16-302 3 & 4L) | PRC Plan (16-303 1E & 1O) |
| FDP P Districts (except PRC) (16-502 1F & 1Q) | Amendments (18-202 10F & 10I) |

[X] 1. Plat is at a minimum scale of 1"=50' (unless it is depicted on one sheet with a minimum scale of 1"=100').

[X] 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 7A,7B

[X] 3. Provide:

| Facility Name/ Type & No. (e.g. dry pond A, infil. trench, underground vault, etc.) | On-site area served (acres) | Off-site area served (acres) | Drainage area (acres) | Footprint area (sf) | Storage Volume (cf) | If pond, dam height (ft) |
|---|---|---|---|---|---|---|
| | | SEE TABLE BELOW | | | | |
| Totals | | | | | | |

[X] 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet 7A,7B
Pond inlet and oulet pipe systems are shown on Sheet 7A,7B

[X] 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet 7A,7B
Type of maintenance access road surface noted on the plat is GRAVEL (asphalt, geoblock, gravel, etc.).

[X] 6. Landscaping and tree preservation shown in and near the stormwater management facility is shown on Sheet 13

[X] 7. A 'stormwater management narrative' which contains a description of how detention and best management practices requirements will be met is provided on Sheet 8.

[X] 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 10.

[X] 9. A description of how the outfall requirements, including contributing drainage areas of the Public Facilities Manual will be satisfied is provided on Sheet 10.

[X] 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 2,3.

[X] 11. A submission waiver is requested for N/A.

[X] 12. Stormwater management is not required because N/A.

STORMWATER/BMP FACILITY SUMMARY

| FACILITY NAME/TYPE | ON-SITE AREA SERVED (AC.) | OFF-SITE AREA SERVED (AC.) | DRAINAGE AREA (AC.) | FOOTPRINT AREA (SF) | STORAGE VOLUME (CF) | IF POND, DAM HEIGHT (FT) |
|---|---|---|---|---|---|---|
| UNDERGROUND DETENTION (48"-DIAMETER PIPE) | 2.21 | N/A | 2.21 | N/A (UNDER-GROUND) | 8,799 | N/A |
| BMP #1-STORMFILTER | 2.21 | N/A | 2.21 | 48 | N/A | N/A |
| BMP #2-VEGETATED FILTER STRIP | 0.86 | 0.20 | 1.06 | 4,996 | N/A | N/A |
| BMP #3-GRASS SWALE | 0.19 | 0.77 | 0.96 | 0.19 | N/A | N/A |

**C-FACTOR COMPUTATIONS**

Pre-Developed

| | Land Cover | C | Area (Ac.) | C*Area |
|---|---|---|---|---|
| LINE OF ANALYSIS | Forest (Pervious) | 0.2 | 0.420 | 0.08 |
| | Turf (Pervious) | 0.2 | 0.420 | 0.08 |
| | Substation Pad (Impervious,Road) | 0.9 | 0.000 | 0.00 |
| | Substation Pad (Impervious,other) | 0.9 | 1.370 | 1.23 |
| | Substation Pad (Gravel) | 0.35 | 0.000 | 0.00 |
| | Other Impervious | 0.9 | 0.000 | 0.00 |
| | **Total** | | **3.45** | **2.21** | **1.40** |
| | **Weighted C** | | 0.63 | | |
| | **Total Area** | | 2.21 | | |

**C-FACTOR COMPUTATIONS**

Post-Developed

| | Land Cover | C | Area (Ac.) | C*Area |
|---|---|---|---|---|
| SWM BASIN | Turf (Pervious) | 0.2 | 0.200 | 0.04 |
| | Graded/Ditch (Pervious) | 0.2 | 0.000 | 0.00 |
| | Substation Pad (Impervious,Road) | 0.9 | 0.000 | 0.00 |
| | Substation Pad (Impervious,other) | 0.9 | 2.010 | 1.81 |
| | Substation Pad (Gravel) | 0.35 | 0.000 | 0.00 |
| | Other Impervious | 0.9 | 0.000 | 0.00 |
| | **Total** | | **3.45** | **2.21** | **1.85** |
| | **Weighted C** | | 0.84 | | |
| | **Total Area** | | 2.21 | | |

| FLOWS | Pre-Developed Q (Pre) | Post-Developed Q (BMP) | Post-Developed Q (Routed) | Controlled Release Q(Pre)-Q(Routed) | Water Elevation | Storage Volume (ac-ft) |
|---|---|---|---|---|---|---|
| Q1 ($ft^3/s$) | 5.2 | 7.6 | 2.37 | 2.83 | 370.01 | 0.120 |
| Q2 ($ft^3/s$) | 7.30 | 9.90 | 3.82 | 3.48 | 370.57 | 0.154 |
| Q10 ($ft^3/s$) | 14.10 | 17.20 | 14.06 | 0.04 | 373.56 | 0.202 |

VRRM SITE DATA SHEET:

**Virginia Runoff Reduction Method ReDevelopment Worksheet - v2.8 - June 2014**
**To be used w/ DRAFT 2013 BMP Standards and Specifications**
**Site Data**

| | |
|---|---|
| **Project Name: Idylwood Substation** | |
| **Date: 9/23/14** | |

data input cells
calculation cells
constant values

**Post-ReDevelopment Project & Land Cover Information** — **Total Disturbed Acreage** 6.50

**Constants**

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

**Pre-ReDevelopment Land Cover (acres)**

| | A soils | B Soils | C Soils | D Soils | Totals |
|---|---|---|---|---|---|
| Forest/Open Space (acres) – undisturbed, protected forest/open space or reforested land | 0.00 | 0.00 | 2.34 | 0.00 | 2.34 |
| Managed Turf (acres) – disturbed, graded for yards or other turf to be mowed/managed | 0.00 | 0.00 | 0.45 | 0.00 | 0.45 |
| Impervious Cover (acres) | 0.00 | 0.00 | 4.36 | 0.00 | 4.36 |
| | | | | **Total** | 7.15 |

**Post-ReDevelopment Land Cover (acres)**

| | A soils | B Soils | C Soils | D Soils | Totals |
|---|---|---|---|---|---|
| Forest/Open Space (acres) – undisturbed, protected forest/open space or reforested land | 0.00 | 0.00 | 0.98 | 0.00 | 0.98 |
| Managed Turf (acres) – disturbed, graded for yards or other turf to be mowed/managed | 0.00 | 0.00 | 1.42 | 0.00 | 1.42 |
| Impervious Cover (acres) | 0.00 | 0.00 | 4.75 | 0.00 | 4.75 |
| | | | | **Total** | 7.15 |
| **Area Check** | Okay | Okay | Okay | Okay | |

**Rv Coefficients**

| | 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 Pre-ReDevelopment** | **Listed** | **Adjusted[1]** |
|---|---|---|
| Forest/Open Space Cover (acres) | 2.34 | 1.95 |
| Composite Rv(forest) | 0.04 | 0.04 |
| % Forest | 33% | 29% |
| Managed Turf Cover (acres) | 0.45 | 0.45 |
| Composite Rv(turf) | 0.22 | 0.22 |
| % Managed Turf | 6% | 7% |
| Impervious Cover (acres) | 4.36 | 4.36 |
| Rv(impervious) | 0.95 | 0.95 |
| % Impervious | 61% | 64% |
| **Total Site Area (acres)** | 7.15 | 6.76 |
| **Site Rv** | 0.61 | 0.64 |
| Pre-Development Treatment Volume (acre-ft) | 0.3612 | 0.3599 |
| Pre-Development Treatment Volume (cubic feet) | 15,735 | 15,678 |
| Pre-Development Load (TP) (lb/yr) | 9.89 | 9.85 |

| **Land Cover Summary Post-ReDevelopment** | |
|---|---|
| Forest/Open Space Cover | 0.98 |
| Composite Rv(forest) | 0.04 |
| % Forest | 14% |
| Managed Turf Cover (acres) | 1.42 |
| Composite Rv(turf) | 0.22 |
| % Managed Turf | 21% |
| ReDev. Impervious Cover (acres) | 4.36 |
| Rv(impervious) | 0.95 |
| % Impervious | 64% |
| **Total ReDev. Site Area (acres)** | 6.76 |
| **ReDev. Site Rv** | 0.66 |
| Post-ReDevelopment Treatment Volume (acre-ft) | 0.3745 |
| Post-ReDevelopment Treatment Volume (cubic feet) | 16,312 |
| Post-ReDevelopment Load (TP) (lb/yr) | 10.25 |

| **Land Cover Summary Post-ReDevelopment New Impervious** | |
|---|---|
| New Impervious Cover (acres) | 0.39 |
| Rv(impervious) | 0.95 |
| % Impervious | 100% |
| **Total New Dev. Site Area (acres)** | 0.39 |
| **New Dev. Site Rv** | 0.95 |
| Post-Development Treatment Volume (acre-ft) | 0.0309 |
| Post-Development Treatment Volume (cubic feet) | 1,345 |
| Post-Development Load (TP) (lb/yr) | 0.85 |

[1]Adjusted **Land Cover Summary** reflects the pre redevelopment land cover minus the pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover. The adjusted total acreage is consistent with the Post Redevelopment acreage (minus the acreage of new impervious cover). The load reduction requirement for the new impervious cover to meet the new development load limit is computed in **Column I**.

| | |
|---|---|
| Maximum % Reduction Required Below Pre-ReDevelopment Load | 20% |
| **TP Load Reduction Required for Redeveloped Area (lb/yr)** | 2.37 |
| **TP Load Reduction Required for New Impervious Area (lb/yr)** | 0.69 |
| **Total Load Reduction Required (lb/yr)** | 3.05 |
| Pre-Development Load (TN) (lb/yr) | 70.72 |
| Post-Development Load (TN) (lb/yr) | 79.36 |

VRRM WATER QUALITY COMPLIANCE SHEET:

**Site Results**

| | D.A. A | D.A. B | D.A. C | D.A. D | D.A. E | AREA CHECK |
|---|---|---|---|---|---|---|
| IMPERVIOUS COVER | 2.01 | 0.88 | 0.06 | 0.00 | 0.00 | OK. |
| IMPERVIOUS COVER TREATED | 2.01 | 0.88 | 0.06 | 0.00 | 0.00 | OK. |
| TURF AREA | 0.20 | 0.21 | 0.90 | 0.00 | 0.00 | OK. |
| TURF AREA TREATED | 0.20 | 0.21 | 0.90 | 0.00 | 0.00 | OK. |
| AREA CHECK | OK. | OK. | OK. | OK. | OK. | |

**Phosphorous**

| | |
|---|---|
| TOTAL PHOSPHOROUS LOAD REDUCTION REQUIRED (LB/YEAR) | 3.05 |
| RUNOFF REDUCTION (cf) | 1694 |
| PHOSPHOROUS LOAD REDUCTION ACHIEVED (LB/YR) | 3.14 |
| ADJUSTED POST-DEVELOPMENT PHOSPHOROUS LOAD (TP) (lb/yr) | 7.95 |
| REMAINING PHOSPHOROUS LOAD REDUCTION (LB/YR) NEEDED | CONGRATULATIONS!! YOU EXCEEDED THE TARGET REDUCTION BY 0.1 LB/YEAR!! |

**Nitrogen (for information purposes)**

| | |
|---|---|
| RUNOFF REDUCTION (cf) | 1694 |
| NITROGEN LOAD REDUCTION ACHIEVED (LB/YR) | 8.35 |
| ADJUSTED POST-DEVELOPMENT NITROGEN LOAD (TP) (lb/yr) | 71.01 |

SUBJECT TO FINAL ENGINEERING

*FOR INFORMATION ONLY*

Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
2232 PLAN
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

DRAWN BY TT
APPROVED BY KWW
CHECKED BY KWW
DATE APRIL 2015

TITLE

STORMWATER MANAGEMENT INFORMATION

PROJECT NO. 50058411

8

SHEET NO. 9 OF 21

SHEET 13 OF 32

Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, VA 23060-9278
804.290.7957
804.290.7928 fax
www.dewberry.com

**Dominion Virginia Power**
**Idylwood Substation**
**Fairfax County, Virginia**

**STORMWATER NARRATIVE**

Project Description

Dominion Virginia Power (Dominion) will be expanding an existing electrical substation in Fairfax County, Virginia on a 7.148 acre parcel of land located just southeast of Shreve Road and southwest of Holly Manor Drive.

Stormwater runoff from the site will enter a proposed stormwater quality BMP (Stormfilter) to help meet water quality requirements. Just downstream of the Stormfilter structure, an underground detention system is proposed to meet stormwater quantity control requirements. This system consists of 700 feet of 48"-diameter pipe laid out in 3 rows with 2-24"-diameter pipes at the outlet through 2 separate structures. In order to detain runoff for the various requirements for different storm events, a 8"-diameter orifice would be attached at the upstream end of the first 24"-diameter pipe and a 15"-diameter orifice would be attached at the upstream end of the second 24"-diameter pipe (at a higher invert elevation than the first 24"-diameter pipe).

The total drainage area to the stormwater BMP/underground detention system is 2.21 acres. The total volume of storage within the underground pipe system being provided to control runoff is 8,799 cubic feet.

Stormwater discharge from the underground detention system will outlet into a non-FEMA county floodplain. A formal floodplain study has been done to analyze the effect of the proposed development on the floodplain and will be submitted under a separate cover.

This project also involves the re-routing of offsite drainage around the majority of the proposed development. An existing set of culverts (under Shreve Road) will be extended and a section of storm sewer running through the site will be removed and replaced with a new series of pipes. The outlets of these new these pipes will also outlet into the same non-FEMA county floodplain referenced earlier.

Hydrology:

The SCS Method was used to determine flows for this project. For both pre- and post-developed conditions, the following "C" coefficients were used: 0.35 used for all non-road gravel areas, 0.90 for impervious areas (i.e. roads, foundations, etc.) and 0.20 for all lawn and vegetative areas. Computations are included in this report that show that show the breakdown of the different land cover characteristics needed to calculate the weighted runoff coefficients.

Also included in this report are computations for times of concentration for the pre- and post-developed drainage areas and computations that show the reduction in peak runoff for the various storms.

Water Quality

This project site meets state requirements for stormwater quality control through a manufactured BMP (Stormfilter) that will collect runoff from the site prior to entering the underground detention system, the designation of one area of the site as a Conserved Open Space BMP area that is to remain undisturbed throughout construction, and a Grass Swale. The Virginia Runoff Reduction Method Re-Development Worksheet (version 2.8) has been completed and included in this report. This worksheet shows that the site meets the requirement for phosphorus load reduction by exceeding the target reduction requirement by 0.1 lb/year.

Water Quantity

An underground stormwater detention system has been designed which will control the post-developed runoff rates to pre-developed conditions for the 2-year and 10-year storms. The detention system also over-detains the 1-year storm. The table below shows this reduction in the runoff rates.

| Pre-Developed | | | Post-Developed | | | Controlled Release | | |
|---|---|---|---|---|---|---|---|---|
| Q1 ($ft^3/s$) | Q2 ($ft^3/s$) | Q10 ($ft^3/s$) | Q1 ($ft^3/s$) | Q2 ($ft^3/s$) | Q10 ($ft^3/s$) | Q1 ($ft^3/s$) | Q2 ($ft^3/s$) | Q10 ($ft^3/s$) |
| 5.2 | 7.3 | 14.1 | 2.37 | 3.82 | 14.06 | 2.83 | 3.48 | 0.04 |

The post-developed 2 and 10-year peak discharges from the site have been reduced from the pre-developed values and will discharge to an existing waterway along the southwestern property boundary. In order to comply with requirements of Fairfax County Code Section 124-4-4(b)(3)c, the detention system also over-detains the 1-year storm to a flow rate as required by the code section since it has been shown (computations included in this report) that the outfall channel at the limit of analysis is able to convey the 2-year 24-hour storm without causing erosion.

The project also meets state requirements for flood protection (per Fairfax County Code Section 124-4-4(c)(1)) since it has been shown (computations included in this report) that the 10-year 24-hour storm can be contained in the outfall channel at the limit of analysis.

**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 Sections:

Special Permits (Sect. 8-011 2J & 2L) — Special Exceptions (Sect. 9-011 2J & 2L)
Cluster Subdivision (Sect. 9-615 1G & 1N) — Commercial Revitalization Districts (Sect. 9-622 2A (12) & (14))
Development Plans PRC District (Sect. 16-302 3 & 4L) — PRC Plan (Sect. 16-303 1E & 1 O)
FDP P Districts (Sect. 16-502 1A (6) & (17)) — Amendments (Sect. 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(s) 7A,7B . If infiltration is proposed the soils should be tested for suitability prior to submission of the development plan and results of the infiltration test provided as part of the description of the facility.
☒ 3. Provide:

| Facility Name/ Type & No. (E.g. dry pond, infiltration trench, underground vault, etc…) | On-site area served (acres) | Off-site area served (acres) | Drainage area (acres) | Footprint area (sf) | Storage volume (cf) | If pond, dam height (ft.) |
|---|---|---|---|---|---|---|
| | | SEE TABLE | BELOW | | | |
| | | | | | | |
| | | | | | | |
| **Totals:** | | | | | | |

☒ 4. Onsite drainage channels, outfalls and pipe systems are shown on Sheet(s) 7A,7B . Pond inlet and outlet pipe systems are shown on Sheet(s) 7A,7B .
☒ 5. Maintenance access (road) to stormwater management facility(ies) are shown on Sheet(s) 7A,7B . Type of maintenance access road surface noted on the plat is GRAVEL (asphalt, geoblock, gravel, etc.)
☒ 6. Landscaping and tree preservation in and near the stormwater management facility is shown on Sheet(s) 13 .
☒ 7. Stormwater management and BMP narratives including Virginia Runoff Reduction Spreadsheet and descriptions of how detention and best management practices requirements will be met are provided on Sheet(s) 8 .
☒ 8. A description of 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(s) 10 . If the outfall is proposed to be improved off-site it should be specifically noted.
☒ 9. A detailed description and analysis of how the channel protection requirements and flood protection requirements of each numbered outfall will be satisfied per Stormwater Management Ordinance and Public Facilities Manual are provided on Sheet(s) 10 .
☒ 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 Sheet(s) 2,3 .
☒ 11. A submission waiver is required for N/A .
☒ 12. Stormwater management is not required because N/A .

Revised: 8/4/2015

NOTE: THIS UPDATED CHECKLIST IS THE ONLY CHANGED INFORMATION ON THIS SHEET FOR SEA SUBMISSION.

STORMWATER/BMP FACILITY SUMMARY

| FACILITY NAME/TYPE | ON-SITE AREA SERVED (AC.) | OFF-SITE AREA SERVED (AC.) | DRAINAGE AREA (AC.) | FOOTPRINT AREA (SF) | STORAGE VOLUME (CF) | IF POND, DAM HEIGHT (FT) |
|---|---|---|---|---|---|---|
| UNDERGROUND DETENTION (48"-DIAMETER PIPE) | 2.21 | N/A | 2.21 | N/A (UNDER-GROUND) | 8,799 | N/A |
| BMP #1-STORMFILTER | 2.21 | N/A | 2.21 | 48 | N/A | N/A |
| BMP #2-VEGETATED FILTER STRIP | 0.86 | 0.20 | 1.06 | 4,996 | N/A | N/A |
| BMP #3-GRASS SWALE | 0.19 | 0.77 | 0.96 | 0.19 | N/A | N/A |

**C-FACTOR COMPUTATIONS** — Pre-Developed (LINE OF ANALYSIS)

| Land Cover | C | Area (Ac.) | C*Area |
|---|---|---|---|
| Forest (Pervious) | 0.2 | 0.420 | 0.08 |
| Turf (Pervious) | 0.2 | 0.420 | 0.08 |
| Substation Pad (Impervious,Road) | 0.9 | 0.000 | 0.00 |
| Substation Pad (Impervious,other) | 0.9 | 1.370 | 1.23 |
| Substation Pad (Gravel) | 0.35 | 0.000 | 0.00 |
| Other Impervious | 0.9 | 0.000 | 0.00 |
| **Total** | | **3.45** | **2.21** | **1.40** |
| **Weighted C** | 0.63 | | |
| **Total Area** | | 2.21 | | |

**C-FACTOR COMPUTATIONS** — Post-Developed (SWM BASIN)

| Land Cover | C | Area (Ac.) | C*Area |
|---|---|---|---|
| Turf (Pervious) | 0.2 | 0.200 | 0.04 |
| Graded/Ditch (Pervious) | 0.2 | 0.000 | 0.00 |
| Substation Pad (Impervious,Road) | 0.9 | 0.000 | 0.00 |
| Substation Pad (Impervious,other) | 0.9 | 2.010 | 1.81 |
| Substation Pad (Gravel) | 0.35 | 0.000 | 0.00 |
| Other Impervious | 0.9 | 0.000 | 0.00 |
| **Total** | | **3.45** | **2.21** | **1.85** |
| **Weighted C** | 0.84 | | |
| **Total Area** | | 2.21 | | |

| FLOWS | Pre-Developed Q (Pre) | Post-Developed Q (BMP) | Post-Developed Q (Routed) | Controlled Release Q(Pre)-Q(Routed) | Water Elevation | Storage Volume (ac-ft) |
|---|---|---|---|---|---|---|
| Q1 ($ft^3/s$) | 5.2 | 7.6 | 2.37 | 2.83 | 370.01 | 0.120 |
| Q2 ($ft^3/s$) | 7.30 | 9.90 | 3.82 | 3.48 | 370.57 | 0.154 |
| Q10 ($ft^3/s$) | 14.10 | 17.20 | 14.06 | 0.04 | 373.56 | 0.202 |

VRRM SITE DATA SHEET:

**Virginia Runoff Reduction Method ReDevelopment Worksheet - v2.8 - June 2014**
**To be used w/ DRAFT 2013 BMP Standards and Specifications**
**Site Data**

**Project Name: Idylwood Substation**
**Date: 9/23/14**

data input cells
calculation cells
constant values

**Post-ReDevelopment Project & Land Cover Information** — **Total Disturbed Acreage** 6.50

**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

**Pre-ReDevelopment Land Cover (acres)**

| | A soils | B Soils | C Soils | D Soils | Totals |
|---|---|---|---|---|---|
| Forest/Open Space (acres) – undisturbed, protected forest/open space or reforested land | 0.00 | 0.00 | 2.34 | 0.00 | 2.34 |
| Managed Turf (acres) – disturbed, graded for yards or other turf to be mowed/managed | 0.00 | 0.00 | 0.45 | 0.00 | 0.45 |
| Impervious Cover (acres) | 0.00 | 0.00 | 4.36 | 0.00 | 4.36 |
| | | | | **Total** | 7.15 |

**Post-ReDevelopment Land Cover (acres)**

| | A soils | B Soils | C Soils | D Soils | Totals |
|---|---|---|---|---|---|
| Forest/Open Space (acres) – undisturbed, protected forest/open space or reforested land | 0.00 | 0.00 | 0.98 | 0.00 | 0.98 |
| Managed Turf (acres) – disturbed, graded for yards or other turf to be mowed/managed | 0.00 | 0.00 | 1.42 | 0.00 | 1.42 |
| Impervious Cover (acres) | 0.00 | 0.00 | 4.75 | 0.00 | 4.75 |
| | | | | **Total** | 7.15 |
| **Area Check** | Okay | Okay | Okay | Okay | |

**Rv Coefficients**

| | 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 Pre-ReDevelopment** | **Listed** | **Adjusted[1]** |
|---|---|---|
| Forest/Open Space Cover (acres) | 2.34 | 1.95 |
| Composite Rv(forest) | 0.04 | 0.04 |
| % Forest | 33% | 29% |
| Managed Turf Cover (acres) | 0.45 | 0.45 |
| Composite Rv(turf) | 0.22 | 0.22 |
| % Managed Turf | 6% | 7% |
| Impervious Cover (acres) | 4.36 | 4.36 |
| Rv(impervious) | 0.95 | 0.95 |
| % Impervious | 61% | 64% |
| **Total Site Area (acres)** | 7.15 | 6.76 |
| **Site Rv** | 0.61 | 0.64 |
| Pre-Development Treatment Volume (acre-ft) | 0.3612 | 0.3599 |
| Pre-Development Treatment Volume (cubic feet) | 15,735 | 15,678 |
| Pre-Development Load (TP) (lb/yr) | 9.89 | 9.85 |

| **Land Cover Summary Post-ReDevelopment** | |
|---|---|
| Forest/Open Space Cover | 0.98 |
| Composite Rv(forest) | 0.04 |
| % Forest | 14% |
| Managed Turf Cover (acres) | 1.42 |
| Composite Rv(turf) | 0.22 |
| % Managed Turf | 21% |
| ReDev. Impervious Cover (acres) | 4.36 |
| Rv(impervious) | 0.95 |
| % Impervious | 64% |
| **Total ReDev. Site Area (acres)** | 6.76 |
| **ReDev. Site Rv** | 0.66 |
| Post-ReDevelopment Treatment Volume (acre-ft) | 0.3745 |
| Post-ReDevelopment Treatment Volume (cubic feet) | 16,312 |
| Post-ReDevelopment Load (TP) (lb/yr) | 10.25 |

| **Land Cover Summary Post-ReDevelopment New Impervious** | |
|---|---|
| New Impervious Cover (acres) | 0.39 |
| Rv(impervious) | 0.95 |
| % Impervious | 100% |
| **Total New Dev. Site Area (acres)** | 0.39 |
| **New Dev. Site Rv** | 0.95 |
| Post-Development Treatment Volume (acre-ft) | 0.0309 |
| Post-Development Treatment Volume (cubic feet) | 1,345 |
| Post-Development Load (TP) (lb/yr) | 0.85 |

[1] *Adjusted* **Land Cover Summary** reflects the pre redevelopment land cover minus the pervious land cover (forest/open space or managed turf) acreage proposed for new impervious cover. The adjusted total acreage is consistent with the Post Redevelopment acreage (minus the acreage of new impervious cover). The load reduction requirement for the new impervious cover to meet the new development load limit is computed in **Column I**.

Maximum % Reduction Required Below Pre-ReDevelopment Load: 20%

**TP Load Reduction Required for Redeveloped Area (lb/yr)**: 2.37
**TP Load Reduction Required for New Impervious Area (lb/yr)**: 0.69
**Total Load Reduction Required (lb/yr)**: 3.05

Pre-Development Load (TN) (lb/yr): 70.72
Post-Development Load (TN) (lb/yr): 79.36

VRRM WATER QUALITY COMPLIANCE SHEET:

**Site Results**

| | D.A. A | D.A. B | D.A. C | D.A. D | D.A. E | AREA CHECK |
|---|---|---|---|---|---|---|
| IMPERVIOUS COVER | 2.01 | 0.88 | 0.06 | 0.00 | 0.00 | OK. |
| IMPERVIOUS COVER TREATED | 2.01 | 0.88 | 0.06 | 0.00 | 0.00 | OK. |
| TURF AREA | 0.20 | 0.21 | 0.90 | 0.00 | 0.00 | OK. |
| TURF AREA TREATED | 0.20 | 0.21 | 0.90 | 0.00 | 0.00 | OK. |
| AREA CHECK | OK. | OK. | OK. | OK. | OK. | |

**Phosphorous**

| | |
|---|---|
| TOTAL PHOSPHOROUS LOAD REDUCTION REQUIRED (LB/YEAR) | 3.05 |
| RUNOFF REDUCTION (cf) | 1694 |
| PHOSPHOROUS LOAD REDUCTION ACHIEVED (LB/YR) | 3.14 |
| ADJUSTED POST-DEVELOPMENT PHOSPHOROUS LOAD (TP) (lb/yr) | 7.95 |
| REMAINING PHOSPHOROUS LOAD REDUCTION (LB/YR) NEEDED | CONGRATULATIONS!! YOU EXCEEDED THE TARGET REDUCTION BY 0.1 LB/YEAR!! |

**Nitrogen (for information purposes)**

| | |
|---|---|
| RUNOFF REDUCTION (cf) | 1694 |
| NITROGEN LOAD REDUCTION ACHIEVED (LB/YR) | 8.35 |
| ADJUSTED POST-DEVELOPMENT NITROGEN LOAD (TP) (lb/yr) | 71.01 |

SUBJECT TO FINAL ENGINEERING

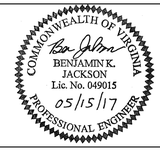
Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
AMENDMENT & 2232 PLAN
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL




KEY PLAN

SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

DRAWN BY: BKJ
APPROVED BY: KWW
CHECKED BY: KWW
DATE: MAY 2017

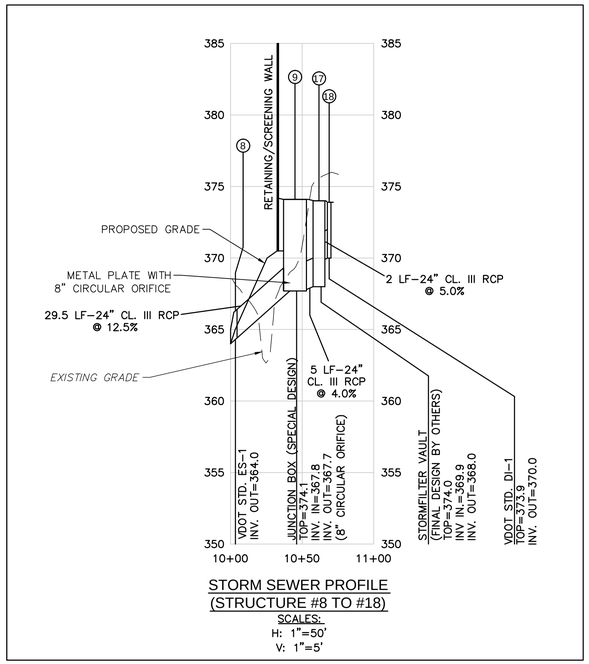
TITLE

STORMWATER MANAGEMENT INFORMATION

PROJECT NO. 50058411

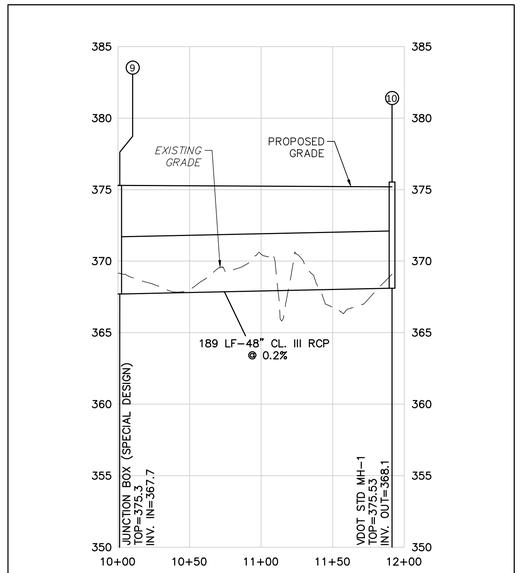
8-SEA

SHEET NO. 14 OF 32



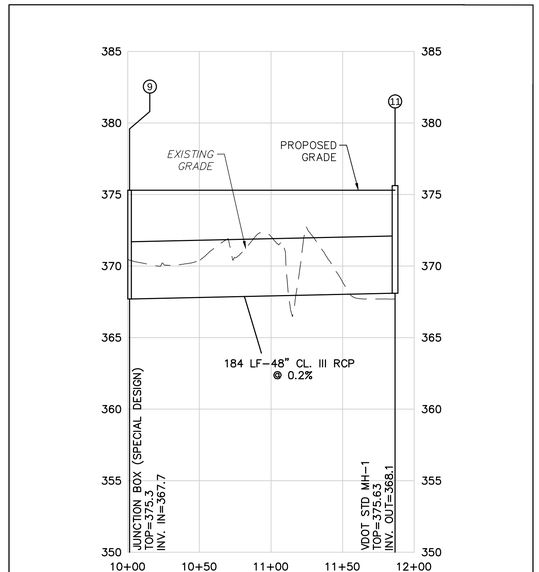

STORM SEWER PROFILE
(STRUCTURE #8 TO #18)

SCALES:
H: 1"=50'
V: 1"=5'



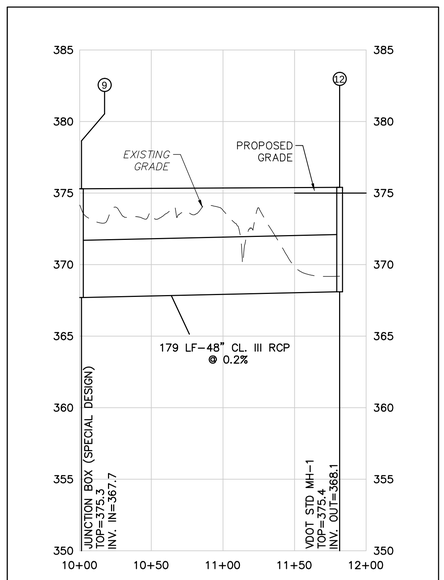

STORM SEWER PROFILE
(STRUCTURE #9 TO #10)

SCALES:
H: 1"=50'
V: 1"=5'



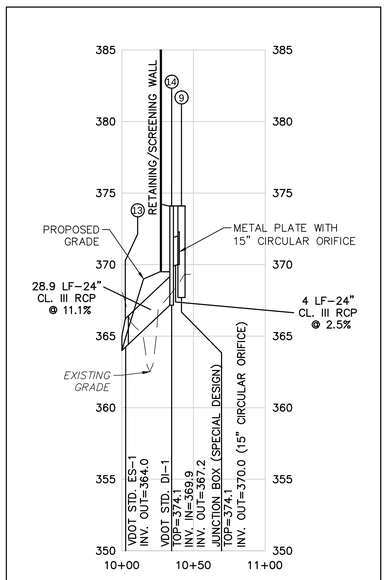

STORM SEWER PROFILE
(STRUCTURE #9 TO #11)

SCALES:
H: 1"=50'
V: 1"=5'



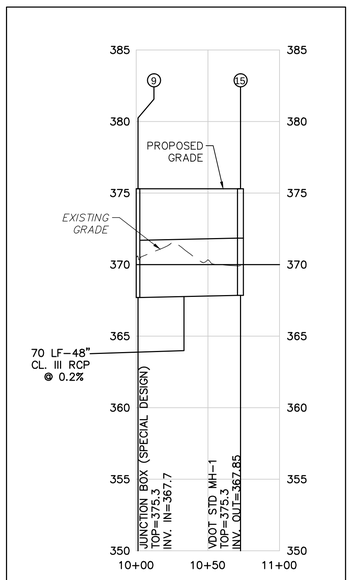

STORM SEWER PROFILE
(STRUCTURE #9 TO #12)

SCALES:
H: 1"=50'
V: 1"=5'



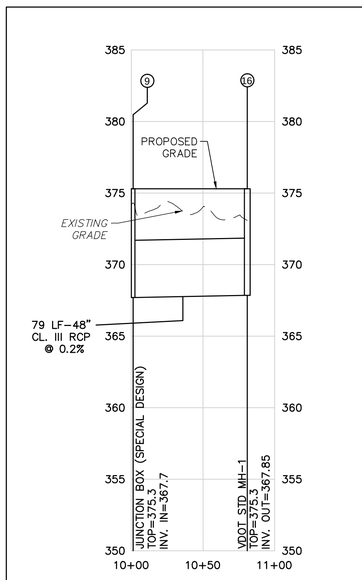

STORM SEWER PROFILE
(STRUCTURE #13 TO #9)

SCALES:
H: 1"=50'
V: 1"=5'




STORM SEWER PROFILE
(STRUCTURE #9 TO #15)

SCALES:
H: 1"=50'
V: 1"=5'




STORM SEWER PROFILE
(STRUCTURE #9 TO #16)

SCALES:
H: 1"=50'
V: 1"=5'

SUBJECT TO FINAL ENGINEERING

*FOR INFORMATION ONLY*


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE
0' 25' 50' 100'
HORIZONTAL
0' 2.5' 5' 10'
VERTICAL

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | FEB 27, 2015 |

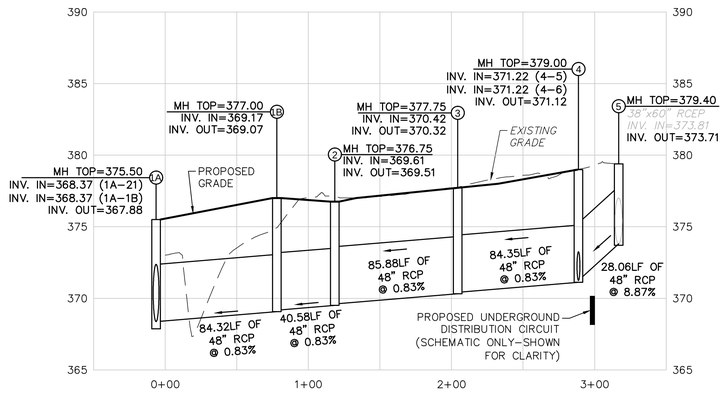
TITLE

# DETENTION SYSTEM PROFILES

PROJECT NO. 50058411

9

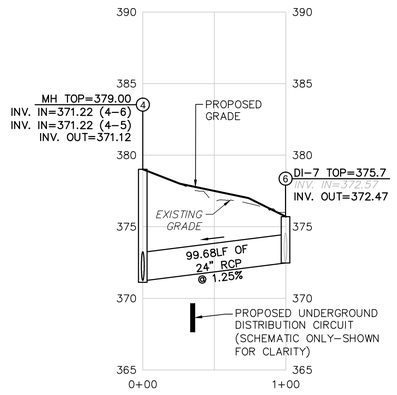
SHEET NO. 10 OF 21




STORM SEWER PROFILE (#1A - #5)

SCALES:

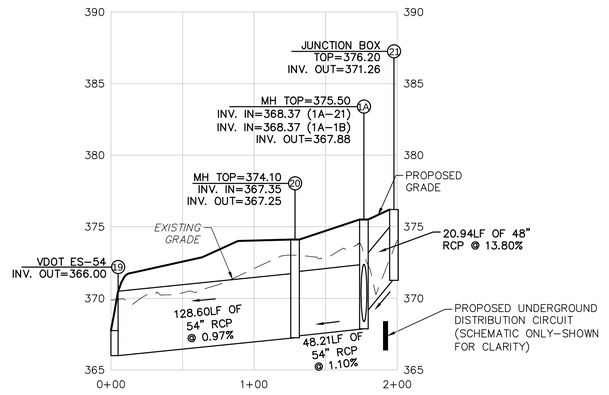
H: 1"=50' V: 1"=5'




STORM SEWER PROFILE (#4 - #6)

SCALES:

H: 1"=50' V: 1"=5'




STORM SEWER PROFILE (#19 - #21)

SCALES:

H: 1"=50' V: 1"=5'

## ADEQUATE OUTFALL INFORMATION:

### DESCRIPTION OF EACH NUMBERED OUTFALL:

**OUTFALL #8**

OUTFALL #8 IS A 24" RCP STORM SEWER. THIS STORM SEWER IS THE 2-YEAR STORM OUTLET FROM THE STORMWATER CONTROL STRUCTURE/JUNCTION BOX. THE TOTAL FLOW IS 3.82cfs. THIS OUTFALL DISCHARGES INTO AN UNNAMED TRIBUTARY OF HOLMES RUN. THIS TRIBUTARY HAS BEEN CONFIRMED BY THE USACE AS AN ESTABLISHED PERENNIAL STREAM.

**OUTFALL #13**

OUTFALL #13 IS A 24" RCP STORM SEWER. THIS STORM SEWER IS THE 10-YEAR STORM OUTLET FROM THE STORMWATER CONTROL STRUCTURE/JUNCTION BOX. THE TOTAL FLOW IS 14.06cfs. THIS OUTFALL DISCHARGES INTO AN UNNAMED TRIBUTARY OF HOLMES RUN. THIS TRIBUTARY HAS BEEN CONFIRMED BY THE USACE AS AN ESTABLISHED PERENNIAL STREAM.

**OUTFALL #19**

OUTFALL #19 IS A 54" RCP STORM SEWER. THIS STORM SEWER COMBINES FLOW FROM THE OFF-SITE DRAINAGE UPSTREAM OF SHREVE ROAD (80.1cfs ROUTED THROUGH A TWIN 30"x44" CULVERT UNDER SHREVE ROAD) AND HOLLY CREST SUBDIVISION (88.9cfs ROUTED THROUGH A 48" RCP ACROSS THE IDYLWOOD SUBSTATION SITE). THE TOTAL FLOW IS 169cfs. THIS OUTFALL DISCHARGES INTO AN UNNAMED TRIBUTARY OF HOLMES RUN. THIS TRIBUTARY HAS BEEN CONFIRMED BY THE USACE AS AN ESTABLISHED PERENNIAL STREAM.

### CHANNEL PROTECTION:

PER FAIRFAX COUNTY CODE CHAPTER 124-4-4(b)(3)(c), THE MAXIMUM PEAK FLOW RATE FOR THE 2-YEAR 24-HOUR STORM (455cfs) CAN BE CONVEYED WITHIN THE SYSTEM FROM THE POINT OF DISCHARGE TO THE LIMIT OF ANALYSIS (SEE MAP TO THE RIGHT) WITHOUT CAUSING EROSION. THUS, THE MAXIMUM PEAK FLOW RATE FROM THE ONE-YEAR 24-HOUR STORM FOLLOWING THE LAND-DISTURBING ACTIVITY MAY BE CALCULATED IN ACCORDANCE WITH THE FOLLOWING METHODOLOGY:

QDeveloped ≤ I.F. * (QPre-Developed * RVPre-Developed) / RVDeveloped

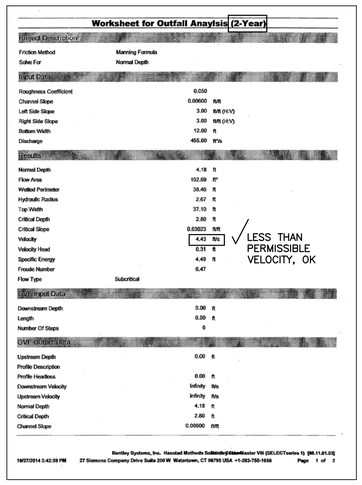
QDeveloped = (0.8 * 5.2cfs * 1.5in) / 2.2in = 2.8cfs; 2.8cfs < 5.2cfs OK

### FLOOD PROTECTION:

STORMWATER FLOWS FROM THE IDYLWOOD SUBSTATION SITE IMMEDIATELY DISCHARGE INTO AN ESTABLISHED COUNTY NON-FEMA FLOODPLAIN. A FLOODPLAIN STUDY (SUBMITTED UNDER SEPARATE COVER) HAS BEEN PERFORMED THAT PROVES THAT DESPITE LAND DISTURBANCE AND GRADING OPERATIONS WITHIN THE LIMITS OF THIS FLOODPLAIN, THE EXTENTS OF THE RISE OF THE FLOODPLAIN WILL BE CONTAINED WITHIN THE DOMINION PROPERTY AND WILL HAVE NO ADVERSE IMPACTS TO ADJACENT PROPERTY OWNERS. THEREFORE, PER FAIRFAX COUNTY CODE CHAPTER 124-4-4(c)(5)(c), FLOOD PROTECTION REQUIREMENTS HAVE BEEN MET.

### MISCELLANEOUS:

SEE DRAINAGE REPORT BOOKLET SUBMITTED UNDER SEPARATE COVER FOR FURTHER INFORMATION, INCLUDING CALCULATIONS OF RUNOFF CURVE NUMBERS, TIME OF CONCENTRATION, AND THE SCS TR-55 GRAPHICAL PEAK DISCHARGE METHOD USED TO DETERMINE 2-YEAR AND 10-YEAR FLOWS TO THE ANALYSIS POINT.



**Worksheet for Outfall Anaylsis (2-Year)**

Project Description

| | |
|---|---|
| Friction Method | Manning Formula |
| Solve For | Normal Depth |

Input Data

| | | |
|---|---|---|
| Roughness Coefficient | 0.050 | |
| Channel Slope | 0.00600 | ft/ft |
| Left Side Slope | 3.00 | ft/ft (H:V) |
| Right Side Slope | 3.00 | ft/ft (H:V) |
| Bottom Width | 12.00 | ft |
| Discharge | 455.00 | ft^3/s |

Results

| | | |
|---|---|---|
| Normal Depth | 4.18 | ft |
| Flow Area | 102.69 | ft^2 |
| Wetted Perimeter | 38.46 | ft |
| Hydraulic Radius | 2.67 | ft |
| Top Width | 37.19 | ft |
| Critical Depth | 2.80 | ft |
| Critical Slope | 0.02623 | ft/ft |
| Velocity | 4.43 | ft/s |
| Velocity Head | 0.31 | ft |
| Specific Energy | 4.49 | ft |
| Froude Number | 0.47 | |
| Flow Type | Subcritical | |

✓ LESS THAN PERMISSIBLE VELOCITY, OK

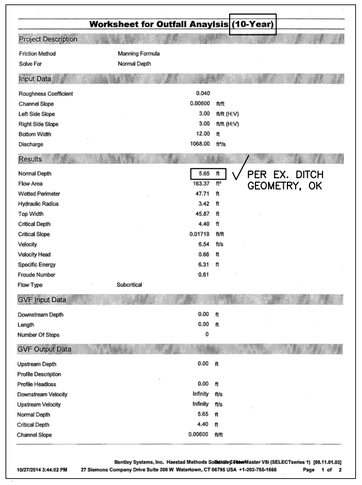
GVF Input Data

| | | |
|---|---|---|
| Downstream Depth | 0.00 | ft |
| Length | 0.00 | ft |
| Number Of Steps | 0 | |

GVF Output Data

| | | |
|---|---|---|
| Upstream Depth | 0.00 | ft |
| Profile Description | | |
| Profile Headloss | 0.00 | ft |
| Downstream Velocity | Infinity | ft/s |
| Upstream Velocity | Infinity | ft/s |
| Normal Depth | 4.18 | ft |
| Critical Depth | 2.80 | ft |
| Channel Slope | 0.00600 | ft/ft |





**Worksheet for Outfall Anaylsis (10-Year)**

Project Description

| | |
|---|---|
| Friction Method | Manning Formula |
| Solve For | Normal Depth |

Input Data

| | | |
|---|---|---|
| Roughness Coefficient | 0.040 | |
| Channel Slope | 0.00600 | ft/ft |
| Left Side Slope | 3.00 | ft/ft (H:V) |
| Right Side Slope | 3.00 | ft/ft (H:V) |
| Bottom Width | 12.00 | ft |
| Discharge | 1068.00 | ft^3/s |

Results

| | | |
|---|---|---|
| Normal Depth | 5.65 | ft |
| Flow Area | 163.37 | ft^2 |
| Wetted Perimeter | 47.71 | ft |
| Hydraulic Radius | 3.42 | ft |
| Top Width | 45.87 | ft |
| Critical Depth | 4.40 | ft |
| Critical Slope | 0.01719 | ft/ft |
| Velocity | 6.54 | ft/s |
| Velocity Head | 0.66 | ft |
| Specific Energy | 6.31 | ft |
| Froude Number | 0.61 | |
| Flow Type | Subcritical | |

✓ PER EX. DITCH GEOMETRY, OK

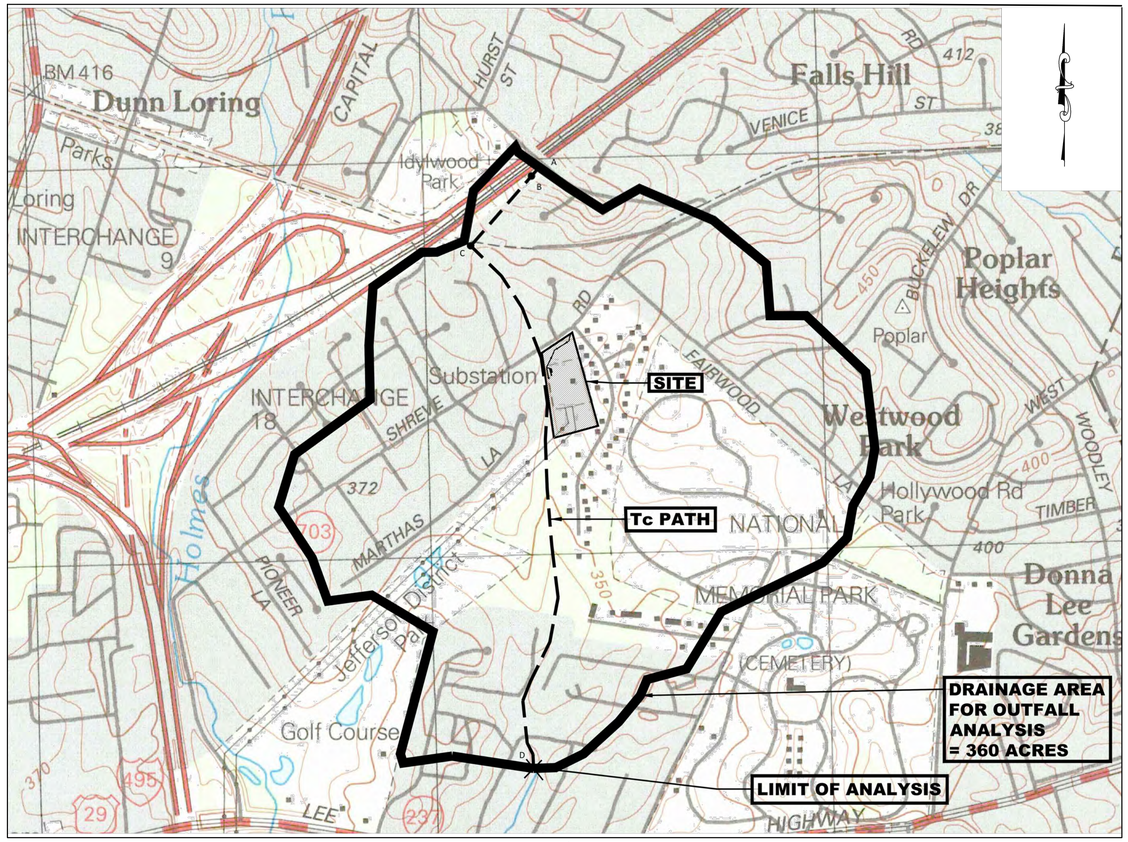
GVF Input Data

| | | |
|---|---|---|
| Downstream Depth | 0.00 | ft |
| Length | 0.00 | ft |
| Number Of Steps | 0 | |

GVF Output Data

| | | |
|---|---|---|
| Upstream Depth | 0.00 | ft |
| Profile Description | | |
| Profile Headloss | 0.00 | ft |
| Downstream Velocity | Infinity | ft/s |
| Upstream Velocity | Infinity | ft/s |
| Normal Depth | 5.65 | ft |
| Critical Depth | 4.40 | ft |
| Channel Slope | 0.00600 | ft/ft |






OVERALL DRAINAGE AREA/LIMITS OF ANALYSIS MAP

NOT TO SCALE

**ADEQUATE OUTFALL SUMMARY**

| Cross-Section | Channel Slope | 2-Year Discharge (cfs) | 10 Year Discharge (cfs) | Soil Type | Permissible Velocity (fps) | 2 Year Velocity (fps) | 10 Year Flow Depth (ft) |
|---|---|---|---|---|---|---|---|
| LIMIT OF ANALYSIS | 0.006% | 455.00 | 1068.00 | 103A Wheaton-Codorus complex | 6.0 (Loam) | 4.4 | 5.7 |

SUBJECT TO FINAL ENGINEERING

*FOR INFORMATION ONLY*

Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
2232 PLAN
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 25' 50' 100'
HORIZONTAL

0' 2.5' 5' 10'
VERTICAL

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

| | |
|---|---|
| DRAWN BY | TT |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

TITLE

STORM SEWER PROFILES

PROJECT NO. 50058411

10

SHEET NO. 11 OF 21

1 2 3 4 5

E D C B A

TAX MAP: 0492-12-0016
ZONING: R-3
OWNER: **ISA REDERIC**
7719 MARTHA'S LANE

TAX MAP: 0492-12-0015
ZONING: R-3
OWNER: **ERIC MAIER**
**CO EEN M M CARTH**
7717 MARTHA'S LANE

TAX MAP: 0492-12-0014
ZONING: R-3
OWNER: **A M CHANG**
7715 MARTHA'S LANE

TAX MAP: 0492-12-0013
ZONING: R-3
OWNER: **E E TERIO SANCHE**
**S IA G SANCHE**
7713 MARTHA'S LANE

TAX MAP: 0492-12-0012
ZONING: R-3
OWNER: **NARSINH ATE**
**NANDINI N ATE**
7714 MARTHA'S LANE

TAX MAP: 0492-12-0002
ZONING: R-3
OWNER: **HORACE REID EWIS**
**ETT S EWIS**
7711 SHREVE ROAD

TAX MAP: 0492-12-0001
ZONING: R-3
OWNER: **HORACE REID EWIS**
**ETT S EWIS**
7709 SHREVE ROAD

TAX MAP: 0492-24-B
ZONING: R-5C
OWNER: **DOMINION HEIGHTS HOMEOWNERS ASSOCIATION**

TAX MAP: 0492-41-F
ZONING: PDH-2
D.B. 8954, PG. 1717
OWNER: **HO CREST COMM NIT ASSOCIATION**

TAX MAP: 0492-4102-0061
ZONING: PDH-2
OWNER: **DANN RA DRETH**
HOLLY DR DRIVE

TAX MAP: 0492-4102-0062
ZONING: PDH-2
OWNER: **MAR ER E ATRICIA SAGAT**
2570 HOLLY MANOR DRIVE

TAX MAP: 0492-4102-0063
ZONING: PDH-2
OWNER: **MAR HARE MICHAE A NEWMAN**
2568 HOLLY MANOR DRIVE

TAX MAP: 0492-4102-0064
ZONING: PDH-2
OWNER: **STE E H WIEDEMANN HO E S WIEDEMANN**
2564 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0014
ZONING: R-3
OWNER: **HI M A IS E ATRICIA E A IS E**
2562 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0015
ZONING: R-3
OWNER: **EDE MA CONS E O**
2560 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0016
ZONING: R-3
OWNER: **MICHE E OCE**
2558 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0017
ZONING: R-3
OWNER: **ROSS AGIM GINA H AGIM**
2556 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0018
ZONING: R-3
OWNER: **ANDREW AINE S ANNE AWRENCE**
2554 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0019
ZONING: R-3
OWNER: **WI IAM M A EN**
2552 HOLLY MANOR DRIVE

TAX MAP: 0492-41-0020
ZONING: R-3
OWNER: **MAR E WEST THERESA D WEST**
2550 HOLLY MANOR DRIVE

TAX MAP: 0492-41-B
ZONING: R-3
OWNER: **HO CREST COMM NIT ASSOCIATION**

TAX MAP: 0492-4102-G2
ZONING: PDH-2
OWNER: **HI M A IS E ATRICIA E A IS E**

TAX MAP: 0492-4102-G1
ZONING: PDH-2
OWNER: **EDE MA CONS E O**

IDYLWOOD SUBSTATION
VIRGINIA ELECTRIC AND POWER COMPANY
DB.528, PG.181,
DB.1139, PG.44,
DB.1179, PG.602
DB.2177, PG.244,
ZONING: R-1
USE: ELEC. SUBSTATION
AREA = 7.148 ACRES

EXISTING 225' VIRGINIA ELECTRIC AND POWER COMPANY EASEMENT DB. 539, PG. 136

EXISTING 225' VIRGINIA ELECTRIC AND POWER COMPANY EASEMENT DB. 1873, PG. 198 D.B. 1125, PG. 80

FLOOD PLAIN ESMT DB. 1489, PG. 93

10' DRAINAGE EASEMENT DB. 1489, PG. 93

COUNTY FLOODPLAIN (NON-FEMA)

WETLANDS

APPROX. LOCATION OF UNDERGROUND OIL CONTAINMENT VAULT

APPROX. LOCATION OF VERIZON EASEMENT PLAT CB8C-01-229-R

MONUMENT FOUND

ROD FOUND

N=7008411.
E=11849.

N14° 37' 08"W
659.66'

S75° 00' 44"W
425.14'

N=7007911.93
E=11850452.60

240.18'
S14° 46' 53"E

562.49'
S14° 29' 42"E

N54° 45' 13"E
378.88'

TIME OF CONCENTRATION (Tc) PATH =7.8 MINUTES

TIME OF CONCENTRATION (Tc) PATH=7.8 MINUTES

PRE-DEVELOPMENT DRAINAGE AREA
= 2.21 ACRES
C=0.60

SHREVE ROAD
VARIABLE WIDTH
ROUTE 703
R/W

HOLLY MANOR DRIVE
50' R/W

DELTA=36°04'41"
RADIUS=28.00'
LENGTH=17.63'
CHORD=N69°42'28"E
CHORD LENGTH=17.34'

*FOR INFORMATION ONLY*

**Dewberry**


Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT
## 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | TT |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

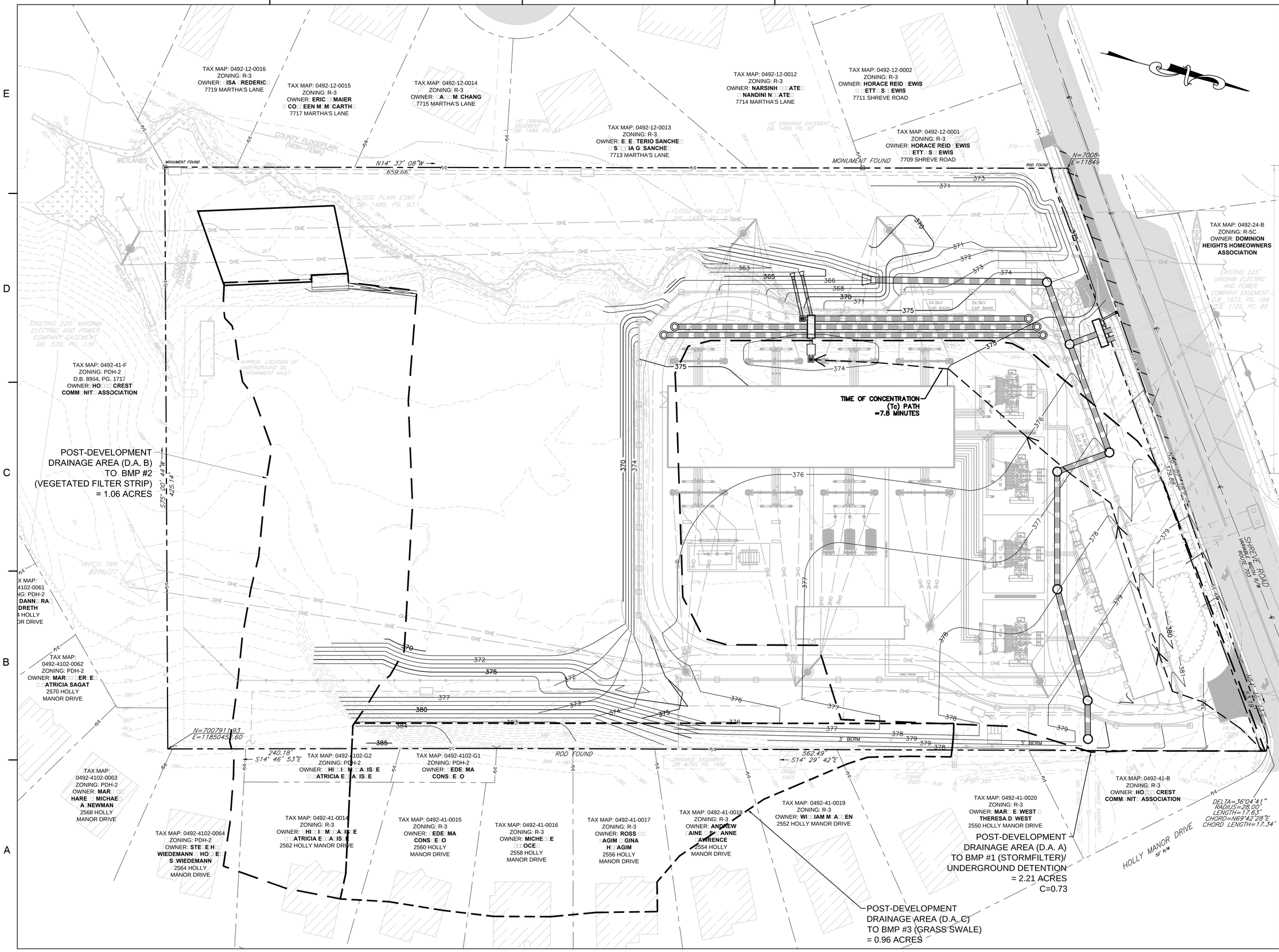
TITLE

## PRE-DEVELOPED DRAINAGE AREA MAP

PROJECT NO. 50058411

11

SHEET NO. 12 OF 21





Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion


# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT
## 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | TT |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

TITLE

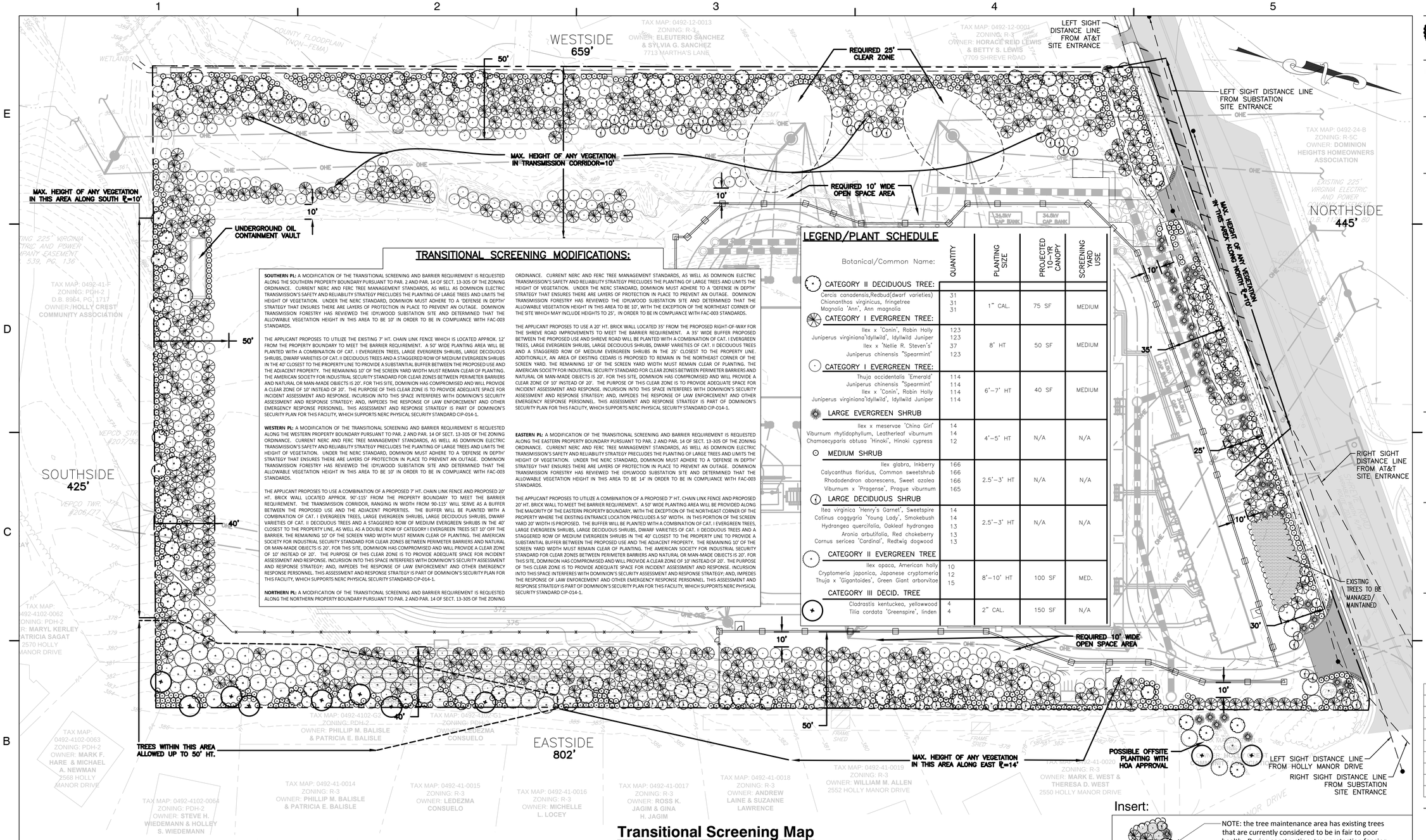
## POST-DEVELOPED DRAINAGE AREA MAP

PROJECT NO. 50058411

12

SHEET NO. 13 OF 21

*FOR INFORMATION ONLY*




## TRANSITIONAL SCREENING MODIFICATIONS:

**SOUTHERN PL:** A MODIFICATION OF THE TRANSITIONAL SCREENING AND BARRIER REQUIREMENT IS REQUESTED ALONG THE SOUTHERN PROPERTY BOUNDARY PURSUANT TO PAR. 2 AND PAR. 14 OF SECT. 13-305 OF THE ZONING ORDINANCE. CURRENT NERC AND FERC TREE MANAGEMENT STANDARDS, AS WELL AS DOMINION ELECTRIC TRANSMISSION'S SAFETY AND RELIABILITY STRATEGY PRECLUDES THE PLANTING OF LARGE TREES AND LIMITS THE HEIGHT OF VEGETATION. UNDER THE NERC STANDARD, DOMINION MUST ADHERE TO A 'DEFENSE IN DEPTH' STRATEGY THAT ENSURES THERE ARE LAYERS OF PROTECTION IN PLACE TO PREVENT AN OUTAGE. DOMINION TRANSMISSION FORESTRY HAS REVIEWED THE IDYLWOOD SUBSTATION SITE AND DETERMINED THAT THE ALLOWABLE VEGETATION HEIGHT IN THIS AREA TO BE 10' IN ORDER TO BE IN COMPLIANCE WITH FAC-003 STANDARDS.

THE APPLICANT PROPOSES TO UTILIZE THE EXISTING 7' HT. CHAIN LINK FENCE WHICH IS LOCATED APPROX. 12' FROM THE PROPERTY BOUNDARY TO MEET THE BARRIER REQUIREMENT. A 50' WIDE PLANTING AREA WILL BE PLANTED WITH A COMBINATION OF CAT. I EVERGREEN TREES, LARGE EVERGREEN SHRUBS, LARGE DECIDUOUS SHRUBS, DWARF VARIETIES OF CAT. II DECIDUOUS TREES AND A STAGGERED ROW OF MEDIUM EVERGREEN SHRUBS IN THE 40' CLOSEST TO THE PROPERTY LINE TO PROVIDE A SUBSTANTIAL BUFFER BETWEEN THE PROPOSED USE AND THE ADJACENT PROPERTY. THE REMAINING 10' OF THE SCREEN YARD WIDTH MUST REMAIN CLEAR OF PLANTING. THE AMERICAN SOCIETY FOR INDUSTRIAL SECURITY STANDARD FOR CLEAR ZONES BETWEEN PERIMETER BARRIERS AND NATURAL OR MAN-MADE OBJECTS IS 20'. FOR THIS SITE, DOMINION HAS COMPROMISED AND WILL PROVIDE A CLEAR ZONE OF 10' INSTEAD OF 20'. THE PURPOSE OF THIS CLEAR ZONE IS TO PROVIDE ADEQUATE SPACE FOR INCIDENT ASSESSMENT AND RESPONSE. INCURSION INTO THIS SPACE INTERFERES WITH DOMINION'S SECURITY ASSESSMENT AND RESPONSE STRATEGY; AND, IMPEDES THE RESPONSE OF LAW ENFORCEMENT AND OTHER EMERGENCY RESPONSE PERSONNEL. THIS ASSESSMENT AND RESPONSE STRATEGY IS PART OF DOMINION'S SECURITY PLAN FOR THIS FACILITY, WHICH SUPPORTS NERC PHYSICAL SECURITY STANDARD CIP-014-1.

**WESTERN PL:** A MODIFICATION OF THE TRANSITIONAL SCREENING AND BARRIER REQUIREMENT IS REQUESTED ALONG THE WESTERN PROPERTY BOUNDARY PURSUANT TO PAR. 2 AND PAR. 14 OF SECT. 13-305 OF THE ZONING ORDINANCE. CURRENT NERC AND FERC TREE MANAGEMENT STANDARDS, AS WELL AS DOMINION ELECTRIC TRANSMISSION'S SAFETY AND RELIABILITY STRATEGY PRECLUDES THE PLANTING OF LARGE TREES AND LIMITS THE HEIGHT OF VEGETATION. UNDER THE NERC STANDARD, DOMINION MUST ADHERE TO A 'DEFENSE IN DEPTH' STRATEGY THAT ENSURES THERE ARE LAYERS OF PROTECTION IN PLACE TO PREVENT AN OUTAGE. DOMINION TRANSMISSION FORESTRY HAS REVIEWED THE IDYLWOOD SUBSTATION SITE AND DETERMINED THAT THE ALLOWABLE VEGETATION HEIGHT IN THIS AREA TO BE 10' IN ORDER TO BE IN COMPLIANCE WITH FAC-003 STANDARDS.

THE APPLICANT PROPOSES TO USE A COMBINATION OF A PROPOSED 7' HT. CHAIN LINK FENCE AND PROPOSED 20' HT. BRICK WALL LOCATED APPROX. 90'-115' FROM THE PROPERTY BOUNDARY TO MEET THE BARRIER REQUIREMENT. THE TRANSMISSION CORRIDOR, RANGING IN WIDTH FROM 90'-115' WILL SERVE AS A BUFFER BETWEEN THE PROPOSED USE AND THE ADJACENT PROPERTIES. THE BUFFER WILL BE PLANTED WITH A COMBINATION OF CAT. I EVERGREEN TREES, LARGE EVERGREEN SHRUBS, LARGE DECIDUOUS SHRUBS, DWARF VARIETIES OF CAT. II DECIDUOUS TREES AND A STAGGERED ROW OF MEDIUM EVERGREEN SHRUBS IN THE 40' CLOSEST TO THE PROPERTY LINE, AS WELL AS A DOUBLE ROW OF CATEGORY I EVERGREEN TREES SET 10' OFF THE BARRIER. THE REMAINING 10' OF THE SCREEN YARD WIDTH MUST REMAIN CLEAR OF PLANTING. THE AMERICAN SOCIETY FOR INDUSTRIAL SECURITY STANDARD FOR CLEAR ZONES BETWEEN PERIMETER BARRIERS AND NATURAL OR MAN-MADE OBJECTS IS 20'. FOR THIS SITE, DOMINION HAS COMPROMISED AND WILL PROVIDE A CLEAR ZONE OF 10' INSTEAD OF 20'. THE PURPOSE OF THIS CLEAR ZONE IS TO PROVIDE ADEQUATE SPACE FOR INCIDENT ASSESSMENT AND RESPONSE. INCURSION INTO THIS SPACE INTERFERES WITH DOMINION'S SECURITY ASSESSMENT AND RESPONSE STRATEGY; AND, IMPEDES THE RESPONSE OF LAW ENFORCEMENT AND OTHER EMERGENCY RESPONSE PERSONNEL. THIS ASSESSMENT AND RESPONSE STRATEGY IS PART OF DOMINION'S SECURITY PLAN FOR THIS FACILITY, WHICH SUPPORTS NERC PHYSICAL SECURITY STANDARD CIP-014-1.

**NORTHERN PL:** A MODIFICATION OF THE TRANSITIONAL SCREENING AND BARRIER REQUIREMENT IS REQUESTED ALONG THE NORTHERN PROPERTY BOUNDARY PURSUANT TO PAR. 2 AND PAR. 14 OF SECT. 13-305 OF THE ZONING ORDINANCE. CURRENT NERC AND FERC TREE MANAGEMENT STANDARDS, AS WELL AS DOMINION ELECTRIC TRANSMISSION'S SAFETY AND RELIABILITY STRATEGY PRECLUDES THE PLANTING OF LARGE TREES AND LIMITS THE HEIGHT OF VEGETATION. UNDER THE NERC STANDARD, DOMINION MUST ADHERE TO A 'DEFENSE IN DEPTH' STRATEGY THAT ENSURES THERE ARE LAYERS OF PROTECTION IN PLACE TO PREVENT AN OUTAGE. DOMINION TRANSMISSION FORESTRY HAS REVIEWED THE IDYLWOOD SUBSTATION SITE AND DETERMINED THAT THE ALLOWABLE VEGETATION HEIGHT IN THIS AREA TO BE 10', WITH THE EXCEPTION OF THE NORTHEAST CORNER OF THE SITE WHICH MAY INCLUDE HEIGHTS TO 25', IN ORDER TO BE IN COMPLIANCE WITH FAC-003 STANDARDS.

THE APPLICANT PROPOSES TO USE A 20' HT. BRICK WALL LOCATED 35' FROM THE PROPOSED RIGHT-OF-WAY FOR THE SHREVE ROAD IMPROVEMENTS TO MEET THE BARRIER REQUIREMENT. A 35' WIDE BUFFER PROPOSED BETWEEN THE PROPOSED USE AND SHREVE ROAD WILL BE PLANTED WITH A COMBINATION OF CAT. I EVERGREEN TREES, LARGE EVERGREEN SHRUBS, LARGE DECIDUOUS SHRUBS, DWARF VARIETIES OF CAT. II DECIDUOUS TREES AND A STAGGERED ROW OF MEDIUM EVERGREEN SHRUBS IN THE 25' CLOSEST TO THE PROPERTY LINE. ADDITIONALLY, AN AREA OF EXISTING CEDARS IS PROPOSED TO REMAIN IN THE NORTHEAST CORNER OF THE SCREEN YARD. THE REMAINING 10' OF THE SCREEN YARD WIDTH MUST REMAIN CLEAR OF PLANTING. THE AMERICAN SOCIETY FOR INDUSTRIAL SECURITY STANDARD FOR CLEAR ZONES BETWEEN PERIMETER BARRIERS AND NATURAL OR MAN-MADE OBJECTS IS 20'. FOR THIS SITE, DOMINION HAS COMPROMISED AND WILL PROVIDE A CLEAR ZONE IS TO PROVIDE ADEQUATE SPACE FOR INCIDENT ASSESSMENT AND RESPONSE. INCURSION INTO THIS SPACE INTERFERES WITH DOMINION'S SECURITY ASSESSMENT AND RESPONSE STRATEGY; AND, IMPEDES THE RESPONSE OF LAW ENFORCEMENT AND OTHER EMERGENCY RESPONSE PERSONNEL. THIS ASSESSMENT AND RESPONSE STRATEGY IS PART OF DOMINION'S SECURITY PLAN FOR THIS FACILITY, WHICH SUPPORTS NERC PHYSICAL SECURITY STANDARD CIP-014-1.

**EASTERN PL:** A MODIFICATION OF THE TRANSITIONAL SCREENING AND BARRIER REQUIREMENT IS REQUESTED ALONG THE EASTERN PROPERTY BOUNDARY PURSUANT TO PAR. 2 AND PAR. 14 OF SECT. 13-305 OF THE ZONING ORDINANCE. CURRENT NERC AND FERC TREE MANAGEMENT STANDARDS, AS WELL AS DOMINION ELECTRIC TRANSMISSION'S SAFETY AND RELIABILITY STRATEGY PRECLUDES THE PLANTING OF LARGE TREES AND LIMITS THE HEIGHT OF VEGETATION. UNDER THE NERC STANDARD, DOMINION MUST ADHERE TO A 'DEFENSE IN DEPTH' STRATEGY THAT ENSURES THERE ARE LAYERS OF PROTECTION IN PLACE TO PREVENT AN OUTAGE. DOMINION TRANSMISSION FORESTRY HAS REVIEWED THE IDYLWOOD SUBSTATION SITE AND DETERMINED THAT THE ALLOWABLE VEGETATION HEIGHT IN THIS AREA TO BE 14' IN ORDER TO BE IN COMPLIANCE WITH FAC-003 STANDARDS.

THE APPLICANT PROPOSES TO UTILIZE A COMBINATION OF A PROPOSED 7' HT. CHAIN LINK FENCE AND PROPOSED 20' HT. BRICK WALL TO MEET THE BARRIER REQUIREMENT. A 50' WIDE PLANTING AREA WILL BE PROVIDED ALONG THE MAJORITY OF THE EASTERN PROPERTY BOUNDARY, WITH THE EXCEPTION OF THE NORTHEAST CORNER OF THE PROPERTY WHERE THE EXISTING ENTRANCE LOCATION PRECLUDES A 50' WIDTH. IN THIS PORTION OF THE SCREEN YARD 20' WIDTH IS PROPOSED. THE BUFFER WILL BE PLANTED WITH A COMBINATION OF CAT. I EVERGREEN TREES, LARGE EVERGREEN SHRUBS, LARGE DECIDUOUS SHRUBS, DWARF VARIETIES OF CAT. II DECIDUOUS TREES AND A STAGGERED ROW OF MEDIUM EVERGREEN SHRUBS IN THE 40' CLOSEST TO THE PROPERTY LINE TO PROVIDE A SUBSTANTIAL BUFFER BETWEEN THE PROPOSED USE AND THE ADJACENT PROPERTY. THE REMAINING 10' OF THE SCREEN YARD WIDTH MUST REMAIN CLEAR OF PLANTING. THE AMERICAN SOCIETY FOR INDUSTRIAL SECURITY STANDARD FOR CLEAR ZONES BETWEEN PERIMETER BARRIERS AND NATURAL OR MAN-MADE OBJECTS IS 20'. FOR THIS SITE, DOMINION HAS COMPROMISED AND WILL PROVIDE A CLEAR ZONE OF 10' INSTEAD OF 20'. THE PURPOSE OF THIS CLEAR ZONE IS TO PROVIDE ADEQUATE SPACE FOR INCIDENT ASSESSMENT AND RESPONSE. INCURSION INTO THIS SPACE INTERFERES WITH DOMINION'S SECURITY ASSESSMENT AND RESPONSE STRATEGY; AND, IMPEDES THE RESPONSE OF LAW ENFORCEMENT AND OTHER EMERGENCY RESPONSE PERSONNEL. THIS ASSESSMENT AND RESPONSE STRATEGY IS PART OF DOMINION'S SECURITY PLAN FOR THIS FACILITY, WHICH SUPPORTS NERC PHYSICAL SECURITY STANDARD CIP-014-1.

## LEGEND/PLANT SCHEDULE

| Botanical/Common Name: | QUANTITY | PLANTING SIZE | PROJECTED 10-YR CANOPY | SCREENING YARD USE |
|---|---|---|---|---|
| **CATEGORY II DECIDUOUS TREE:** | | | | |
| Cercis canadensis,Redbud(dwarf varieties) | 31 | 1" CAL. | 75 SF | MEDIUM |
| Chionanthos virginicus, fringetree | 31 | | | |
| Magnolia 'Ann', Ann magnolia | 31 | | | |
| **CATEGORY I EVERGREEN TREE:** | | | | |
| Ilex x 'Conin', Robin Holly | 123 | 8' HT | 50 SF | MEDIUM |
| Juniperus virginiana'Idyllwild', Idyllwild Juniper | 123 | | | |
| Ilex x 'Nellie R. Steven's' | 37 | | | |
| Juniperus chinensis 'Spearmint' | 123 | | | |
| **CATEGORY I EVERGREEN TREE:** | | 6'–7' HT | 40 SF | MEDIUM |
| Thuja occidentalis 'Emerald' | 114 | | | |
| Juniperus chinensis 'Spearmint' | 114 | | | |
| Ilex x 'Conin', Robin Holly | 114 | | | |
| Juniperus virginiana'Idyllwild', Idyllwild Juniper | 114 | | | |
| **LARGE EVERGREEN SHRUB** | | 4'–5' HT | N/A | N/A |
| Ilex x meserve 'China Girl' | 14 | | | |
| Viburnum rhytidophyllum, Leatherleaf viburnum | 14 | | | |
| Chamaecyparis obtusa 'Hinoki', Hinoki cypress | 12 | | | |
| **MEDIUM SHRUB** | | 2.5'–3' HT | N/A | N/A |
| Ilex glabra, Inkberry | 166 | | | |
| Calycanthus floridus, Common sweetshrub | 166 | | | |
| Rhododendron aborescens, Sweet azalea | 166 | | | |
| Viburnum x 'Pragense', Prague viburnum | 165 | | | |
| **LARGE DECIDUOUS SHRUB** | | 2.5'–3' HT | N/A | N/A |
| Itea virginica 'Henry's Garnet', Sweetspire | 14 | | | |
| Cotinus coggygria 'Young Lady', Smokebush | 14 | | | |
| Hydrangea quercifolia, Oakleaf hydrangea | 13 | | | |
| Aronia arbutifolia, Red chokeberry | 13 | | | |
| Cornus sericea 'Cardinal', Redtwig dogwood | 13 | | | |
| **CATEGORY II EVERGREEN TREE** | | 8'–10' HT | 100 SF | MED. |
| Ilex opaca, American holly | 10 | | | |
| Cryptomeria japonica, Japanese cryptomeria | 12 | | | |
| Thuja x 'Gigantoides', Green Giant arborvitae | 15 | | | |
| **CATEGORY III DECID. TREE** | | 2" CAL. | 150 SF | N/A |
| Cladrastis kentuckea, yellowwood | 4 | | | |
| Tilia cordata 'Greenspire', linden | 4 | | | |

## Transitional Screening Map

Scale: 1"=30'

### SCREENING INFORMATION FOR ALL YARDS (NORTH/SOUTH/EAST/WEST):

REQUIRED:
TRANSITIONAL SCREENING 3 – 50' WIDTH
–10–YEAR TREE CANOPY OF 75% OR GREATER
–AT LEAST 70% EVERGREEN TREES; NO MORE THAN 35% OF ANY SINGLE SPECIES
–3 MEDIUM EVERGREEN SHRUBS FOR EVERY 10 LF
–BARRIER D, E, OR F

PROVIDED:
–PURSUANT TO PAR. 4 OF SECT. 13–305 OF THE ZONING ORDINANCE, A 2/3 REDUCTION IN TRANSITIONAL SCREENING YARD WIDTH IS REQUESTED IN THE SOUTH & EAST YARDS. THEREFORE, MINIMUM YARD WIDTHS IN THESE AREAS WILL BE 16.67'. PLEASE SEE WAIVER REQUEST ON FOLLOWING SHEET.
–SEE YARD–BY–YARD BREAKDOWN OF TREE CANOPY CALCULATIONS BELOW.
–20' TALL PERIMETER SCREENING WALL (EAST, SOUTH, WEST SIDES OF YARD); 16' TALL PERIMETER SCREENING WALL (NORTH)

### NORTHERN PROPERTY LINE – 445' LENGTH

REQUIRED: 35' WIDTH
TREE CANOPY: 445'L X 35'W X 0.75= 11,681 SF
SHRUBS: (445/10) X 3 SHRUBS= 134

PROVIDED: 35' WIDTH

| | |
|---|---|
| – 4 CAT. II EVERGREEN TREES @ 100 SF | 4 X 100 = 400 SF |
| –34 CAT. I EVERGREEN TREES @ 50 SF | 34 X 50 = 1,700 SF |
| –29 CAT. I EVERGREEN TREES @ 40 SF | 29 X 40 = 1,160 SF |
| –40 LARGE EVEGREEN SHRUB | |
| –98 MEDIUM EVERGREEN SHRUBS | |
| – 7 CAT. II DECIDUOUS TREES @ 75 SF | 7 X 75 = 525 SF |
| –17 LARGE DECIDUOUS SHRUBS | |
| TOTAL = 3,785 SF | |

### EASTERN PROPERTY LINE – 802' LENGTH

REQUIRED: 50' WIDTH
TREE CANOPY: 802'L X 50'W X 0.75= 30,075 SF
SHRUBS: (802/10) X 3 SHRUBS= 240

PROVIDED: 18'–50' WIDTH

| | |
|---|---|
| – 28 CAT. II EVERGREEN TREES @ 100 SF | 28 X 100 = 2,800 SF |
| –132 CAT. I EVERGREEN TREES @ 50 SF | 132 X 50 = 6,600 SF |
| –149 CAT. I EVERGREEN TREES @ 40 SF | 149 X 40 = 5,960 SF |
| –240 MEDIUM EVERGREEN SHRUBS | |
| – 7 CAT. III DECDUOUS TREES @ 150 SF | |
| – 28 CAT. II DECIDUOUS TREES @ 75 SF | 7 X 150 = 1,050 SF |
| – 18 LARGE DECIDUOUS SHRUBS | 28 X 75 = 2,100 SF |
| TOTAL = 18,510 SF | |

### SOUTHERN PROPERTY LINE – 425' LENGTH

REQUIRED: 50' WIDTH
TREE CANOPY: 425'L X 50'W X 0.75= 15,938 SF
SHRUBS: (425/10) X 3 SHRUBS= 127

PROVIDED: 40' WIDTH

| | |
|---|---|
| – 5 CAT. II EVERGREEN TREES @ 100 SF | 5 X 100 = 500 SF |
| – 85 CAT. I EVERGREEN TREES @ 50 SF | 85 X 50 = 4,250 SF |
| – 80 CAT. I EVERGREEN TREES @ 40 SF | 80 X 40 = 3,200 SF |
| –127 MEDIUM EVERGREEN SHRUBS | |
| – 1 CAT. III DECIDUOUS TREES @ 150 SF | |
| – 20 CAT. II DECIDUOUS TREES @ 75 SF | 1 X 150 = 150 SF |
| | 20 X 75 = 1,500 SF |
| TOTAL = 9,600 SF | |

### WESTERN PROPERTY LINE – 659' LENGTH

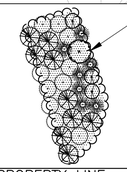
REQUIRED: 50' WIDTH
TREE CANOPY: 659'L X 50'W X 0.75= 24,713 SF
SHRUBS: (659/10) X 3 SHRUBS= 198

PROVIDED: 90'±–103'± WIDTH

| | |
|---|---|
| –155 CAT. I EVERGREEN TREES @ 50 SF | 155 X 50 = 7,750 SF |
| –198 CAT. I EVERGREEN TREES @ 40 SF | 198 X 40 = 7,920 SF |
| –198 MEDIUM EVERGREEN SHRUBS | |
| – 38 CAT. II DECIDUOUS TREES @ 75 SF | |
| – 32 LARGE DECIDUOUS SHRUBS | 38 X 75 = 2,850 SF |
| | TOTAL = 18,520 SF |

GRAND TOTAL 50,415 SF

Insert:



NOTE: the tree maintenance area has existing trees that are currently considered to be in fair to poor health. During construction, tree protection fencing will be installed around this area and reasonable construction method will be considered at the pre-construction site walk-thru to minimize root disturbance to this stand of trees. Although, should these trees health be further compromised by the close proximity of the substation construction the applicant will remove and replant the tree maintenance area per the plan insert

*FOR INFORMATION ONLY*


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT
## 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

DRAWN BY LM
APPROVED BY JC
CHECKED BY KWW
DATE APRIL 2015

TITLE

# PROPOSED LANDSCAPING PLAN

PROJECT NO. 50058411

13

SHEET NO. 14 OF 21

SHEET 19 OF 32

NOTES:

1. THE PROPERTIES THAT ARE THE SUBJECT OF THIS SPECIAL EXCEPTION PLAT IS IDENTIFIED ON THE FAIRFAX COUNTY ZONING MAP AS 49-2 ((1)) 151 AND 49-2 ((12)) 0001A, BOTH OF WHICH ARE ZONED R-3.
2. THE TOTAL LAND AREA OF THIS SPECIAL EXCEPTION APPLICATION IS APPROXIMATELY 7.15 ± ACRES.
3. THIS SPECIAL EXCEPTION PLAT ACCOMPANIES AN APPLICATION TO PERMIT THE EXPANSION OF AN EXISTING ELECTRIC SUBSTATION.
4. THE BOUNDARY INFORMATION SHOWN HEREON IS BASED UPON FIELD MONUMENTATION, REFERENCED DEEDS, AND PLATS. IT IS ESTABLISHED TO INCLUDE ALL THE FACILITIES SUBJECT TO THIS SPECIAL EXCEPTION AS DEFINED BY VIRGINIA ELECTRIC AND POWER COMPANY DURING SUPPLEMENTAL ENGINEERING.
5. THE TOPOGRAPHY SHOWN HEREON IS AT A CONTOUR INTERVAL OF ONE (1) FOOT FROM SURVEY INFORMATION PROVIDED BY BURGESS & NIPLE, INC. IN JUNE AND JULY 2013.
6. A STATEMENT WHICH CONFIRMS THE OWNERSHIP OF THE SUBJECT PROPERTIES AND THE NATURE OF THE APPLICANT'S INTEREST IN SAME IS PRESENTED IN A SEPARATE DOCUMENT.
7. MINIMUM YARD REQUIREMENTS FOR "ALL OTHER STRUCTURES" (NON-RESIDENTIAL) IN THE R-3 DISTRICTS ARE AS FOLLOWS:
   FRONT: CONTROLLED BY A 40° ANGLE OF BULK PLANE, BUT NOT LESS THAN 30 FEET.
   SIDE: CONTROLLED BY A 35º ANGLE OF BULK PLANE, BUT NOT LESS THAN 10 FEET.
   REAR: CONTROLLED BY A 35º ANGLE OF BULK PLANE, BUT NOT LESS THAN 25 FEET.
8. AS STATED IN SECT. 9-104 OF THE FAIRFAX COUNTY ZONING ORDINANCE, THIS USE NEED NOT COMPLY WITH THE BULK REGULATIONS OR THE MINIMUM LOT SIZE REQUIREMENTS OF THE ZONING DISTRICT IN WHICH THE USE IS LOCATED.
9. SANITARY SEWER AND PUBLIC WATER WILL NOT BE PROVIDED TO SITE.
10. NO PERMANENT PARKING AREAS ARE PROPOSED ON SITE.
11. THERE IS COUNTY MINOR FLOODPLAIN (NON-FEMA) LOCATED ON THE SUBJECT PROPERTIES. THIS FLOODPLAIN WILL BE IMPACTED WITH THIS SPECIAL EXCEPTION. EXTENTS OF IMPACT AND SUBSEQUENT MITIGATION ARE OUTLINED IN SEPARATE FLOODPLAIN STUDY.
12. WETLANDS HAVE BEEN DELINEATED AND ARE LOCATED ON THE SUBJECT PROPERTIES. THESE WETLANDS WILL BE IMPACTED WITH THIS SPECIAL EXCEPTION. THESE WETLANDS HAVE BEEN CONFIRMED BY THE U.S. ARMY CORPS OF ENGINEER. A PERMIT WILL BE FILED WITH THE U.S. ARMY CORPS OF ENGINEERS PRIOR TO THE START OF LAND DISTURBING ACTIVITY. MITIGATION WILL NOT BE REQUIRED DUE TO LIMITED AMOUNT OF DISTURBANCE TO THE WETLANDS.
13. THERE IS NOT RESOURCE PROTECTION AREA (RPA) LOCATED WITHIN THE SUBJECT PROPERTIES. HOWEVER, RPA IS PRESENT ON PARCEL 49-2 41 F TO THE SOUTH. RPA MAPPING IS BASED ON FAIRFAX COUNTY INFORMATION REVISED 08.01.05 AND PREPARED BY THE DEPARTMENT OF INFORMATION TECHNOLOGY, ENTERPRISE SERVICE DIVISION-GEOGRAPHIC INFORMATION SERVICES.
14. STORMWATER MANAGEMENT IS SHOWN HEREON ON SHEETS 6 AND 7 IN THE FORM OF A STORMFILTER (QUALITY) AND UNDERGROUND DETENTION (QUANTITY). THE SUPPORTING COMPUTATIONS ARE PRESENTED ON SHEETS 8-9.
15. THERE ARE EXISTING UTILITY AND DRAINAGE EASEMENTS ON THE SUBJECT PROPERTIES SHOWN ON SHEET 3. THE LOCATION OF THE EASEMENTS SHOWN HEREON ARE TAKEN FROM TAX RECORDS AND/OR DEEDS AND OTHER PUBLIC INFORMATION. A TITLE REPORT WAS NOT FURNISHED AT THE TIME OF TOPOGRAPHICAL SURVEY. THEREFORE, NOT ALL EASEMENTS OF RECORD MAY BE SHOWN HEREON.
16. PURSUANT TO PAR. 3, 4 & 14 OF SECT. 13-305 OF THE ZONING ORDINANCE, A MODIFICATION OF THE TRANSITIONAL SCREENING AND BARRIER REQUIREMENTS ARE HEREBY REQUESTED IN FAVOR OF THAT SHOWN HEREON. SEE SHEET 12.
17. NOT ALL UNDERGROUND UTILITIES ARE SHOWN. UNDERGROUND UTILITIES WHICH ARE SHOWN ARE APPROXIMATE ONLY, CONTRACTOR SHALL VERIFY DEPTH, TYPE, AND LOCATION OF ALL UTILITIES PRIOR TO CONSTRUCTION.
18. BASED ON HISTORICAL AND ARCHEOLOGICAL INVESTIGATIONS PERFORMED, THERE ARE NO GRAVES LOCATED ON THE SUBJECT PROPERTY.
19. EXCEPT AS QUALIFIED ON THIS SHEET, THE PROPOSED DEVELOPMENT CONFORMS TO ALL CURRENT APPLICABLE LAND DEVELOPMENT ORDINANCES AND ADOPTED STANDARDS.
20. A DEVIATION FROM THE TREE PRESERVATION TARGET IS BEING REQUESTED. SEE WAIVER REQUEST THIS SHEET.
21. ANY TREE THAT IS IMPROPERLY PRUNED SO AS TO CAUSE DISEASE OR DEATH, AS DETERMINED BY THE URBAN FOREST MANAGEMENT DIVISION, OR REMOVED TO AVOID CONFLICTS WITH THE MAXIMUM 14 FT. HEIGHT RESTRICTION OF THE NERC AND FERC STANDARDS, SHALL BE REPLACED BY THE APPLICANT.

## LANDSCAPING WAIVER REQUESTS

Dewberry

Dewberry Consultants LLC
8401 Arlington Boulevard
Fairfax, VA 22031-4666
703.849.0100
703. 849.0118 fax
www.dewberry.com

April 2, 2015

James Patteson, Director
Fairfax County Department of Public Works and Environmental Services
12055 Government Center Parkway
Suite 659
Fairfax VA 22035

RE: Tax Map 49-2 ((1)) 151 and 49-2 ((12)) 0001A

- Request for a Tree Preservation Target Deviation
- Request for a Modification of the 10-Year Tree Canopy Requirement

Dear Mr. Patteson:

May this letter serve as a request for:

- A deviation from the Tree Preservation Target as provided for in the provisions set forth in Sect. 12-0508 of the Public Facilities Manual (PFM)
- A modification of the 10-Year Tree Canopy Requirement as provided for in the provisions set forth in Sect. 12-0513 of the Public Facilities Manual (PFM)

The proposed development program at issue is located on the properties referenced as 49-2 ((1)) 151 and 49-2 ((12)) 0001A. It is located south of Shreve Road and west of the Holly Manor Drive subdivision. The properties (7.15 AC) are currently zoned to the R-3 District and are the subject of a Special Exception, a copy of which is attached for your reference. The pending Special Exception has been filed to allow for the expansion of an existing electrical substation on the site.

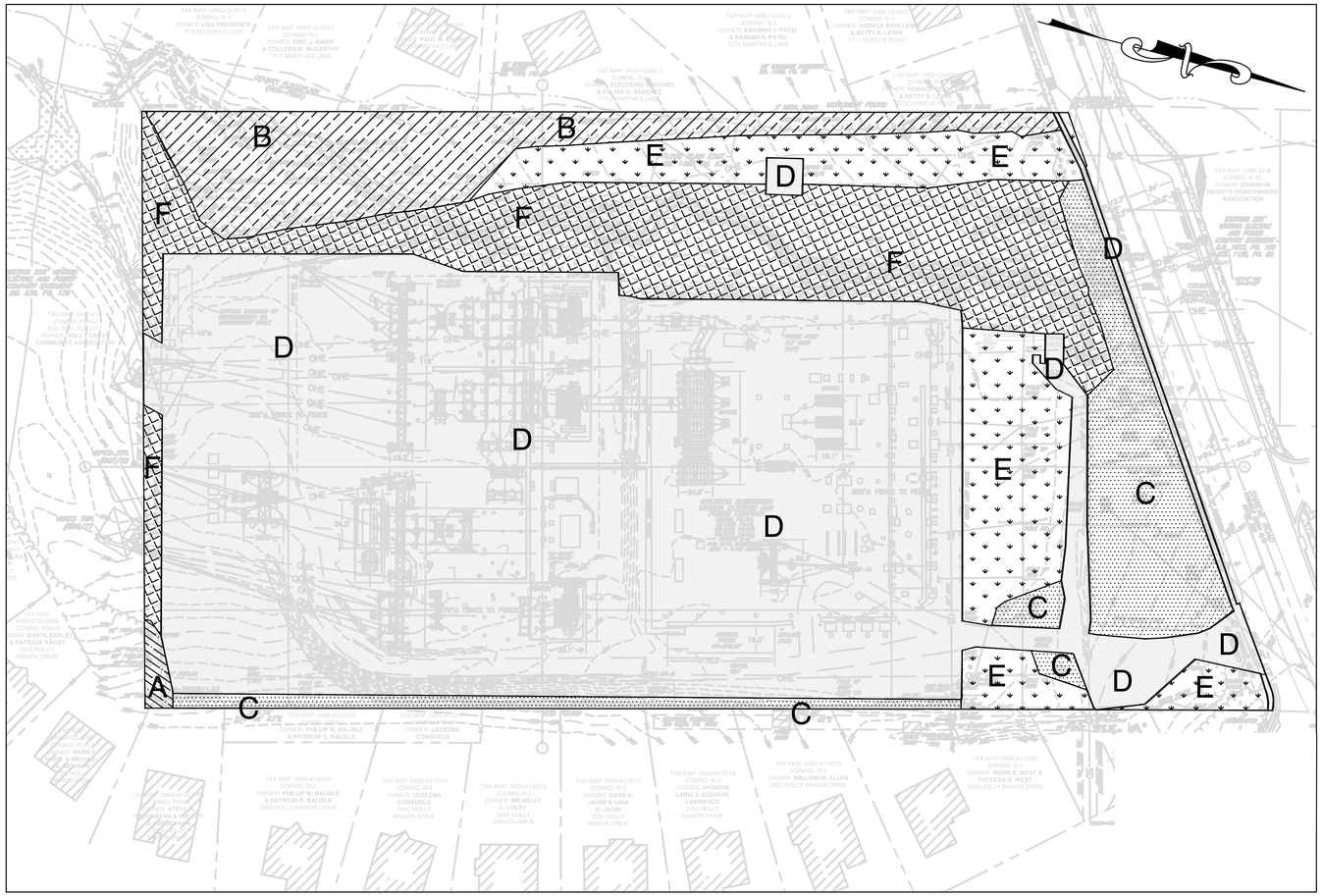
Based on the provisions set forth in Sect. 12-0508 of the PFM and more particularly the calculations set forth in Table 12.3, copy attached, 12,501 square feet is the requisite Tree Preservation Target. A deviation from the Tree Preservation Target requirement is requested, for as demonstrated by the attached copy of the proposed development program, the clearing and grading, and provision of utilities for the development program for an electrical substation will preclude the accommodation of the Tree Preservation Target. The Federal Energy Regulatory Commision (FERC) and North American Electric Reliability Corporation (NERC) standards for tree preservation at substations does not allow for large trees to remain in and around the substation and transmission lines. It is our judgment that the proposed development program is a reasonable development program for the subject property which is zoned to the R-3 District.

Based on the provisions set forth in Sect. 12-0513.2, a modification of the 10-year tree canopy requirement is requested, for as demonstrated by the attached copy of the proposed development program, the clearing and grading, and provision of utilities for the development program for an electrical substation will limit the planting of trees in and around the substation. The Federal Energy Regulatory Commision (FERC) and North American Electric Reliability Corporation (NERC) standards for tree preservation at substations does not allow for large trees to be planted in and around the substation and transmission lines. The Dominion Forestry Coordinator for this region has determined that maximum allowable mature tree heights for the majority of the site are limited to between 10' and 14' by reviewing the maximum sag rating and radial distances for the sections of power line on this site. Under the NERC Standard, Dominion must adhere to a "Defense in Depth" strategy that ensures layers of protection in place to prevent an outage. The tree height limitations are part of adherence to the NERC Standards. Strict application of the tree canopy requirements for the R-3 district (25%) would reduce the usable area of the property due to the equipment and substation layout and would cause an unreasonable or unnecessary hardship to the applicant. The tree canopy calculations (Table 12.10), included with this application proposes approximately 50,415 SF of proposed tree planting, which equals 16.5% tree canopy coverage of the adjusted gross site area of 305,861± SF. It is our judgment that the proposed development program is a reasonable development program for the subject property.

We trust that this statement is sufficient to support our request for a deviation from the Tree Preservation Target for the development program proposed for the subject property. Should you have any questions or the need for additional information, please contact me at 703-849-0144 or jcena@dewberry.com.

Sincerely,

Janice M. Cena, PLA, CA
Senior Landscape Architect
ISA Certified Arborist




## EXISTING VEGETATION INVENTORY

| KEY | COVER TYPE | PRIMARY SPECIES | SUCCESSIONAL STAGES | CONDITION | ACREAGE |
|---|---|---|---|---|---|
| A | UPLAND FOREST | POPLAR | SUB-CLIMAX | GOOD TO FAIR | 0.02± AC |
| B | BOTTOMLAND FOREST | GUM, POPLAR | SUB-CLIMAX | GOOD TO FAIR | 0.58± AC |
| C | LANDSCAPED TREE CANOPY | OAK, CEDAR, POPLAR | N/A | GOOD TO FAIR | 0.55± AC |
| D | DEVELOPED LAND | N/A | N/A | N/A | 4.17± AC |
| E | MAINTAINED GRASSLAND | N/A | N/A | N/A | 0.74± AC |
| F | OPEN FIELD | N/A | N/A | N/A | 1.07± AC |
| | | | | TOTAL ACREAGE: | 7.13± AC |

## EXISTING VEGETATION MAP

Scale: 1"=50'

**NOTE: ALL PROPOSED LANDSCAPING IN AND AROUND SUBSTATIONS AND TRANSMISSION LINES ARE SUBJECT TO FEDERAL ENERGY REGULATORY COMMISSION (FERC) AND NORTH AMERICAN ELECTRIC RELIABILITY CORPORATION (NERC) STANDARDS AND REGULATIONS.**

## TREE PRESERVATION CALCULATIONS

| Table 12.3 Tree Preservation Target Calculations and Statement | | |
|---|---|---|
| A | Pre-development area of existing tree canopy (from Existing Vegetation Map) = | 1.15 AC |
| B | Percentage of gross site area covered by existing tree canopy = | 16.1% |
| C | Percentage of 10-year tree canopy required for site (see Table 12.4) = | 25%= 77,920 SF |
| D | Percentage of the 10-year tree canopy requirement that should be met through tree preservation = | 16.1% = 12,545 SF |
| E | Proposed percentage of canopy requirement that will be met through tree preservation = | 0 |
| F | Has the Tree Preservation Target minimum been met? | Provide Yes or No: NO |
| 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 § 12-0507.3 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. | SEE REQUEST TO DEVIATE, THIS SHEET |
| H | If step G requires a narrative, it shall be prepared in accordance with § 12-0507.4 | |
| I | Place this information prior to the 10-year Tree Canopy Calculations as per instructions in Table 12.12. | |

TABULATION FOR SUBSTATION SPECIAL EXCEPTION AREA:

–EXISTING/PROPOSED ZONING: R–3; R–3
–EXISTING/PROPOSED TOTAL LAND AREA: 7.15AC; 7.15AC
–MAXIMUM FLOOR AREA RATIO PERMITTED: EXEMPT
PROPOSED FLOOR AREA RATIO: 0.043
–MAXIMUM GROSS FLOOR AREA PERMITTED: EXEMPT
PROPOSED GROSS FLOOR AREA: 13,504 SF
–PARKING SPACES PROVIDED: 0
–MAXIMUM BUILDING HEIGHT PERMITTED: EXEMPT
MAXIMUM BUILDING HEIGHT PROPOSED: 32± FT
–OPEN SPACE REQUIRED: 25% (1.79AC)
OPEN SPACE PROVIDED: 33% (2.39AC)

## 10-YEAR TREE CANOPY CALCULATIONS

| Table 12.10 10-year Tree Canopy Calculation Worksheet | | |
|---|---|---|
| **A. Tree Preservation Target and Statement** | | |
| | SEE SHEET C-6 | |
| **B. Tree Canopy Requirement** | | |
| B1 | Identify gross site area = | 311,682 SF |
| B2 | Subtract area dedicated to parks, road frontage, and | 5,821 SF |
| B3 | Subtract area of exemptions = | 0 SF |
| B4 | Adjusted gross site area (B1-B2) = | 305,861 SF |
| B5 | Identify site's zoning and/or use | R-3 |
| B6 | Percentage of 10-year tree canopy required = | 25% |
| B7 | Area of 10-year tree canopy required (B4 x B6) = | 76,465 SF |
| B8 | Modification of 10-year Tree Canopy Requirements requested? | NO |
| B9 | If B8 is yes, then list plan sheet where modification request is located | |
| **C. Tree Preservation** | | |
| C1 | Tree Preservation Target Area = | 12,545 SF |
| C2 | Total canopy area meeting standards of 12-0400 = | 0 |
| C3 | C2 x 1.25 = | 0 |
| C4 | Total canopy area provided by unique or valuable forest or woodland communities = | 0 |
| C5 | C4 x 1.5 = | 0 |
| C6 | Total of canopy area provided by "Heritage," "Memorial," "Specimen," or "Street" trees = | 0 |
| C7 | C6 x 1.5 to 3.0 = | 0 |
| C8 | Canopy of trees within Resource Protection Areas and 100-year floodplains = | 0 |
| C9 | C8 x 1.0 = | 0 |
| C10 | Total of C3, C5, C7 and C9 = | 0 |

| D. Tree Planting | | |
|---|---|---|
| D1 | Area of canopy to be met through tree planting (B7-C10) = | 76,465 SF |
| D2 | Area of canopy planted for air quality benefits = | 0 SF |
| D3 | x 1.5 = | 0 SF |
| D4 | Area of canopy planted for energy conservation = | 0 |
| D5 | x 1.5 = | 0 |
| D6 | Area of canopy planted for water quality benefits = | 0 SF |
| D7 | x 1.25 = | 0 SF |
| D8 | Area of canopy planted for wildlife benefits = | 0 SF |
| D9 | x 1.5 = | 0 SF |
| D10 | Area of canopy provided by native trees = | 0 |
| D11 | x 1.5 = | 0 |
| D12 | Area of canopy provided by improved cultivars and varieties = | 0 |
| D13 | x 1.5 = | 0 |
| D14 | Area of canopy provided through tree seedlings = | 0 |
| | x 1.0 = | 0 |
| D15 | Area of canopy provided through native shrubs or woody seed mix = | 0 |
| | x 1.0 = | 0 |
| D16 | Percentage of D14 represented by D15 = | NA |
| D16a | Area of canopy provided with no multipliers = | 50,415 SF |
| D17 | Total of canopy area provided through tree planting = | 50,415 SF |
| D18 | Is an offsite planting relief requested? | NO |
| D19 | Tree Bank or Tree Fund? | NO |
| D20 | Canopy area to be requested to be provided through offsite banking or tree fund | NA |
| D21 | Amount to be deposited into the Tree Preservation and Planting Fund | NA |
| **E. Total of 10-year Tree Canopy Provided** | | |
| E1 | Total of canopy area provided through tree preservation (C10) = | 0 |
| E2 | Total of canopy area provided through tree planting (D17) = | 50,415 SF |
| E3 | Total of canopy area provided through offsite mechanism (D19) = | 0 |
| E4 | Total of 10-year Tree Canopy Provided = | 50,415 SF |

*FOR INFORMATION ONLY*

Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
2232 PLAN
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 50' 100'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

DRAWN BY LM
APPROVED BY JC
CHECKED BY KWW
DATE APRIL 2015

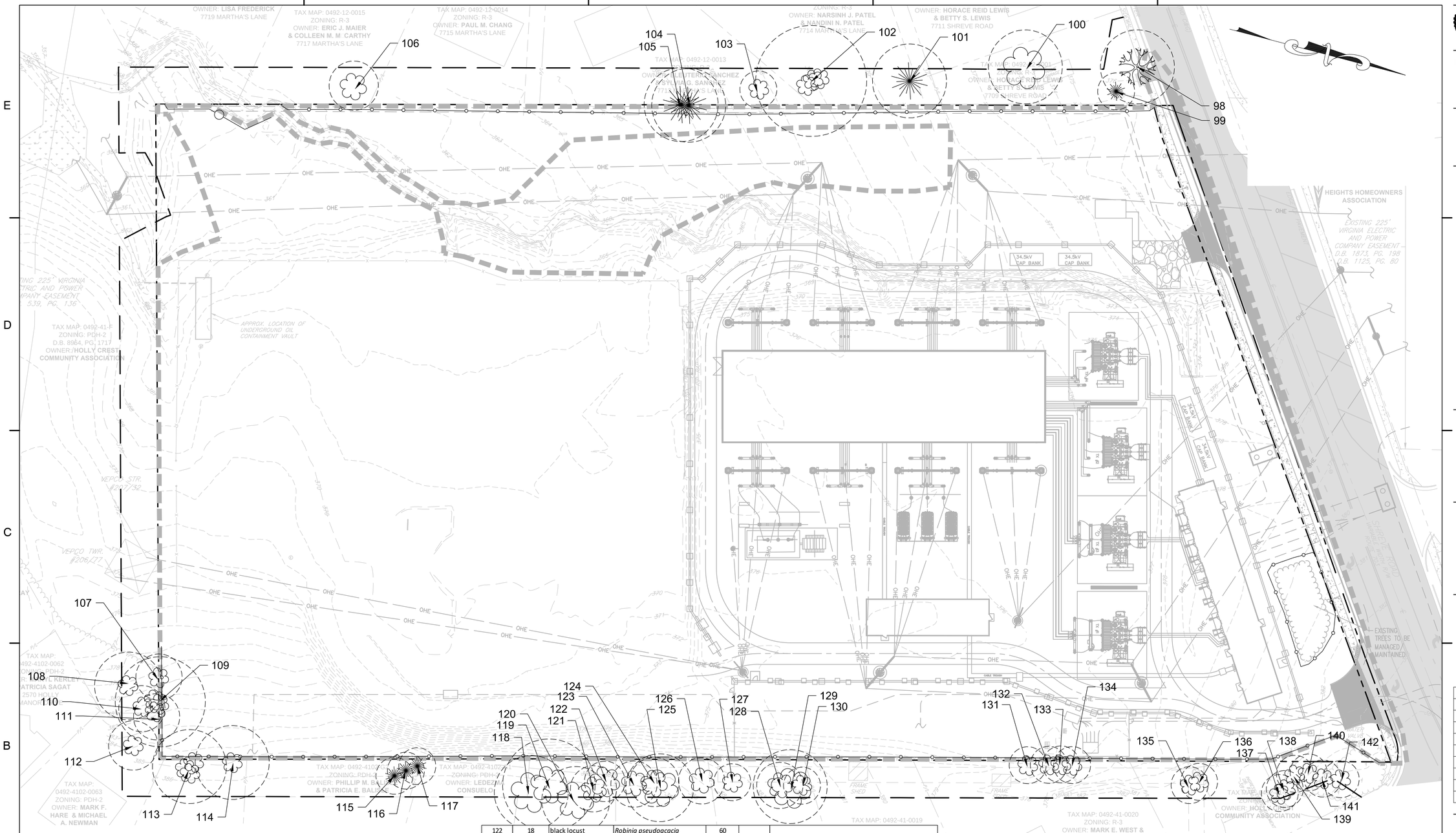
TITLE

NOTES, TABULATION, & EXISTING VEGETATION MAP

PROJECT NO. 50058411

14A

SHEET NO. 15 OF 21




Idylwood Substation Tree Inventory
December 30, 2014

| Tree # | Size (DBH) | Common Name | Scientific Name | Condition | Remove | Notes |
|---|---|---|---|---|---|---|
| 142 | 12 | blue spruce | *Picea pungens* | 80 | | |
| 141 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | |
| 140 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | |
| 139 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | |
| 138 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | |
| 137 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | |
| 136 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | |
| 135 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | |
| 134 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | |
| 133 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | |
| 132 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | |
| 131 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | |
| 130 | 12 | red maple | *Acer rubrum* | 75 | | |
| 129 | 24 | red maple | *Acer rubrum* | 70 | | |
| 128 | 15 | red maple | *Acer rubrum* | 70 | | |
| 127 | 12 | cherry | *Prunus species* | 65 | | |
| 126 | 15 | cherry | *Prunus species* | 70 | | |
| 125 | 22 | black locust | *Robinia pseudoacacia* | 65 | | |
| 124 | 16 | red maple | *Acer rubrum* | 80 | | |
| 123 | 15 | black locust | *Robinia pseudoacacia* | 60 | | |
| 122 | 18 | black locust | *Robinia pseudoacacia* | 60 | | |
| 121 | 15 | black locust | *Robinia pseudoacacia* | 65 | | |
| 120 | 22 | black locust | *Robinia pseudoacacia* | 60 | | |
| 119 | 30 | black locust | *Robinia pseudoacacia* | 65 | | |
| 118 | 24 | black locust | *Robinia pseudoacacia* | 65 | | |
| 117 | 12 | white pine | *Pinus strobus* | 60 | | |
| 116 | 12 | white pine | *Pinus strobus* | 60 | | |
| 115 | 12 | white pine | *Pinus strobus* | 60 | | |
| 114 | 24 | red maple | *Acer rubrum* | 80 | | may be jointly owned, no grade change proposed |
| 113 | 24 | tulip poplar | *Liriodendron tulipifera* | 70 | | twin, no grade change proposed within crz |
| 112 | 16 | tulip poplar | *Liriodendron tulipifera* | 70 | | |
| 111 | 14 | black cherry | *prunus serotina* | 60 | | |
| 110 | 15/15 | tulip poplar | *Liriodendron tulipifera* | 65 | | twin, may be jointly owned, no grade change within crz |
| 109 | 15 | tulip poplar | *Liriodendron tulipifera* | 80 | | may be jointyly owned, no grade change proposed |
| 108 | 22 | tulip poplar | *Liriodendron tulipifera* | 70 | | |
| 107 | 15 | tulip poplar | *Liriodendron tulipifera* | 70 | | may be jointly owned, no grade change proposed |
| 106 | 16 | tulip poplar | *Liriodendron tulipifera* | 70 | | |
| 105 | 24 | white pine | *Pinus strobus* | 80 | | no grade change proposed within crz |
| 104 | 24 | white pine | *Pinus strobus* | 80 | | no grade change proposed within crz |
| 103 | 12 | red maple | *Acer rubrum* | 65 | | |
| 102 | 12/12/14 | red maple | *Acer rubrum* | 75 | | triple trunk |
| 101 | 24 | white pine | *Pinus strobus* | 60 | | |
| 100 | 24 | leyland cypress | *x Cupressocyparis leylandii* | 75 | | |
| 99 | 12 | white pine | *Pinus strobus* | 75 | | |
| 98 | 24 | red oak | *Quercus rubra* | 80 | | |

## NOTES

1. TREE INVENTORY AND CONDITION EVALUATION PERFORMED BY JANICE M. CENA (MA–4469A) ON DECEMBER 17, 2014.
2. TREE CONDITION EVALUATION WAS PERFORMED FROM THE SUBSTATION PROPERTY FOR ALL OFFSITE TREES.
3. CONDITION EVALUATION PER 9TH EDITION OF THE GUIDE FOR PLANT APPRAISAL, PUBLISHED BY THE ISA.
4. CRITICAL ROOT ZONE (CRZ) IS EQUAL TO 1 FOOT OF RADIUS FOR EVER INCH CALIPER.
5. TREE LOCATIONS ARE APPROXIMATE AND WERE LOCATED BY GPS FROM THE SUBSTATION PROPERTY.

## LEGEND

- WXYZ — EX. EVERGREEN TREE TO REMAIN
- WXYZ — EX. DECIDUOUS TREE TO REMAIN
- EX. TREE TO BE REMOVED
- EX. TREE CRITICAL ROOT ZONE (CRZ)
- TREE PROTECTION FENCING
- LIMITS OF CLEARING AND GRADING
- 25' OFFSET FROM LOCG


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion


# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT
## 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
03/07/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

| | |
|---|---|
| DRAWN BY | LM |
| APPROVED BY | JC |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

TITLE

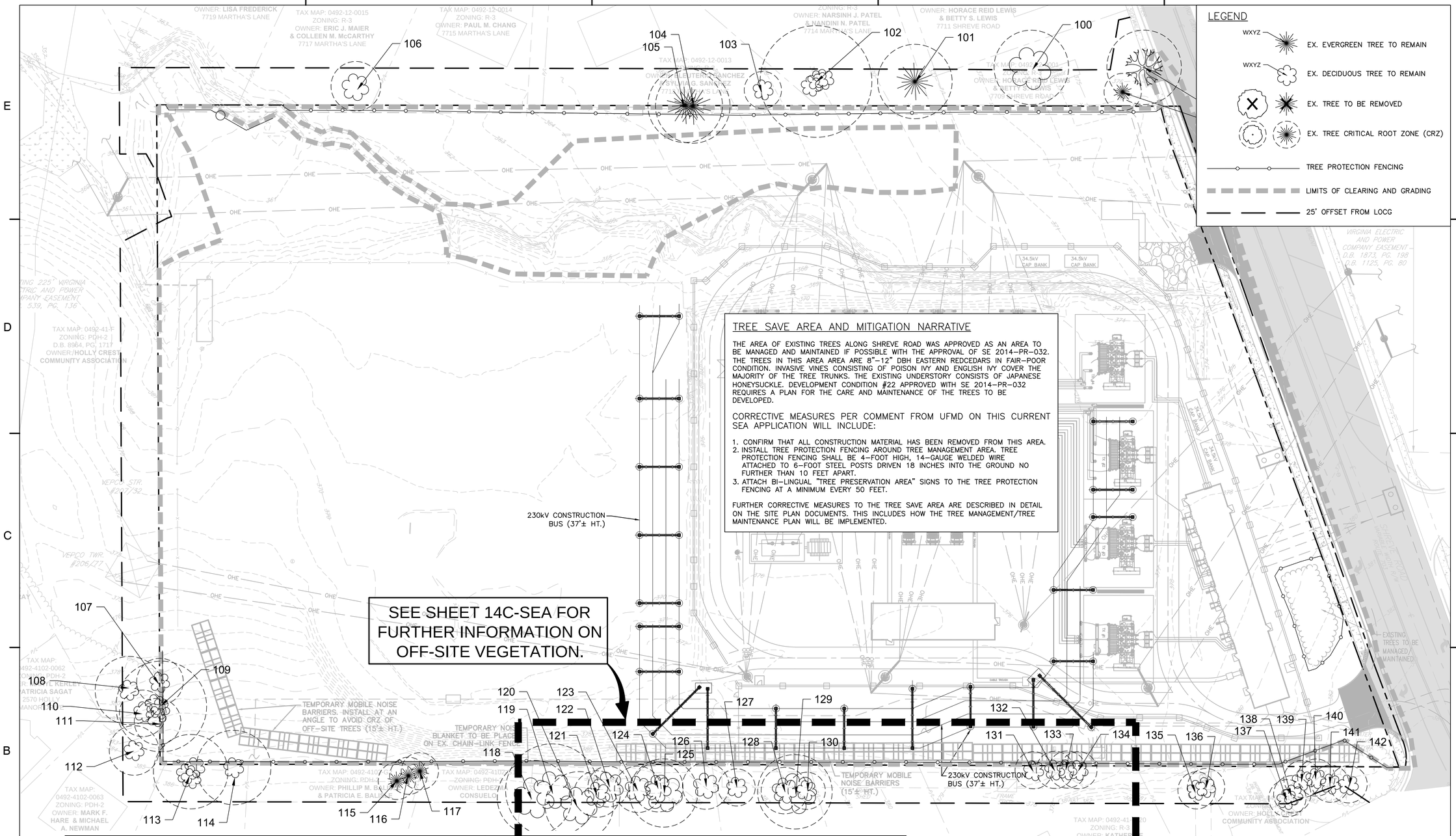
## OFF-SITE TREE SURVEY

PROJECT NO. 50058411

14B

SHEET NO. 16 OF 21

*FOR INFORMATION ONLY*




| Idylwood Substation Tree Inventory - May 9, 2017 | | | | | | | |
|---|---|---|---|---|---|---|---|
| **Tree #** | **Size (DBH)** | **Common Name** | **Scientific Name** | **Condition** | **Remove** | **Notes** | **Notes May 2017** |
| 142 | 12 | blue spruce | *Picea pungens* | 80 | | offsite, Tax Map 0492-41-B | |
| 141 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | offsite, Tax Map 0492-41-B | |
| 140 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | offsite, Tax Map 0492-41-B | |
| 139 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | offsite, Tax Map 0492-41-B | |
| 138 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | offsite, Tax Map 0492-41-B | |
| 137 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | offsite, Tax Map 0492-41-B | |
| 136 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | offsite, Tax Map 0492-41-B | |
| 135 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | offsite, Tax Map 0492-41-B | |
| 134 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | offsite, Tax Map 0492-41-0020 | |
| 133 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | offsite, Tax Map 0492-41-0020 | |
| 132 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | offsite, Tax Map 0492-41-0020 | |
| 131 | 12 | leyland cypress | *x Cupressocyparis leylandii* | 70 | | offsite, Tax Map 0492-41-0020 | |
| 130 | 12 | red maple | *Acer rubrum* | 75 | X | offsite, Tax Map 0492-41-0018, owner agreed to removal by Dominion | This tree has already been removed |
| 129 | 24 | red maple | *Acer rubrum* | 70 | X | offsite, Tax Map 0492-41-0018, owner agreed to removal by Dominion | This tree has already been removed |
| 128 | 15 | red maple | *Acer rubrum* | 68 | | offsite, Tax Map 0492-41-0018 | |
| 127 | 12 | cherry | *Prunus species* | 55 | X | offsite, Tax Map 0492-41-0018, owner agreed to removal by Dominion | This tree has already been removed |
| 126 | 15 | cherry | *Prunus species* | 50 | X | offsite, Tax Map 0492-41-017, **POTENTIAL HAZARD**, Dominion currently negotiating with owner, **DO NOT** remove without permission from offsite owner | |
| 125 | 22 | black locust | *Robinia pseudoacacia* | 65 | | offsite, Tax Map 0492-41-017 | |
| 124 | 16 | red maple | *Acer rubrum* | 80 | | offsite, Tax Map 0492-41-017 | |
| 123 | 15 | black locust | *Robinia pseudoacacia* | 60 | | offsite, Tax Map 0492-41-017 | |
| 122 | 18 | black locust | *Robinia pseudoacacia* | 60 | | offsite, Tax Map 0492-41-016 | |
| 121 | 15 | black locust | *Robinia pseudoacacia* | 65 | | offsite, Tax Map 0492-41-016 | |
| 120 | 22 | black locust | *Robinia pseudoacacia* | 0 | X | offsite, Tax Map 0492-41-016, owner agreed to removal by Dominion | This tree has already been removed |
| 119 | 30 | black locust | *Robinia pseudoacacia* | 65 | | offsite, Tax Map 0492-41-016 | |
| 118 | 24 | black locust | *Robinia pseudoacacia* | 65 | | offsite, Tax Map 0492-41-016 | |
| 117 | 12 | white pine | *Pinus strobus* | 65 | | offsite, Tax Map 0492-4102-G1 | |
| 116 | 12 | white pine | *Pinus strobus* | 65 | | offsite, Tax Map 0492-4102-G1 | |
| 115 | 12 | white pine | *Pinus strobus* | 70 | | offsite, Tax Map 0492-4102-G1 | |
| 114 | 24 | red maple | *Acer rubrum* | 80 | | offsite, 0492-4102-0064, no grade change proposed | |
| 113 | 24 | tulip poplar | *Liriodendron tulipifera* | 70 | | offsite, 0492-4102-0064, no grade change proposed within crz | |
| 112 | 24 | tulip poplar | *Liriodendron tulipifera* | 70 | | offsite, 0492-4102-0063 | |
| 111 | 12 | black cherry | *prunus serotina* | 60 | | offsite, 0492-41-F | |
| 109 | 18/18/20/22 | tulip poplar | *Liriodendron tulipifera* | 55 | | on Dominion property, no grade change proposed | |
| 108 | 24 | tulip poplar | *Liriodendron tulipifera* | 70 | | offsite, 0492-41-F | |
| 107 | 18/15 | tulip poplar | *Liriodendron tulipifera* | 70 | | may be jointly owned, no grade change proposed, | |
| 106 | 16 | tulip poplar | *Liriodendron tulipifera* | 70 | | offsite, Tax Map 0492-12-0015 | |
| 105 | 24 | white pine | *Pinus strobus* | 80 | | offsite, Tax Map 0492-12-0013, no grade change proposed within crz | directional boring used to install underground transmission lines |
| 104 | 24 | white pine | *Pinus strobus* | 80 | | offsite, Tax Map 0492-12-0013, no grade change proposed within crz | |
| 103 | 12 | red maple | *Acer rubrum* | 65 | | offsite, Tax Map 0492-12-0013 | |
| 102 | 12/12/14 | red maple | *Acer rubrum* | 75 | | offsite, Tax Map 0492-12-0012, triple trunk | |
| 101 | 24 | white pine | *Pinus strobus* | 60 | | offsite, Tax Map 0492-12-0012 | |
| 100 | 24 | leyland cypress | *x Cupressocyparis leylandii* | 75 | | offsite, Tax Map 0492-12-0001 | |
| 99 | 12 | white pine | *Pinus strobus* | 75 | | offsite, Tax Map 0492-12-0001 | |
| 98 | 24 | red oak | *Quercus rubra* | 80 | | offsite, Tax Map 0492-12-0001 | |

## NOTES

1. TREE INVENTORY AND CONDITION EVALUATION PERFORMED BY JANICE M. CENA (MA-4469A) ON DECEMBER 17, 2014 AND UPDATED ON MAY 9, 2017.
2. TREE CONDITION EVALUATION WAS PERFORMED FROM THE SUBSTATION PROPERTY FOR ALL OFFSITE TREES.
3. CONDITION EVALUATION PER 9TH EDITION OF THE GUIDE FOR PLANT APPRAISAL, PUBLISHED BY THE ISA.
4. CRITICAL ROOT ZONE (CRZ) IS EQUAL TO 1 FOOT OF RADIUS FOR EVER INCH CALIPER.
5. TREE LOCATIONS ARE APPROXIMATE AND WERE LOCATED BY GPS FROM THE SUBSTATION PROPERTY.


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion


# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT AMENDMENT & 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
05/15/17
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

| | |
|---|---|
| DRAWN BY | LM |
| APPROVED BY | JC |
| CHECKED BY | KWW |
| DATE | MAY 2017 |

TITLE

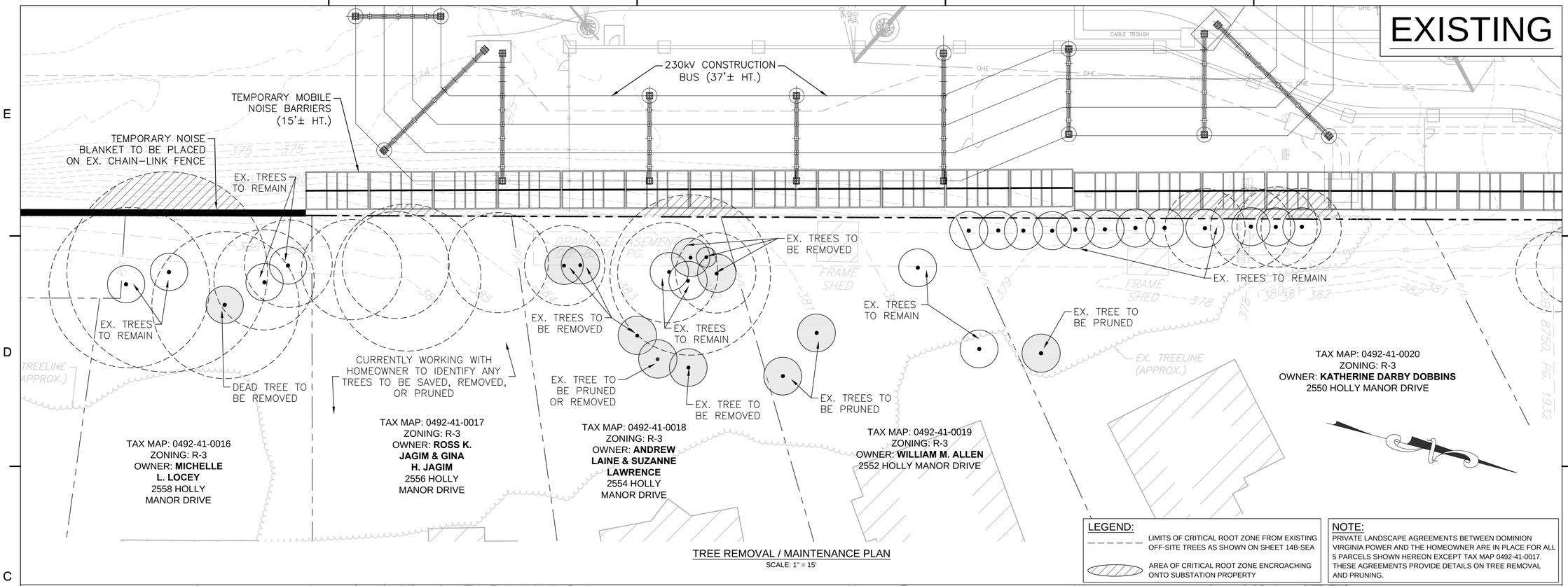
## OFF-SITE TREE SURVEY

PROJECT NO. 50058411

# 14B-SEA

SHEET NO. 22 OF 32

# EXISTING




TREE REMOVAL / MAINTENANCE PLAN

SCALE: 1" = 15'

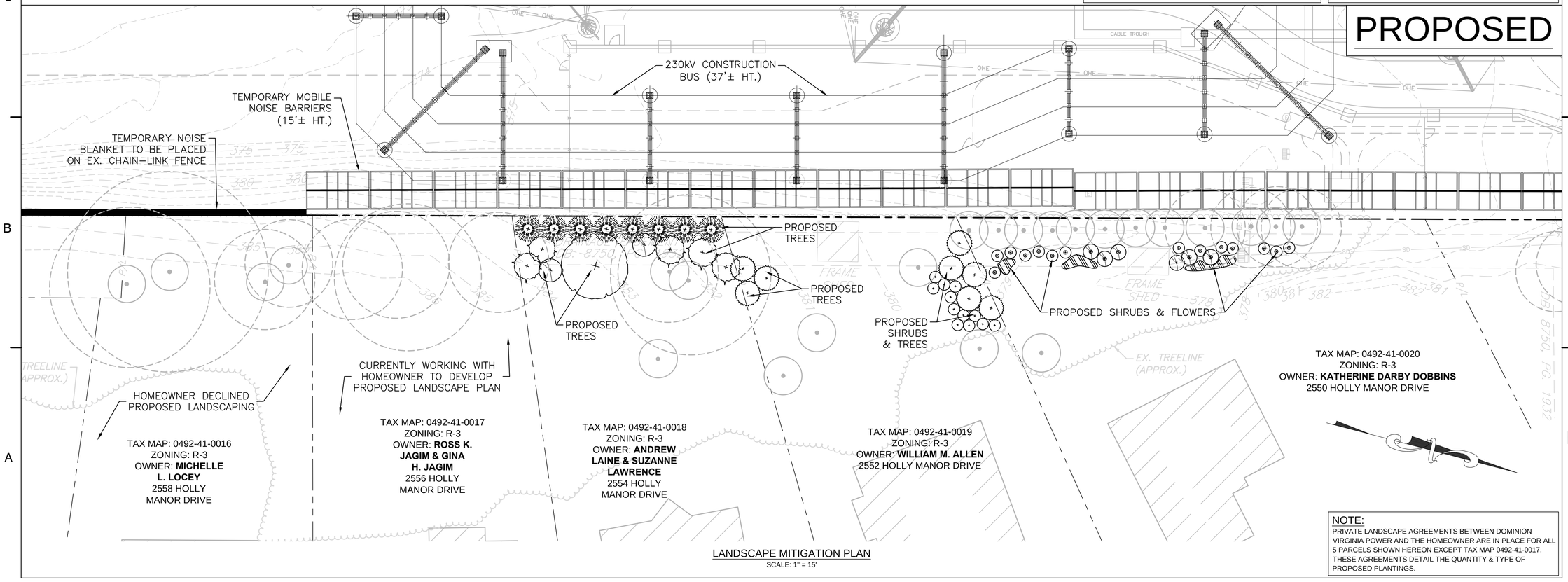
LEGEND:

- LIMITS OF CRITICAL ROOT ZONE FROM EXISTING OFF-SITE TREES AS SHOWN ON SHEET 14B-SEA
- AREA OF CRITICAL ROOT ZONE ENCROACHING ONTO SUBSTATION PROPERTY

NOTE:

PRIVATE LANDSCAPE AGREEMENTS BETWEEN DOMINION VIRGINIA POWER AND THE HOMEOWNER ARE IN PLACE FOR ALL 5 PARCELS SHOWN HEREON EXCEPT TAX MAP 0492-41-0017. THESE AGREEMENTS PROVIDE DETAILS ON TREE REMOVAL AND PRUNING.

# PROPOSED




LANDSCAPE MITIGATION PLAN

SCALE: 1" = 15'

NOTE:

PRIVATE LANDSCAPE AGREEMENTS BETWEEN DOMINION VIRGINIA POWER AND THE HOMEOWNER ARE IN PLACE FOR ALL 5 PARCELS SHOWN HEREON EXCEPT TAX MAP 0492-41-0017. THESE AGREEMENTS DETAIL THE QUANTITY & TYPE OF PROPOSED PLANTINGS.


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
AMENDMENT & 2232 PLAN
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
05/15/17
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 15' 30'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | MAY 2017 |

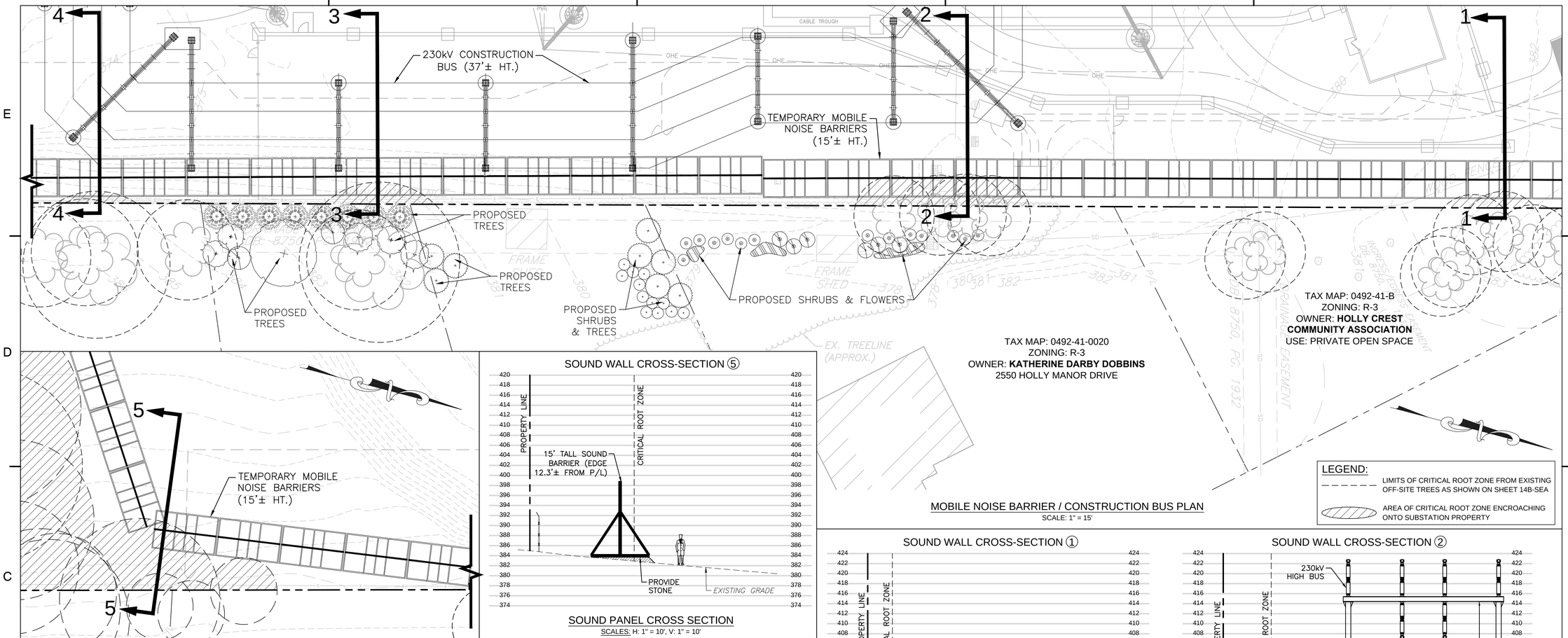
TITLE

OFF-SITE TREE AREA ENHANCEMENTS THRU PRIVATE AGREEMENTS

PROJECT NO. 50058411

14C-SEA

SHEET NO. 23 OF 32




MOBILE NOISE BARRIER / CONSTRUCTION BUS PLAN

SCALE: 1" = 15'

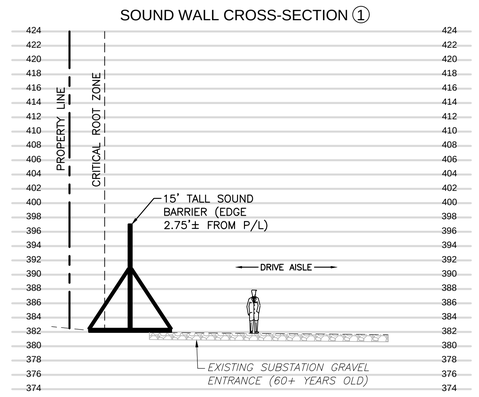


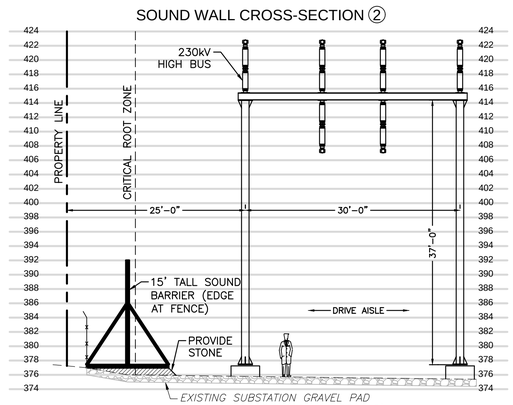


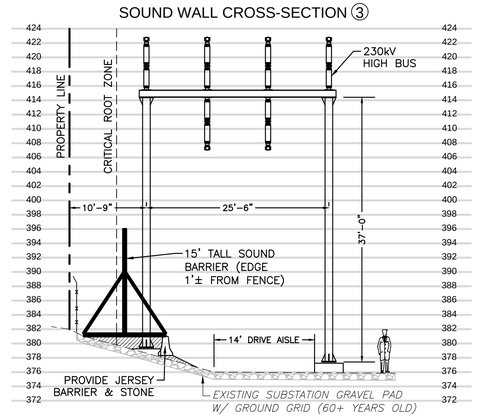


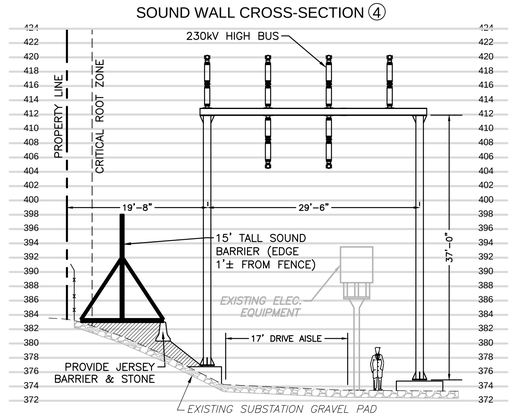
SOUND PANEL CROSS SECTION

SCALES: H: 1" = 10', V: 1" = 10'




NOTES:
1. CROSS-SECTIONS ARE TAKEN LOOKING SOUTH.
2. PLACE RIPRAP ON FILL SLOPES TO PREVENT EROSION.

SOUND PANEL / HIGH BUS CROSS SECTIONS

SCALES: H: 1" = 10', V: 1" = 10'

## MOBILE NOISE BARRIER / CONSTRUCTION BUS NARRATIVE:

### SUMMARY OF PROPOSED STRUCTURES

MOBILE NOISE BARRIERS:
THE SOUND FIGHTER SYSTEM IS A MOBILE NOISE BARRIER THAT IS DESIGNED TO ABSORB NOISE (NOT REFLECT IT). THEY CONSIST OF A SERIES OF 15' TALL PRE-ENGINEERED SANDSTONE-COLORED PANELS, EACH PANEL IS APPROXIMATELY 19' LONG. THE SMALL (SEVERAL INCHES) GAPS BETWEEN THE PANELS ARE SECURED WITH A VELCRO SOUND BLANKET TO ENSURE SOUND DOES NOT GET THROUGH. THE PANELS WILL BE INSTALLED ALONG THE EASTERN PROPERTY LINE OF THE SUBSTATION SITE, WHERE ADJACENT HOMES ARE IN CLOSEST PROXIMITY. THERE IS AN AREA APPROX. 150' LONG WHERE THE EXISTING GRADE IS TOO STEEP TO INSTALL THESE PANELS. IN THIS AREA, A SOUND ABSORPTIVE BLANKET WILL BE ATTACHED TO THE INSIDE OF THE EXISTING CHAIN LINK SUBSTATION FENCE. THIS BLANKET WILL FUNCTION IN A SIMILAR MANNER TO THE SOUND PANELS. EXTRA LENGTHS OF THE SOUND BLANKET WILL BE INSTALLED TO BRIDGE THE GAP BETWEEN THE PANELS AND THE BLANKET ON THE FENCE.

CONSTRUCTION BUS:
BUS WORK IS A COMMON COMPONENT OF SUBSTATIONS AND CAN BE FOUND IN ANY AREA DEPENDING UPON ITS DESIGN AND PURPOSE. ITS OVERALL ROLE IS TO CARRY ELECTRICAL CURRENT OVERHEAD TO DIFFERENT COMPONENTS WITHIN A SUBSTATION - SIMILAR TO UTILITY POLES CARRYING WIRES. THE PROPOSED CONSTRUCTION BUS WILL BE NEEDED TO CARRY A PORTION OF THE TRANSMISSION POWER FLOW AROUND THE AREAS OF THE SUBSTATION WHERE CONSTRUCTION WILL OCCUR. IT WILL BE A SOLID, STEEL, LINEAR STRUCTURE CONSISTING OF STRUCTURAL SUPPORTS RANGING FROM 35 TO 37 FEET ON WHICH SEAMLESS, TUBULAR BUS PIPE WILL BE ATTACHED VIA HIGH STRENGTH INSULATORS AT THE TOP THAT CARRY THE CURRENT.

### METHOD OF INSTALLATION

MOBILE NOISE BARRIERS:
THE MODULAR NOISE BARRIER DESIGN ALLOWS FOR INSTALLATION OF THE PANELS WITHOUT COMPLEX CONSTRUCTION EQUIPMENT - A TYPICAL SMALL BOOM LIFT IS CAPABLE OF INSTALLING THE PANELS. THE MODULAR DESIGN ALSO ALLOWS FOR THE PANELS TO BE TAKEN DOWN, MOVED, OR REASSEMBLED VERY EASILY. EACH PANEL IS SECURED TO THE GROUND VIA SIX (6) ANCHOR RODS AND TIE-DOWN CABLE ASSEMBLIES - ONE AT THE CORNER OF EACH BRACE AND ONE AT THE MIDPOINT OF EACH OUTRIGGER BRACE. EACH ANCHOR ROD IS 1" IN DIAMETER AND 5'-6" DEEP INTO THE GROUND, BECAUSE OF THE NARROW ROD DIAMETER, NO IMPACTS TO THE CRITICAL ROOT ZONES OF OFF-SITE TREES ARE ANTICIPATED.

CONSTRUCTION BUS:
THE STRUCTURAL STEEL FOR THE CONSTRUCTION BUS WILL BE SET IN PLACE WITH A CRANE, AND SECURED TO THE GROUND VIA CONCRETE FOUNDATIONS. THE FOUNDATIONS ARE 54" IN DIAMETER AND 11' DEEP. ALL THE FOUNDATIONS WILL BE REMOVED AFTER THE CONSTRUCTION BUS IS TAKEN OUT OF SERVICE, AND THE VOIDS WILL BE BACKFILLED WITH NATIVE SOILS SUITABLE FOR PLANTINGS IN THE TRANSITIONAL SCREENING YARD. THE SPAN (WIDTH) OF THE CONSTRUCTION BUS IS NOMINALLY 25'-6".

### MAINTENANCE

MOBILE NOISE BARRIERS:
THE PANELS ARE MAINTENANCE FREE, WITH THE FOLLOWING CHARACTERISTICS: LIGHT WEIGHT, STRONG, DURABLE, WEATHERPROOF; EASY TO ASSEMBLE, MOVE AND DISASSEMBLE; NON-CORROSIVE, MOLD AND MILDEW RESISTANT, AND WILL NOT ROT, RUST, OR STAIN.

CONSTRUCTION BUS:
THE CONSTRUCTION BUS IS MAINTENANCE FREE, WITH THE FOLLOWING CHARACTERISTICS: TUBULAR STEEL, RIGID, STRONG, NON-CORROSIVE, DURABLE, WEATHER-PROOF, ALUMINUM ALLOY COATING, THAT WILL NOT ROT, RUST, OR STAIN.

### DURATION

MOBILE NOISE BARRIERS:
AS OF MARCH 2017, THE PANELS ARE BEING INSTALLED TO MITIGATE NOISE FROM ONGOING UNDERGROUND DISTRIBUTION CONSTRUCTION ACTIVITIES AND FUTURE SITE CONSTRUCTION FOR THE SUBSTATION REBUILD PROJECT. IT IS ANTICIPATED THAT THESE PANELS WILL REMAIN IN PLACE DURING THE FIRST 3-4 YEARS OF CONSTRUCTION. AFTER THAT TIME, THE AREA WILL BE RESTORED / AMENDED FOR THE ULTIMATE TRANSITIONAL SCREENING BUFFER YARD FOR PLANTING.

CONSTRUCTION BUS:
IT WILL BE NECESSARY FOR THE CONSTRUCTION BUS TO BE LOCATED AT THE SITE FOR AN APPROXIMATE 3-YEAR PERIOD UNTIL CONSTRUCTION CONCLUDES. HOWEVER, IT WILL NOT BE IN OPERATION THE FIRST YEAR. IT WILL SIMPLY BE AN UNUSED STRUCTURE, SIMILAR IN APPEARANCE TO SCAFFOLDING. THE STRUCTURE MUST BE CONSTRUCTED FIRST SO IT WILL BE READY WHEN NEEDED. FURTHER, DUE TO THE COMPLEX CONSTRUCTION PROCESS, THERE WILL NOT BE ROOM OR OPPORTUNITY ONCE REMODELING OF THE SUBSTATION BEGINS TO PLACE THE HIGH BUS IN ITS NECESSARY LOCATION. ONCE CERTAIN CONSTRUCTION SEQUENCES ARE COMPLETE AFTER APPROXIMATELY 1 YEAR, THE CONSTRUCTION BUS WILL BE ENERGIZED, AND DOMINION WILL CONTINUE TO REMODEL THE REMAINING SUBSTATION AREAS. THE HIGH BUS WILL REMAIN IN OPERATION FOR APPROXIMATELY 2 YEARS AND WILL BE DISMANTLED WHEN THE NEWLY CONSTRUCTED GIS EQUIPMENT IS COMPLETE AND ENERGIZED. ONCE THE CONSTRUCTION BUS IS REMOVED, THE AREA WILL BE RESTORED / AMENDED FOR THE ULTIMATE TRANSITIONAL SCREENING BUFFER YARD FOR PLANTING.

### REMOVAL

MOBILE NOISE BARRIERS:
THE PANELS WILL BE TAKEN DOWN AFTER ALL OF THE MAJOR NOISE-PRODUCING CONSTRUCTION IS COMPLETE, AFTER THE PANELS ARE REMOVED, THE AREA WILL BE RESTORED / AMENDED FOR THE ULTIMATE TRANSITIONAL SCREENING BUFFER YARD FOR PLANTING. THE SOUND PANELS WILL BE REMOVED FROM THE SITE AND NOT STORED ANYWHERE ON SITE AFTER CONSTRUCTION IS COMPLETE.

CONSTRUCTION BUS:
THE CONSTRUCTION BUS WILL BE REMOVED ONCE THE NEW GIS EQUIPMENT IS INSTALLED IN THE UPPER YARD, AND IS ABLE TO HAVE POWER FED TO IT BY MEANS OTHER THAN THE HIGH BUS. THE HIGH BUS WILL BE REMOVED PRIOR TO THE CONSTRUCTION OF THE SOLID PERIMETER SCREENING WALL, AND THEN THE AREA WILL BE RESTORED / AMENDED FOR THE ULTIMATE TRANSITIONAL SCREENING BUFFER YARD FOR PLANTING.

### CRITICAL ROOT ZONES (CRZ)

MOBILE NOISE BARRIERS:
THE PANELS SLIGHTLY ENCROACH INTO THE CRZ OF OFF-SITE TREES ALONG THE EASTERN PROPERTY LINE IN FOUR (4) SMALL AREAS AS SHOWN ABOVE. A CROSS-SECTION HAS BEEN PROVIDED ON THIS SHEET AT EACH OF THESE AREAS. THE OVERALL ENCROACHMENT IS MINOR. ANY FILL OVER TOP OF THE CRZ IS NON-COMPACTED STONE WHICH HAS A 40% VOID TO ALLOW FOR AIR & WATER TO PERMEATE TO THE CRZ BELOW THE EXISTING 60+ YEAR OLD SUBSTATION GRAVEL PAD.

THE MOBILE NOISE BARRIERS LOCATED AT THE SOUTHEAST CORNER OF THE SITE HAVE BEEN ADJUSTED TO NOW BE ALMOST COMPLETELY OUT OF THE CRZ OF OFF-SITE TREES. THE REASON THEY STILL ENCROACH SLIGHTLY INTO THE CRZ IS BECAUSE IT IS CRITICAL TO THE OPERATION OF THE POWER GRID IN THE AREA TO ALLOW FOR MAINTENANCE ACCESS TO A NEARBY DISTRIBUTION MANHOLE VAULT.

CONSTRUCTION BUS:
THE CONSTRUCTION BUS DOES NOT ENCROACH INTO THE CRZ OF ANY OFF-SITE TREES.

### AREA RESTORATION

ONCE THE CONSTRUCTION BUS AND MODULAR SOUND BARRIER ARE REMOVED, THE AREA WILL BE RESTORED / AMENDED FOR THE ULTIMATE TRANSITIONAL SCREEN BUFFER YARD FOR PLANTING. THE TOP 48" OF THE FOUNDATIONS FOR THE CONSTRUCTION BUS WILL BE REMOVED ALONG WITH THE ANCHORING (STAKE ROD SYSTEM) FOR THE MODULAR SOUND BARRIER. THE EXISTING SUBSTATION GRAVEL YARD WILL BE REMOVED IN THE AREA OF THE TRANSITIONAL SCREEN BUFFER YARD. SOIL REMEDIATION SHALL BE CARRIED OUT PURSUANT TO THE FINAL SOIL REMEDIATION DEVELOPMENT CONDITION.

THE TRANSITIONAL SCREENING BUFFER YARD WILL BE INSTALLED PURSUANT TO THE APPROVED ORIGINAL SPECIAL EXCEPTION SE 2014-PR-032.

Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com

Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
AMENDMENT & 2232 PLAN
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
05/15/17
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 15' 30'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | MAY 2017 |

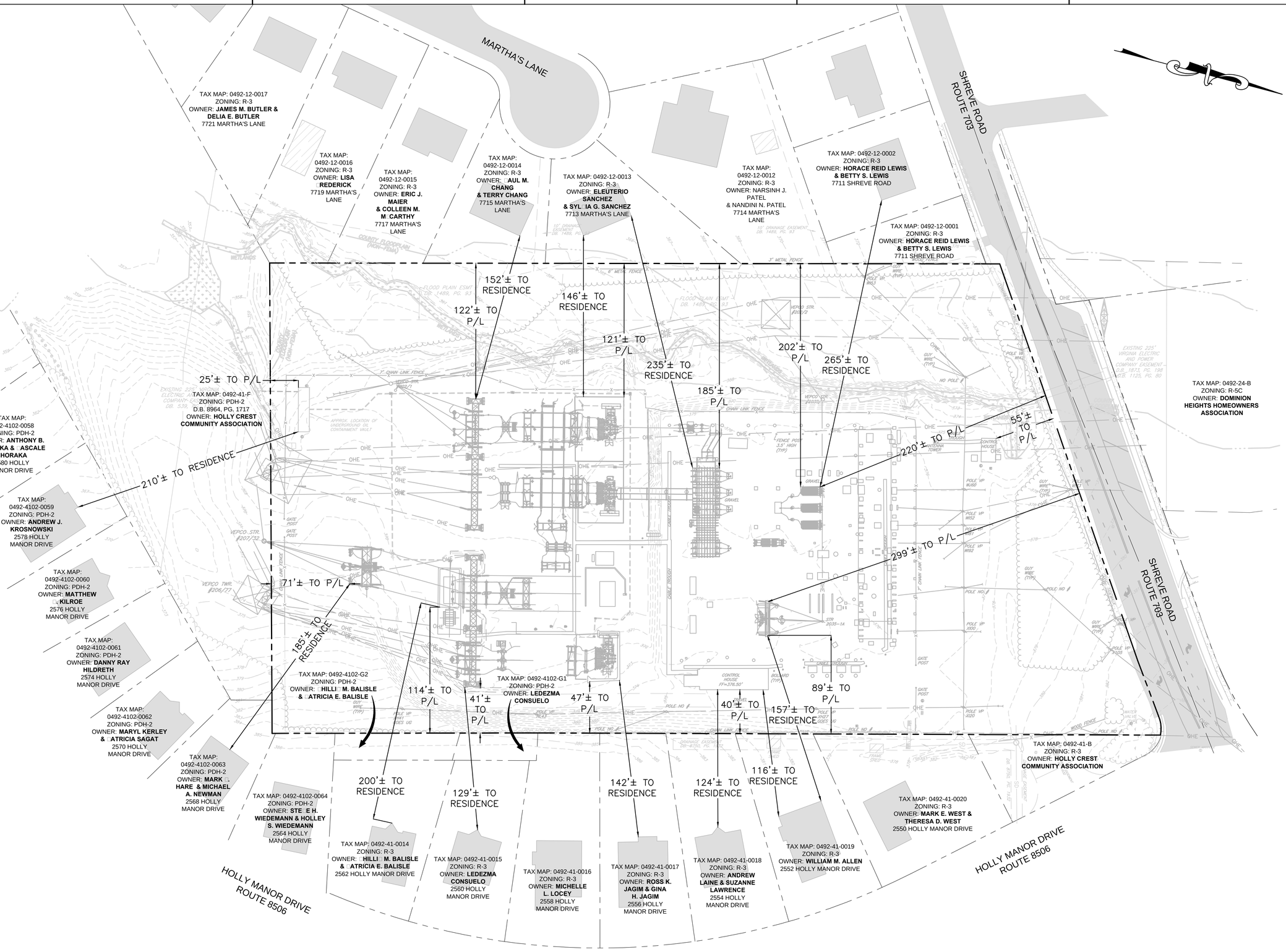
TITLE

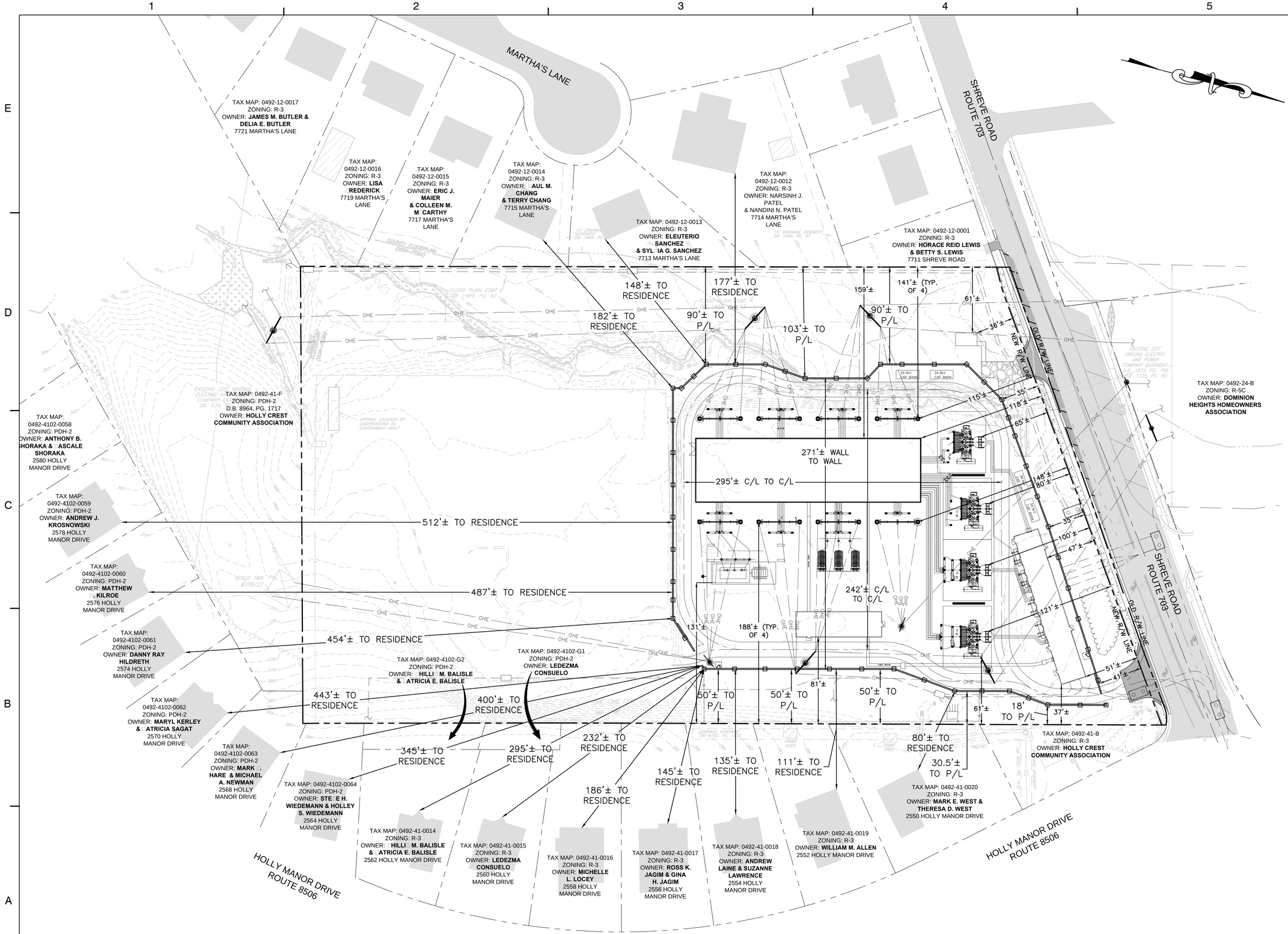
MOBILE NOISE BARRIER / CONSTRUCTION BUS INFO

PROJECT NO. 50058411

14D-SEA

SHEET NO. 24 OF 32


MARTHA'S LANE
SHREVE ROAD ROUTE 703
TAX MAP: 0492-12-0017 ZONING: R-3 OWNER: JAMES M. BUTLER & DELIA E. BUTLER 7721 MARTHA'S LANE
TAX MAP: 0492-12-0016 ZONING: R-3 OWNER: LISA REDERICK 7719 MARTHA'S LANE
TAX MAP: 0492-12-0015 ZONING: R-3 OWNER: ERIC J. MAIER & COLLEEN M. M. CARTHY 7717 MARTHA'S LANE
TAX MAP: 0492-12-0014 ZONING: R-3 OWNER: AUL M. CHANG & TERRY CHANG 7715 MARTHA'S LANE
TAX MAP: 0492-12-0013 ZONING: R-3 OWNER: ELEUTERIO SANCHEZ & SYL IA G. SANCHEZ 7713 MARTHA'S LANE
TAX MAP: 0492-12-0012 ZONING: R-3 OWNER: NARSINH J. PATEL & NANDINI N. PATEL 7714 MARTHA'S LANE
TAX MAP: 0492-12-0002 ZONING: R-3 OWNER: HORACE REID LEWIS & BETTY S. LEWIS 7711 SHREVE ROAD
TAX MAP: 0492-12-0001 ZONING: R-3 OWNER: HORACE REID LEWIS & BETTY S. LEWIS 7711 SHREVE ROAD
TAX MAP: 0492-24-B ZONING: R-5C OWNER: DOMINION HEIGHTS HOMEOWNERS ASSOCIATION
TAX MAP: 0492-41-F ZONING: PDH-2 D.B. 8964, PG. 1717 OWNER: HOLLY CREST COMMUNITY ASSOCIATION
TAX MAP: 0492-4102-0058 ZONING: PDH-2 OWNER: ANTHONY B. SHORAKA & ASCALE SHORAKA 2580 HOLLY MANOR DRIVE
TAX MAP: 0492-4102-0059 ZONING: PDH-2 OWNER: ANDREW J. KROSNOWSKI 2578 HOLLY MANOR DRIVE
TAX MAP: 0492-4102-0060 ZONING: PDH-2 OWNER: MATTHEW KILROE 2576 HOLLY MANOR DRIVE
TAX MAP: 0492-4102-0061 ZONING: PDH-2 OWNER: DANNY RAY HILDRETH 2574 HOLLY MANOR DRIVE
TAX MAP: 0492-4102-0062 ZONING: PDH-2 OWNER: MARYL KERLEY & ATRICIA SAGAT 2570 HOLLY MANOR DRIVE
TAX MAP: 0492-4102-0063 ZONING: PDH-2 OWNER: MARK HARE & MICHAEL A. NEWMAN 2568 HOLLY MANOR DRIVE
TAX MAP: 0492-4102-0064 ZONING: PDH-2 OWNER: STE E H. WIEDEMANN & HOLLEY S. WIEDEMANN 2564 HOLLY MANOR DRIVE
TAX MAP: 0492-41-0014 ZONING: R-3 OWNER: HILLI M. BALISLE & ATRICIA E. BALISLE 2562 HOLLY MANOR DRIVE
TAX MAP: 0492-41-0015 ZONING: R-3 OWNER: LEDEZMA CONSUELO 2560 HOLLY MANOR DRIVE
TAX MAP: 0492-41-0016 ZONING: R-3 OWNER: MICHELLE L. LOCEY 2558 HOLLY MANOR DRIVE
TAX MAP: 0492-41-0017 ZONING: R-3 OWNER: ROSS K. JAGIM & GINA H. JAGIM 2556 HOLLY MANOR DRIVE
TAX MAP: 0492-41-0018 ZONING: R-3 OWNER: ANDREW LAINE & SUZANNE LAWRENCE 2554 HOLLY MANOR DRIVE
TAX MAP: 0492-41-0019 ZONING: R-3 OWNER: WILLIAM M. ALLEN 2552 HOLLY MANOR DRIVE
TAX MAP: 0492-41-0020 ZONING: R-3 OWNER: MARK E. WEST & THERESA D. WEST 2550 HOLLY MANOR DRIVE
TAX MAP: 0492-41-B ZONING: R-3 OWNER: HOLLY CREST COMMUNITY ASSOCIATION
TAX MAP: 0492-4102-G2 ZONING: PDH-2 OWNER: HILLI M. BALISLE & ATRICIA E. BALISLE
TAX MAP: 0492-4102-G1 ZONING: PDH-2 OWNER: LEDEZMA CONSUELO
152'± TO RESIDENCE
122'± TO P/L
146'± TO RESIDENCE
121'± TO P/L
235'± TO RESIDENCE
185'± TO P/L
202'± TO P/L
265'± TO RESIDENCE
25'± TO P/L
210'± TO RESIDENCE
71'± TO P/L
185'± TO RESIDENCE
114'± TO P/L
41'± TO P/L
47'± TO P/L
40'± TO P/L
157'± TO RESIDENCE
89'± TO P/L
220'± TO P/L
55'± TO P/L
299'± TO P/L
200'± TO RESIDENCE
129'± TO RESIDENCE
142'± TO RESIDENCE
124'± TO RESIDENCE
116'± TO RESIDENCE
HOLLY MANOR DRIVE ROUTE 8506
HOLLY MANOR DRIVE ROUTE 8506
SHREVE ROAD ROUTE 703
COUNTY FLOODPLAIN (NON-FEMA)
FLOOD PLAIN ESMT DB. 1489, PG. 93
FLOOD PLAIN ESMT DB. 1489, PG. 91
10' DRAINAGE EASEMENT DB. 1489, PG. 93
EXISTING 225' VIRGINIA ELECTRIC AND POWER COMPANY EASEMENT D.B. 1873, PG. 198 D.B. 1125, PG. 80
EXISTING 225' VIRGINIA ELECTRIC AND POWER COMPANY EASEMENT D.B. 1489, PG. 91
APPROX. LOCATION OF UNDERGROUND OIL CONTAINMENT VAULT
VEPCO STR. #202/2
VEPCO STR. #202/3
VEPCO STR. #207/32
VEPCO TWR. #206/77
STR 2035-1A
CONTROL HOUSE FF=378.50'
CONTROL HOUSE
ANTENNA TOWER
WETLANDS
OHE
GUY WIRE (TYP.)
POLE NO.
POLE VP W52
POLE VP W53
POLE VP W54
POLE VP W55
POLE VP 3020
POLE VP 3105
POLE VP 3107
POLE VP 3141
GATE POST
GATE
CHAIN LINK FENCE
7' CHAIN LINK FENCE
3' METAL FENCE
6' METAL FENCE
WOOD FENCE
GRAVEL
CABLE TRENCH
BOLLARD (TYP.)
FENCE POST 3.5' HIGH (TYP.)
WATER VALVE MH
SS MH
DRAINAGE EASEMENT DB. 8750, PG. 1552
DRAINAGE EASEMENT
TAPER 382'-161'
TAPER 382'-161'
FSMME 2003'
STR 2035-1A
POLE VP 3107
POLE VP 3141
POLE VP 3105
POLE VP 3020
POLE VP W52
POLE VP W53
POLE VP W54
POLE VP W55
POLE NO 1
POLE NO 2
POLE NO 3
POLE NO 4
POLE NO 5
POLE NO 6
POLE NO 7
POLE NO 8
POLE NO 9
POLE NO 10
POLE NO 11
POLE NO 12
POLE NO 13
POLE NO




*FOR INFORMATION ONLY*

**Dewberry**


Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


**Dominion**

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT
## 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 40' 80'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

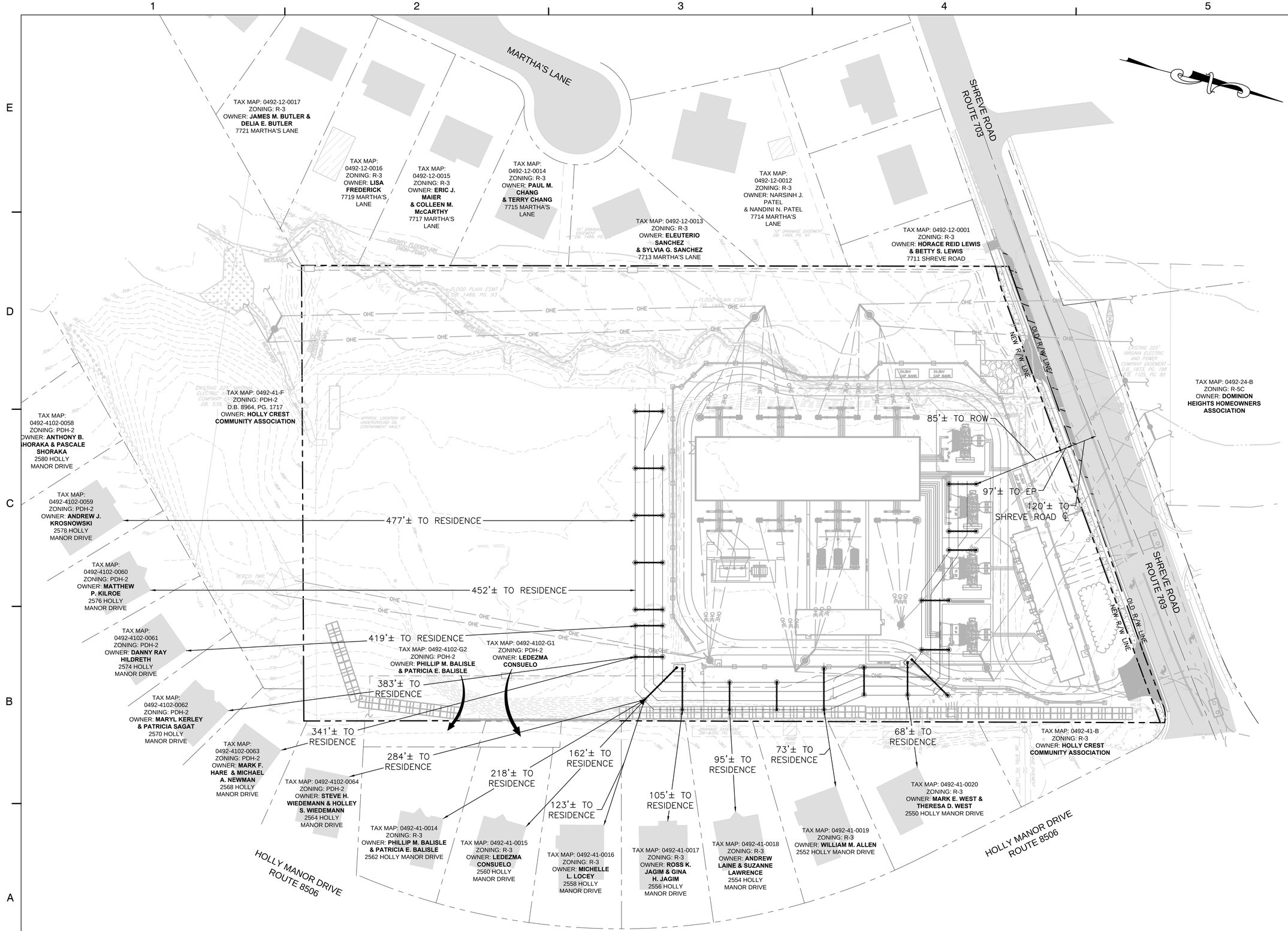
TITLE

## PROPOSED DIMENSION PLAN FROM ADJACENT PROPERTY LINES & RESIDENCES

PROJECT NO. 50058411

16

SHEET NO. 18 OF 21




**Dewberry**


Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


**Dominion**

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT AMENDMENT & 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
05/15/17
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 40' 80'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | MAY 2017 |

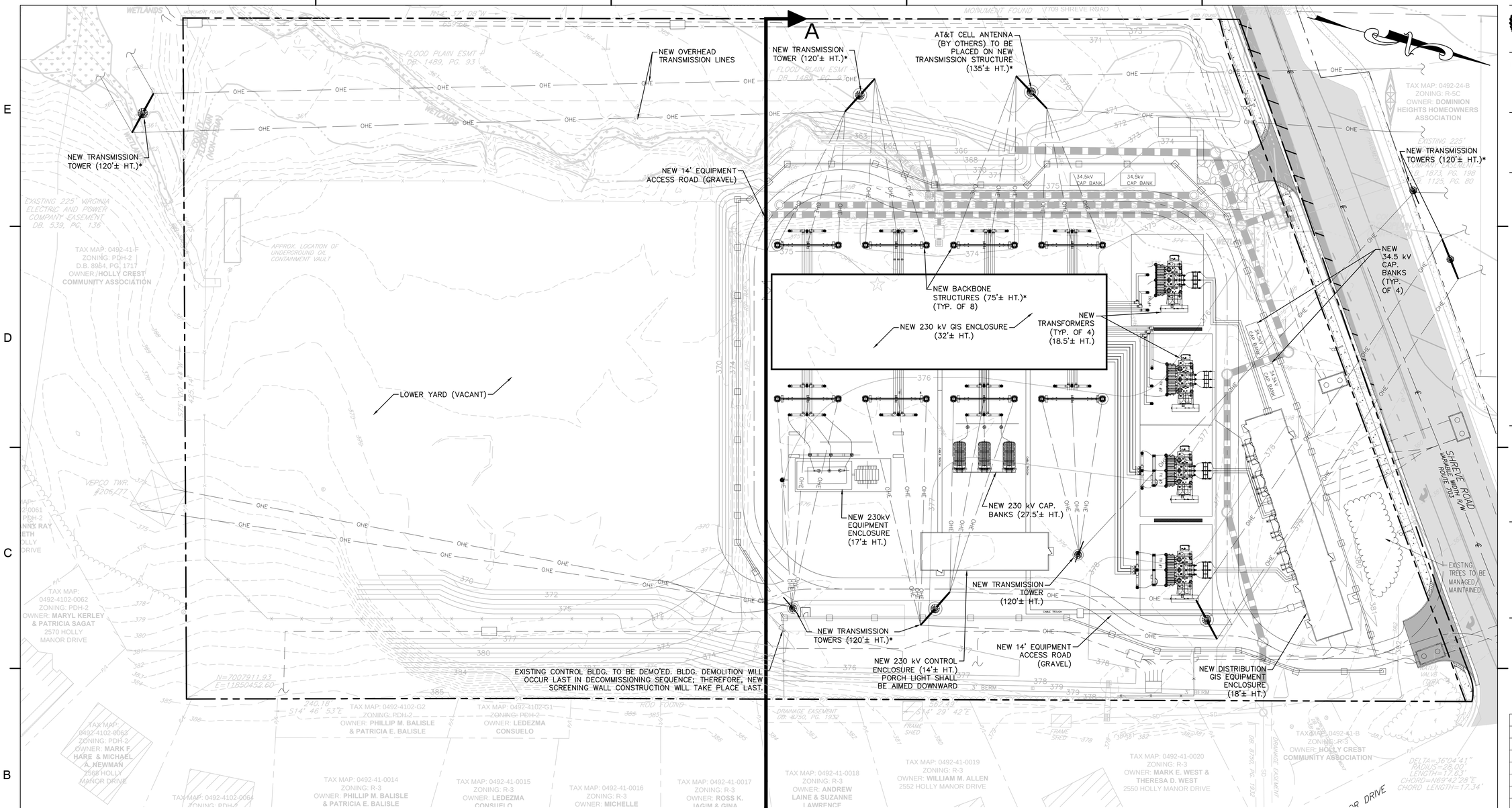
TITLE

## PROPOSED DIMENSION PLAN FROM ADJACENT RESIDENCES TO CONSTRUCTION BUS

PROJECT NO. 50058411

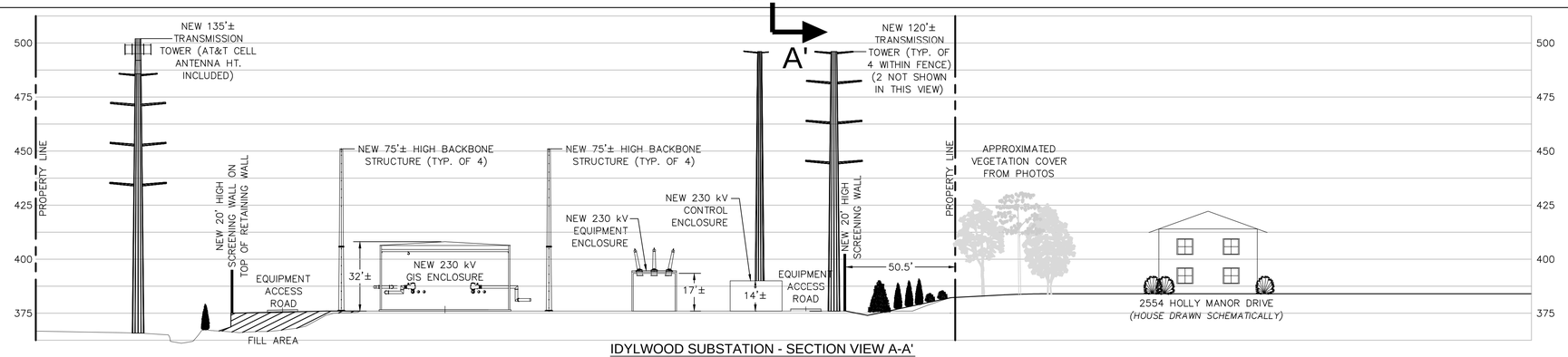
# 16-SEA

SHEET NO. 27 OF 32




IDYLWOOD SUBSTATION - PLAN VIEW

SCALE: 1" = 30'




IDYLWOOD SUBSTATION - SECTION VIEW A-A'

SCALES: H: 1" = 30', V: 1" = 30'

*FOR INFORMATION ONLY*

**Dewberry**


Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT
## 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

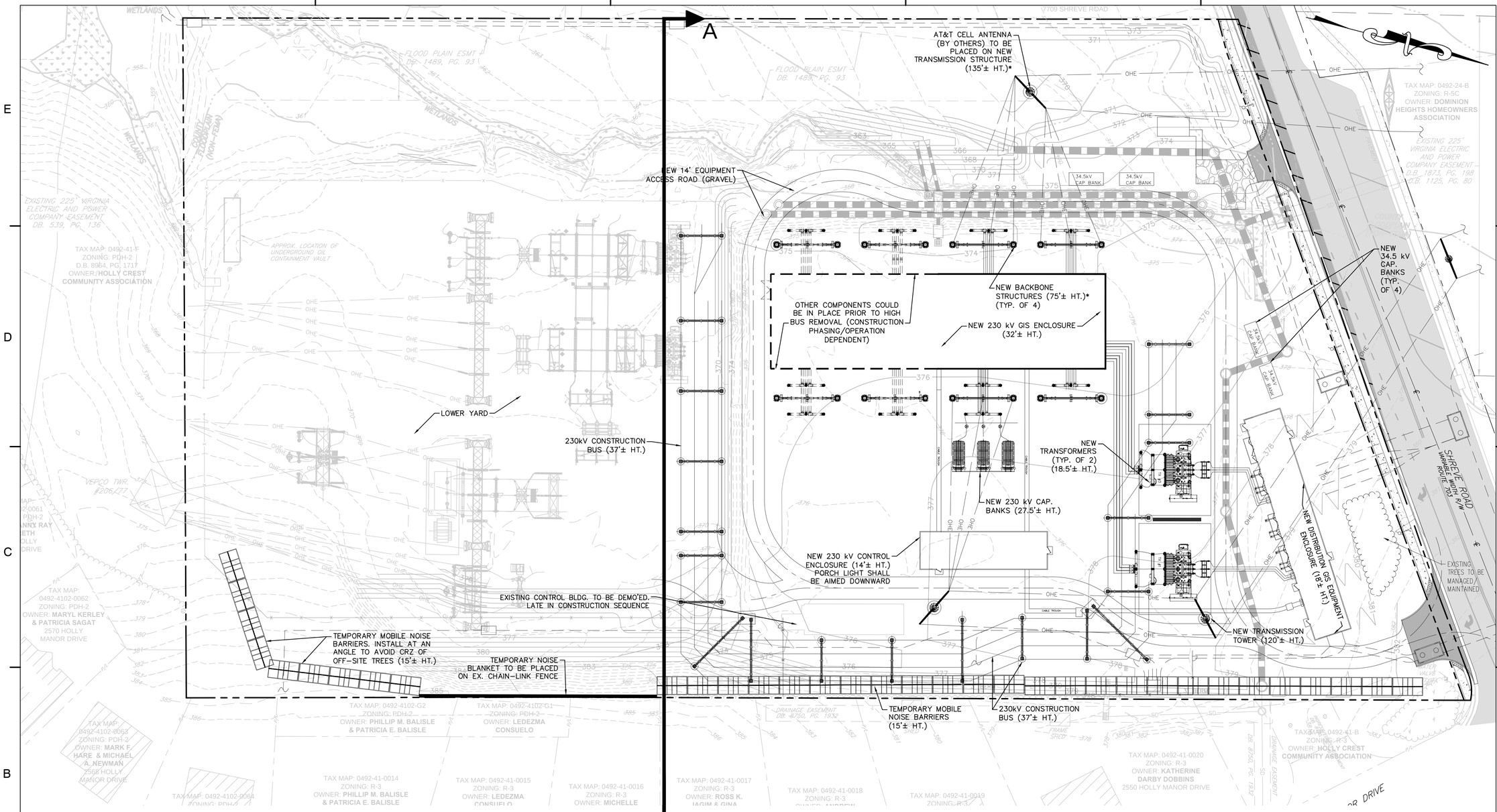
TITLE

## SUBSTATION SECTION VIEW A-A'

PROJECT NO. 50058411

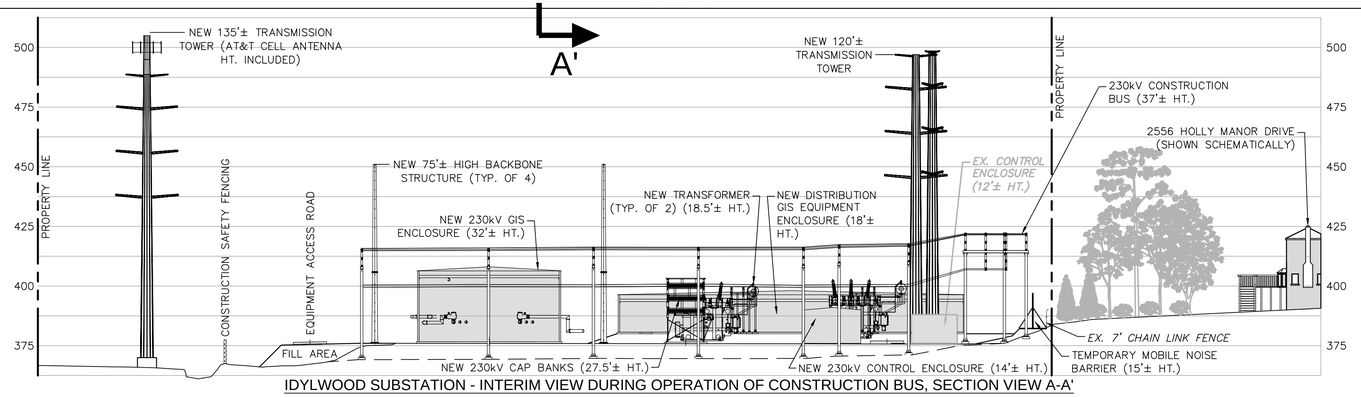
17

SHEET NO. 17 OF 19




IDYLWOOD SUBSTATION - INTERIM VIEW DURING OPERATION OF CONSTRUCTION BUS, PLAN VIEW

SCALE: 1" = 30'




IDYLWOOD SUBSTATION - INTERIM VIEW DURING OPERATION OF CONSTRUCTION BUS, SECTION VIEW A-A'

SCALES: H: 1" = 30', V: 1" = 30'

**NOTE:**
DIAGRAMS PROVIDE REPRESENTATIONAL VIEWS OF PROPOSED ELECTRIC TRANSMISSION FACILITIES. THESE ILLUSTRATIONS PICTORIALLY DEPICT STRUCTURES AND PLACEMENT. PROJECT IS SUBJECT TO FINAL ENGINEERING.


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT AMENDMENT & 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
05/15/17
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | MAY 2017 |

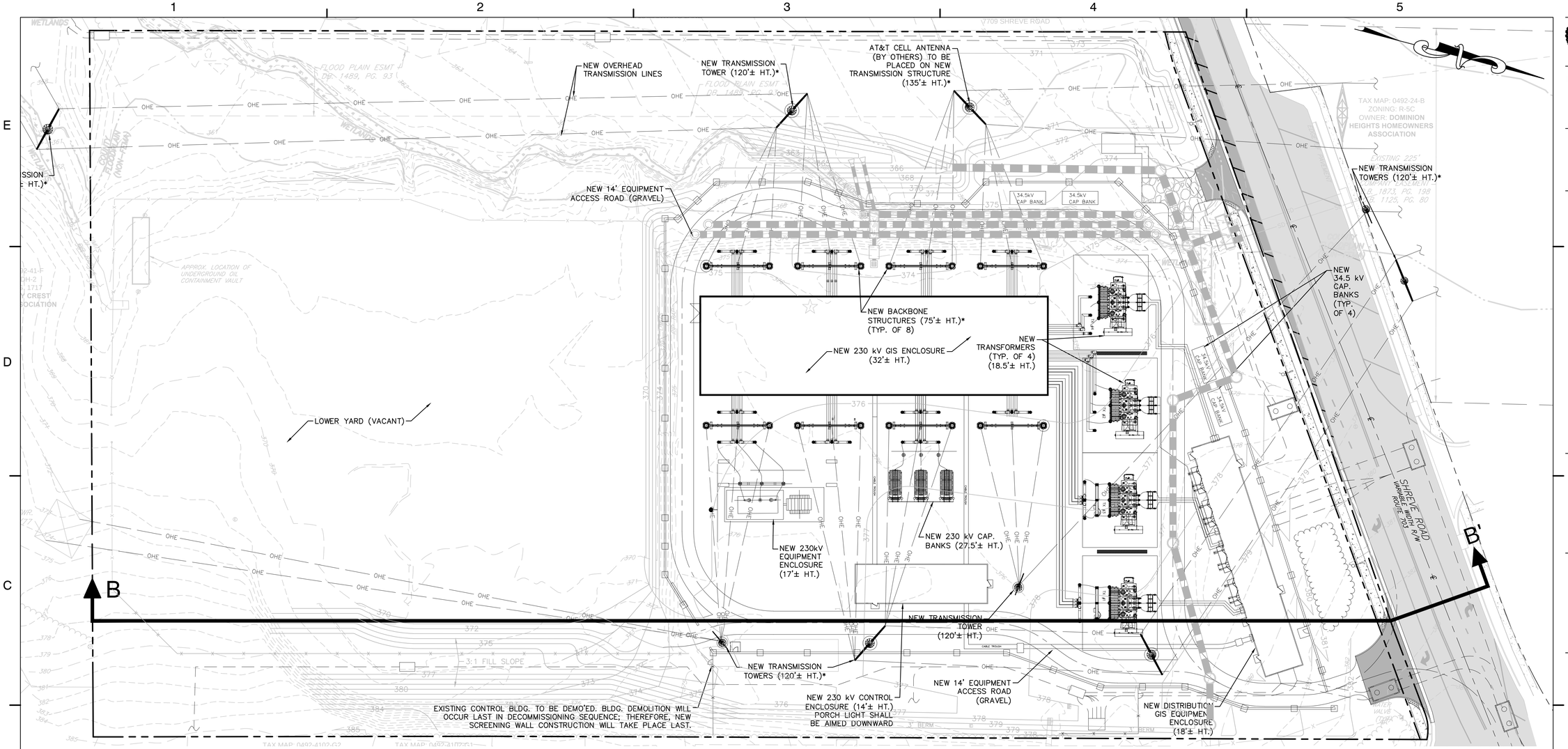
TITLE

## SUBSTATION SECTION VIEW A-A'

PROJECT NO. 50058411

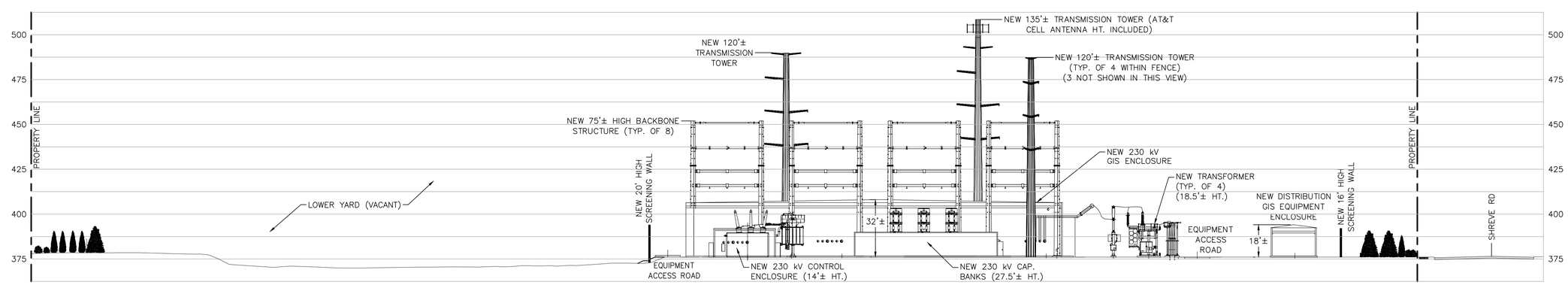
# 17-SEA

SHEET NO. 29 OF 32




IDYLWOOD SUBSTATION - PLAN VIEW

SCALE: 1" = 30'




IDYLWOOD SUBSTATION - SECTION VIEW B-B'

SCALES: H: 1" = 30', V: 1" = 30'

*FOR INFORMATION ONLY*


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

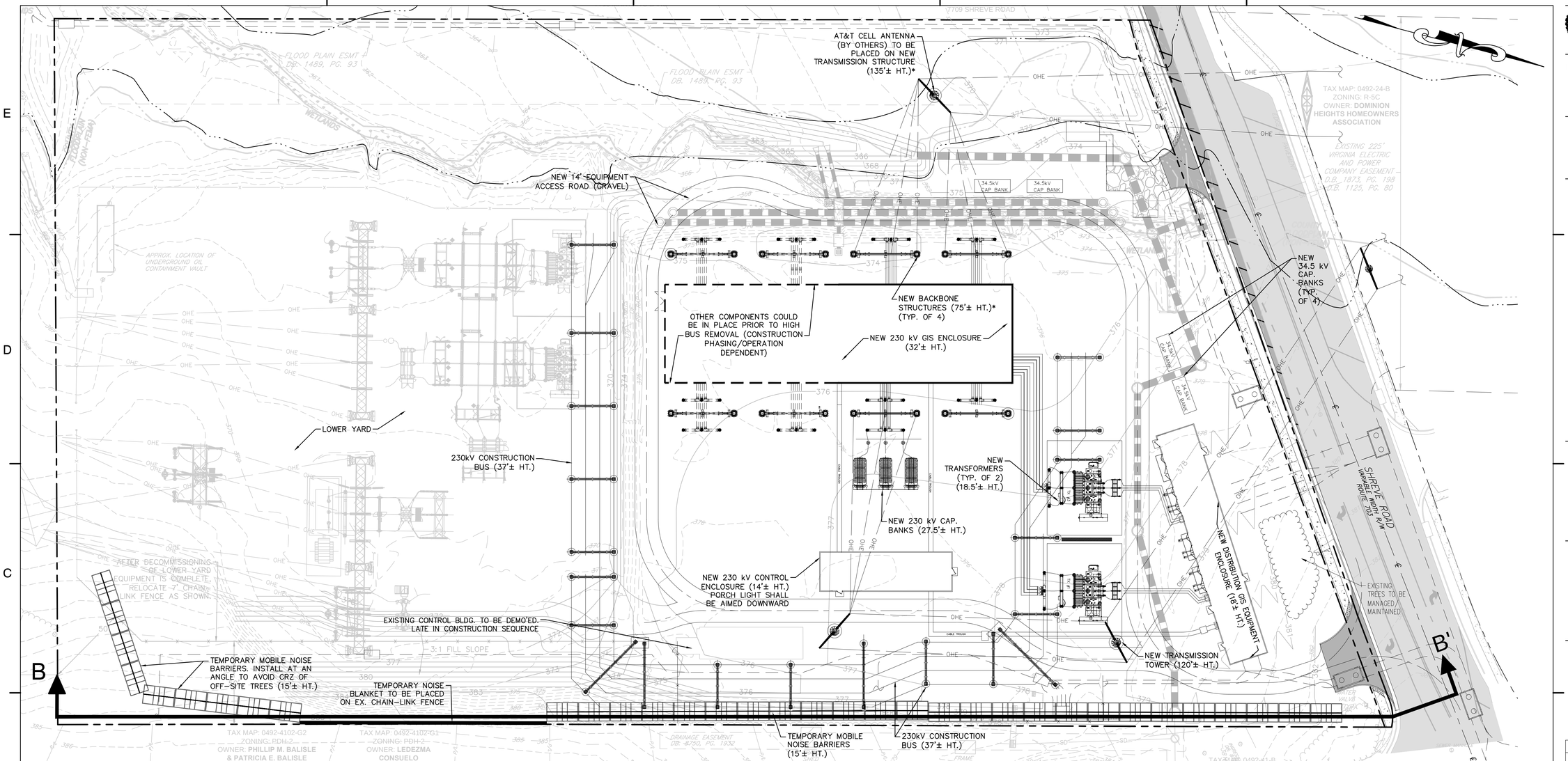
TITLE

SUBSTATION SECTION VIEW B-B'

PROJECT NO. 50058411

18

SHEET NO. 18 OF 19

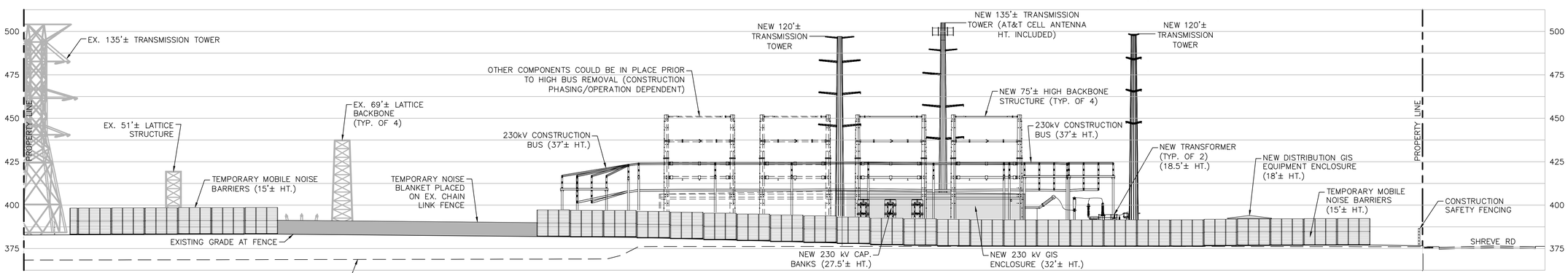



IDYLWOOD SUBSTATION - INTERIM VIEW DURING OPERATION OF CONSTRUCTION BUS, PLAN VIEW

SCALE: 1" = 30'

**NOTES:**

DIAGRAMS PROVIDE REPRESENTATIONAL VIEWS OF PROPOSED ELECTRIC TRANSMISSION FACILITIES. THESE ILLUSTRATIONS PICTORIALLY DEPICT STRUCTURES AND PLACEMENT. PROJECT IS SUBJECT TO FINAL ENGINEERING.




IDYLWOOD SUBSTATION - INTERIM VIEW DURING OPERATION OF CONSTRUCTION BUS, SECTION VIEW B-B'

SCALES: H: 1" = 30', V: 1" = 30'


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

# DOMINION VIRGINIA POWER
## Idylwood Substation
## SE 2014-PR-032
## SPECIAL EXCEPTION PLAT AMENDMENT & 2232 PLAN

PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
05/15/17
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

0' 30' 60'
GRAPHIC SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | MAY 2017 |

TITLE

## SUBSTATION SECTION VIEW B-B'

PROJECT NO. 50058411

# 18-SEA

SHEET NO. 31 OF 32

## FORESTRY DEVELOPMENT CONDITIONS:

### TREE PRESERVATION:

THE APPLICANT SHALL SUBMIT A TREE PRESERVATION PLAN AND NARRATIVE AS PART OF THE FIRST AND ALL SUBSEQUENT SITE PLAN SUBMISSIONS. THE PRESERVATION PLAN AND NARRATIVE SHALL BE PREPARED BY A CERTIFIED ARBORIST OR A REGISTERED CONSULTING ARBORIST, AND SHALL BE SUBJECT TO THE REVIEW AND APPROVAL OF THE URBAN FOREST MANAGEMENT DIVISION, DPWES. THE TREE PRESERVATION PLAN SHALL INCLUDE A TREE INVENTORY THAT IDENTIFIES THE LOCATION, SPECIES, CRITICAL ROOT ZONE, SIZE, CROWN SPREAD AND CONDITION ANALYSIS PERCENTAGE RATING FOR ALL INDIVIDUAL TREES TO BE PRESERVED, AS WELL AS ALL ON AND OFF-SITE TREES, LIVING OR DEAD WITH TRUNKS 12 INCHES IN DIAMETER AND GREATER (MEASURED AT 4 ½ -FEET FROM THE BASE OF THE TRUNK OR AS OTHERWISE ALLOWED IN THE LATEST EDITION OF THE GUIDE FOR PLANT APPRAISAL PUBLISHED BY THE INTERNATIONAL SOCIETY OF ARBORICULTURE) LOCATED WITHIN 25 FEET OF THE LIMITS OF CLEARING AND GRADING WITHIN THE UNDISTURBED AREA. THE TREE PRESERVATION PLAN SHALL PROVIDE FOR THE PRESERVATION OF THOSE AREAS SHOWN FOR TREE PRESERVATION, THOSE AREAS OUTSIDE OF THE LIMITS OF CLEARING AND GRADING SHOWN ON THE SE AND THOSE ADDITIONAL AREAS IN WHICH TREES CAN BE PRESERVED AS A RESULT OF FINAL ENGINEERING. THE TREE PRESERVATION PLAN AND NARRATIVE SHALL INCLUDE ALL ITEMS SPECIFIED IN PFM 12-0507 AND 12-0509. SPECIFIC TREE PRESERVATION ACTIVITIES THAT WILL MAXIMIZE THE SURVIVABILITY OF ANY TREE IDENTIFIED TO BE PRESERVED, SUCH AS: CROWN PRUNING, ROOT PRUNING, MULCHING, FERTILIZATION, AND OTHERS AS NECESSARY, SHALL BE INCLUDED IN THE PLAN.

### TREE PRESERVATION WALK-THROUGH:

THE APPLICANT SHALL RETAIN THE SERVICES OF A CERTIFIED ARBORIST OR REGISTERED CONSULTING ARBORIST, AND SHALL HAVE THE LIMITS OF CLEARING AND GRADING MARKED WITH A CONTINUOUS LINE OF FLAGGING PRIOR TO THE WALK-THROUGH MEETING. DURING THE TREE-PRESERVATION WALK-THROUGH MEETING, THE APPLICANT'S CERTIFIED ARBORIST OR REGISTERED CONSULTING ARBORIST SHALL WALK THE LIMITS OF CLEARING AND GRADING WITH AN UFMD, DPWES, REPRESENTATIVE TO DETERMINE WHERE ADJUSTMENTS TO THE CLEARING LIMITS CAN BE MADE TO INCREASE THE AREA OF TREE PRESERVATION AND/OR TO INCREASE THE SURVIVABILITY OF TREES AT THE EDGE OF THE LIMITS OF CLEARING AND GRADING, AND SUCH ADJUSTMENT SHALL BE IMPLEMENTED. TREES THAT ARE IDENTIFIED AS DEAD OR DYING MAY BE REMOVED AS PART OF THE CLEARING OPERATION. ANY TREE THAT IS SO DESIGNATED SHALL BE REMOVED USING A CHAIN SAW AND SUCH REMOVAL SHALL BE ACCOMPLISHED IN A MANNER THAT AVOIDS DAMAGE TO SURROUNDING TREES AND ASSOCIATED UNDERSTORY VEGETATION. IF A STUMP MUST BE REMOVED, THIS SHALL BE DONE USING A STUMP-GRINDING MACHINE IN A MANNER CAUSING AS LITTLE DISTURBANCE AS POSSIBLE TO ADJACENT TREES AND ASSOCIATED UNDERSTORY VEGETATION AND SOIL CONDITIONS.

### LIMITS OF CLEARING AND GRADING:

THE APPLICANT SHALL CONFORM STRICTLY TO THE LIMITS OF CLEARING AND GRADING AS SHOWN ON THE SE, SUBJECT TO ALLOWANCES SPECIFIED IN THESE PROFFERED CONDITIONS AND FOR THE INSTALLATION OF UTILITIES AND/OR TRAILS AS DETERMINED NECESSARY BY THE DIRECTOR OF DPWES, AS DESCRIBED HEREIN. IF IT IS DETERMINED NECESSARY TO INSTALL UTILITIES AND/OR TRAILS IN AREAS PROTECTED BY THE LIMITS OF CLEARING AND GRADING AS SHOWN ON THE SE, THEY SHALL BE LOCATED IN THE LEAST DISRUPTIVE MANNER NECESSARY AS DETERMINED BY THE UFMD, DPWES. A REPLANTING PLAN SHALL BE DEVELOPED AND IMPLEMENTED, SUBJECT TO APPROVAL BY THE UFMD, DPWES, FOR ANY AREAS PROTECTED BY THE LIMITS OF CLEARING AND GRADING THAT MUST BE DISTURBED FOR SUCH TRAILS OR UTILITIES.

### TREE PRESERVATION FENCING:

ALL TREES SHOWN TO BE PRESERVED ON THE TREE PRESERVATION PLAN SHALL BE PROTECTED BY TREE PROTECTION FENCE. TREE PROTECTION FENCING IN THE FORM OF FOUR (4) FOOT HIGH, FOURTEEN (14) GAUGE WELDED WIRE ATTACHED TO SIX (6) FOOT STEEL POSTS DRIVEN EIGHTEEN (18) INCHES INTO THE GROUND AND PLACED NO FURTHER THAN TEN (10) FEET APART OR, SUPER SILT FENCE TO THE EXTENT THAT REQUIRED TRENCHING FOR SUPER SILT FENCE DOES NOT SEVER OR WOUND COMPRESSION ROOTS WHICH CAN LEAD TO STRUCTURAL FAILURE AND/OR UPROOTING OF TREES SHALL BE ERECTED AT THE LIMITS OF CLEARING AND GRADING AS SHOWN ON THE DEMOLITION, AND PHASE I & II EROSION AND SEDIMENT CONTROL SHEETS, AS MAY BE MODIFIED BY THE "ROOT PRUNING" PROFFER BELOW.

ALL TREE PROTECTION FENCING SHALL BE INSTALLED AFTER THE TREE PRESERVATION WALK-THROUGH MEETING BUT PRIOR TO ANY CLEARING AND GRADING ACTIVITIES, INCLUDING THE DEMOLITION OF ANY EXISTING STRUCTURES. THE INSTALLATION OF ALL TREE PROTECTION FENCING SHALL BE PERFORMED UNDER THE SUPERVISION OF A CERTIFIED ARBORIST, AND ACCOMPLISHED IN A MANNER THAT DOES NOT HARM EXISTING VEGETATION THAT IS TO BE PRESERVED. THREE (3) DAYS PRIOR TO THE COMMENCEMENT OF ANY CLEARING, GRADING OR DEMOLITION ACTIVITIES, BUT SUBSEQUENT TO THE INSTALLATION OF THE TREE PROTECTION DEVICES, THE UFMD, DPWES, SHALL BE NOTIFIED AND GIVEN THE OPPORTUNITY TO INSPECT THE SITE TO ENSURE THAT ALL TREE PROTECTION DEVICES HAVE BEEN CORRECTLY INSTALLED. IF IT IS DETERMINED THAT THE FENCING HAS NOT BEEN INSTALLED CORRECTLY, NO GRADING OR CONSTRUCTION ACTIVITIES SHALL OCCUR UNTIL THE FENCING IS INSTALLED CORRECTLY, AS DETERMINED BY THE UFMD, DPWES.

### ROOT PRUNING:

THE APPLICANT SHALL ROOT PRUNE, AS NEEDED TO COMPLY WITH THE TREE PRESERVATION REQUIREMENTS OF THESE DEVELOPMENT CONDITIONS. ALL TREATMENTS SHALL BE CLEARLY IDENTIFIED, LABELED, AND DETAILED ON THE EROSION AND SEDIMENT CONTROL SHEETS OF THE SUBDIVISION PLAN SUBMISSION. THE DETAILS FOR THESE TREATMENTS SHALL BE REVIEWED AND APPROVED BY THE UFMD, DPWES, ACCOMPLISHED IN A MANNER THAT PROTECTS AFFECTED AND ADJACENT VEGETATION TO BE PRESERVED, AND MAY INCLUDE, BUT NOT BE LIMITED TO THE FOLLOWING:

- ---ROOT PRUNING SHALL BE DONE WITH A TRENCHER OR VIBRATORY PLOW TO A DEPTH OF 18 INCHES.
- ---ROOT PRUNING SHALL TAKE PLACE PRIOR TO ANY CLEARING AND GRADING, OR DEMOLITION OF STRUCTURES.
- ---ROOT PRUNING SHALL BE CONDUCTED WITH THE SUPERVISION OF A CERTIFIED ARBORIST.
- ---AN UFMD, DPWES, REPRESENTATIVE SHALL BE INFORMED WHEN ALL ROOT PRUNING AND TREE PROTECTION FENCE INSTALLATION IS COMPLETE.

### SITE MONITORING:

DURING AND CLEARING OR TREE/VEGETATION/STRUCTURE REMOVAL ON THE APPLICANT PROPERTY, A REPRESENTATIVE OF THE APPLICANT SHALL BE PRESENT TO MONITOR THE PROCESS TO ENSURE THAT THE ACTIVITIES ARE CONDUCTED AS PROFFERED AND AS APPROVED BY THE UFMD. THE APPLICANT SHALL RETAIN THE SERVICES OF A CERTIFIED ARBORIST OR REGISTERED CONSULTING ARBORIST TO MONITOR ALL CONSTRUCTION AND DEMOLITION WORK AND TREE PRESERVATION EFFORTS IN ORDER TO ENSURE CONFORMANCE WITH ALL TREE PRESERVATION PROFFERS, AND UFMD APPROVALS. THE MONITORING SCHEDULE SHALL BE DESCRIBED AND DETAILED IN THE LANDSCAPING AND TREE PRESERVATION PLAN, AND REVIEWED AND APPROVED BY THE UFMD, DPWES.


Dewberry

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, Virginia 23060
PHONE: 804.290.7957
FAX: 804.290.7928
www.dewberry.com


Dominion

DOMINION VIRGINIA POWER
Idylwood Substation
SE 2014-PR-032
SPECIAL EXCEPTION PLAT
2232 PLAN
PROVIDENCE DISTRICT
FAIRFAX COUNTY, VIRGINIA

SEAL

COMMONWEALTH OF VIRGINIA
BENJAMIN K. JACKSON
Lic. No. 049015
04/06/15
PROFESSIONAL ENGINEER

KEY PLAN

SCALE

| No. | DATE | BY | Description |
|---|---|---|---|
| | | | |

REVISIONS

| | |
|---|---|
| DRAWN BY | BKJ |
| APPROVED BY | KWW |
| CHECKED BY | KWW |
| DATE | APRIL 2015 |

TITLE

DEVELOPMENT CONDITIONS

PROJECT NO. 50058411

19

SHEET NO. 21 OF 21

*FOR INFORMATION ONLY*

SHEET 32 OF 32

## DESCRIPTION OF THE APPLICATIONS

SEA 96-L-034-04

The applicant, Virginia Electric and Power Company., requests an amendment to the special exception (SE) previously approved by the Board of Supervisors on May 12, 2015, for a redesign and upgrade to an existing electric power substation. This special exception amendment (SEA) application is a request to permit the addition of temporary equipment known as a high bus or "construction bus" at its existing facility known as the Idylwood Substation, located at 7701 and 7707 Shreve Road in Falls Church.

During the original SE application process, the Idylwood Substation's rebuild was described in detail. The first phase will involve construction of the new substation equipment toward the front of the property, closer to Shreve Road. Gas-insulated substation (GIS) equipment will be used. The upgraded GIS equipment on this 7.15 acre parcel will take up a smaller footprint than the typical air-insulated substation equipment. The equipment will include eight new 75-foot tall backbones and several new enclosures ranging in height from 17 to 32 feet tall.

All work must take place while keeping the substation operational. The proposed high bus a temporary piece of infrastructure, which is necessary to perform to critical electrical functions during construction. It is anticipated to be needed at the Idylwood Substation for approximately three years and will be dismantled when the newly constructed GIS equipment is energized.

2232A-P14-4-1

The applicant has concurrently requested an amendment to the previous 2232 application for the substation (2232-P14-4-1, approved by the Planning Commission on March 24, 2015) to determine whether the subject application, as amended to add a temporary high bus, satisfies the criteria of location, character, and extent pursuant to Section 15.2-2232 of the Code of Virginia, as amended; and therefore, may be determined to be in substantial conformance with the Comprehensive Plan.

Waivers and Modifications Requested

- Waiver of the major paved trail shown on the Countywide Trails Plan in favor of the five foot sidewalk that is proposed along the entire Shreve Road frontage.

- Waiver of the actual striping for the proposed bike lane along Shreve Road shown on the Countywide Bicycle Master Plan.

- Reaffirmation of all previously approved waivers and modifications.

A reduction of the SEA Plat is provided at the front of this staff report. The proposed development conditions, the applicant's statement of justification, and affidavit are provided as Appendices 1-3, respectively.

## LOCATION AND CHARACTER

As noted above, the subject property is located at 7701 and 7707 Shreve Road in Falls Church, immediately south of Shreve Road. The general area is the southeastern quadrant created by interchange of Interstate 495 with Interstate 66. An aerial view of the subject property is shown in Figure 1.

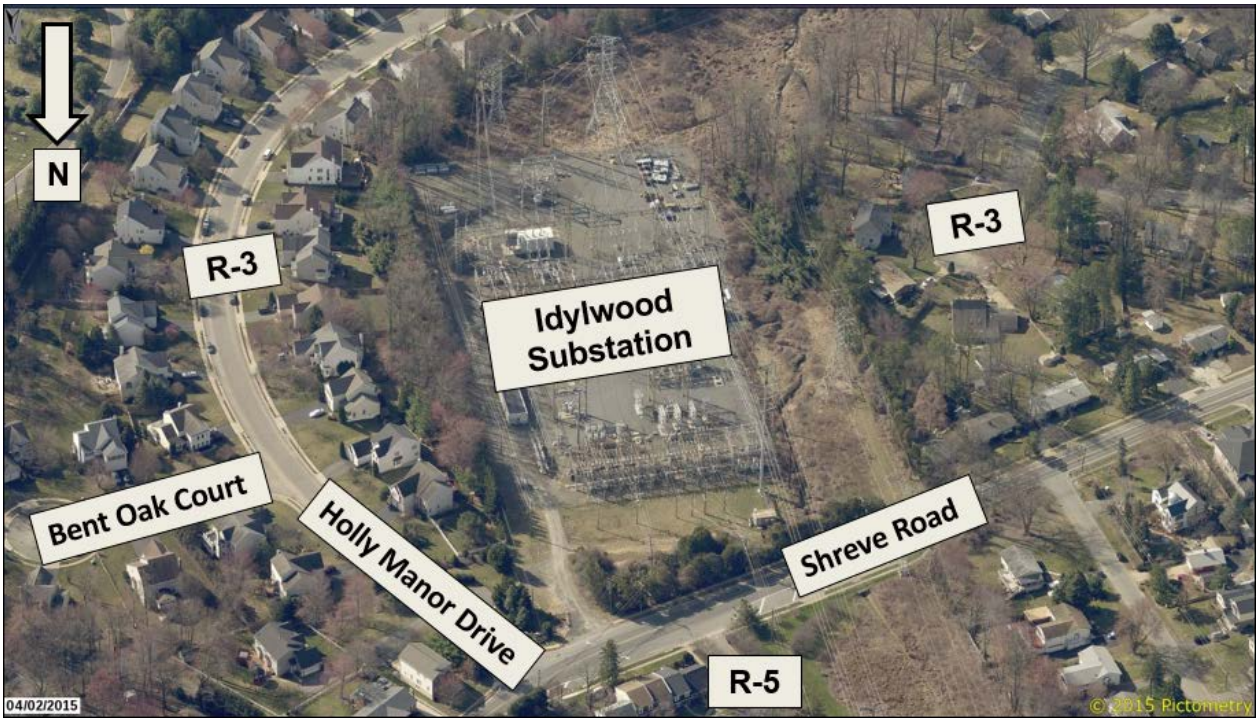



**Figure 1: Subject property and surrounding area**, Source: Fairfax County Pictometry, 2015

The site is currently developed with an existing substation which was built in the 1947. The current substation consumes much of the site, with backbones, reactors, control buildings, transformers and distribution bays scattered on the site. The height of the two tallest existing backbones is 69 feet, with the other structures ranging in height from 12 feet to 50 feet. The minimum setbacks from any existing structure to a road or property line are: 40 feet from the northeastern property line, 220 feet from Shreve Road and 120 feet from the western property line. All site features are surrounded by a chain link fence.

The grade on the site changes from east to west. The site is higher on the northeast side (adjacent to the Holly Manor subdivision) and slopes downward to a stream on the western side of the property. Along that northeastern property boundary, the grade changes are most evident on the rear three quarters of the site (furthest from Shreve

Road), with the height at the property boundary at about 384-385 feet high and sloping downward steeply in places to 373 feet. That embankment is covered by riprap.

The subject property is located within the Cameron Run watershed and an unnamed intermittent stream and associated wetlands traverse from north to south along the entire western side of the substation. The intermittent stream system and its associated wetlands are within a minor floodplain. There is existing vegetation along Shreve Road and in the area of the stream on the western side of the property. The surrounding area description is detailed in Table 1.

**TABLE 1: SURROUNDING AREA DESCRIPTION**

| Direction | Use | Zoning | Plan |
|---|---|---|---|
| **North (across Shreve Road)** | Residential (Single Family Attached) (Dominion Heights) | R-5 | Public Facilities Residential; 2-3 du/ac |
| **South** | Dominion Power Easement | R-3 | Residential; 1-2 du/ac |
| **East** | Residential (Single Family Detached) (Holly Crest) | PDH-2 | Residential, 2-3 du/ac |
| **West** | Residential (Single Family Detached) (Wrendale) | R-3 | Residential, 2-3 du/ac |

## BACKGROUND

The subject property has been developed as a substation since 1947. It was originally approved for a substation use on November 26, 1946, by the Board of Zoning Appeals and received subsequent Special Permit approval in November 1962 for expansion of the site.

On May 12, 2015, the Board of Supervisors approved special exception application SE 2014-PR-032 to permit a redesign and upgrade to the existing substation. The Clerk's letter is included as Appendix 4. A companion 2232 application, 2232-P14-4, analyzed the location, character and extent of this proposed substation. The Planning Commission concluded on March 4, 2015, that the proposal to redevelop the Idylwood Substation satisfied the criteria of location, character and extent as specified in Virginia Code Section 15.2-2232; and therefore was substantially in accord with the provisions of the Comprehensive Plan. Lastly, included with the original SE application, there was a companion Features Shown application to relocate an AT&T antenna from an existing electric transmission pole to a relocated electric transmission pole. Copies of this approval are available with the Zoning Evaluation Division of the Department of Planning and Zoning as well as at the following link: http://ldsnet.fairfaxcounty.gov/ldsnet/ZAPSMain.aspx?cde=SE&seq=4186164.

The applicant has stated the upgrades to the Idylwood Substation are required to provide reliable electrical service to the surrounding communities as critical deficiencies have been identified at the current substation which amount to a violation of mandatory North American Electrical Reliability Corporation (NERC) reliability standards. The upgrade will also help support growing electrical needs in the area.

Since Idylwood is at the center of Dominion's northern region electrical grid, it must continue to provide power for the service area. Only minimal pieces of the existing infrastructure will be out of service at any one time in order to meet power needs. Once the new GIS equipment is installed, the second phase of construction will involve de-energizing and removing old substation equipment throughout the property. Once the equipment removal is complete, Dominion will then install the wall and new transitional screening landscape buffers.

## COMPREHENSIVE PLAN PROVISIONS

**Plan Area:** Area I

**Planning District:** Jefferson Planning District

**Planning Sector:** Shreve-West Planning Sector

The subject property is located in the Area I, Jefferson Planning District, J-8 Shreve-West Community Planning Sector. The Comprehensive Plan Map identifies the property as planned for Public Facilities, Governmental and Institutional.

### Area Plan

Fairfax County Comprehensive Plan, Area I, 2013 Edition; Jefferson Planning District, as amended through March 14, 2017, Overview, Figure 6: Existing Public Facilities, page 12:

> ***Figure 6*** *identifies the Va. Power Idylwood Substation as existing public facilities in J-8.*

### Policy Plan

Fairfax County Comprehensive Plan, Policy Plan, 2013 Edition; Public Facilities, as amended through November 1, 2016, Countywide Objectives and Policies, pages 3 -4:

***Objective 3: Balance the provision of public facilities with growth and development.***

*Policy a.* *Construct new facilities in size and quantity which is consistent with projected population needs.*

***Objective 4:*** ***Mitigate the impact of public facilities on adjacent planned and existing land uses.***

*Policy b.* *Co-locate public facilities whenever appropriate to achieve convenience and economies of scale, as long as the integrity of the Comprehensive Plan is not impinged.*

*Policy d.* *Ensure that public facilities are properly screened and buffered in order to mitigate visual impact on adjacent planned development of a different use or nature.*

*Policy e.* *Ensure that site size and development conforms to all requirements of the Fairfax County Zoning Ordinance and exceeds site acreage requirements, as possible, to achieve maximum compatibility with surrounding land uses.*

Fairfax County Comprehensive Plan, Policy Plan, 2013 Edition; Public Facilities, as amended through November 1, 2016, Electrical and Land-Line Utility Services, pages 34-37:

***Objective 41:*** ***Locate electrical and land-line service facilities to provide maximum service levels as unobtrusively as possible. (See Figure 7.)***

*Policy b.* *Collocate facilities such as distribution and transmission poles, switching and hub centers and electrical substations whenever feasible and appropriate to minimize visual and neighborhood impacts.*

*Policy c.* *Plan for existing and future needs of facilities in conjunction with emerging development designs.*

*Policy d.* *Provide adequate acreage for expansion of substations, hub centers and equipment areas and maintain levels of screening to accommodate expansion.*

***Objective 42:*** ***Meet service area requirements with a minimum of facilities and ensure that those facilities are designed to minimize impacts on adjacent properties.***

*Policy a.* *Provide justification for the proposed facility's need. Specify alternative actions and justify why the proposed location type and facility is the least disruptive.*

*Policy b.* *Mitigate the visual impact of switching and hub centers, equipment areas and electrical substations from adjacent development. Land with existing mature vegetation is preferable, as are access roads which obscure entrances, berms which provide screening, and slopes that provide localized lower elevations.*

*Policy d.* *Conceal, screen or site ground transformers and distribution boxes to reduce their visual presence and potential for clutter.*

*Policy e.* *Provide for the appropriate screening and buffering of proposed facilities.*

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

## SPECIAL EXCEPTION AMENDMENT (SEA) PLAT ANALYSIS

The SEA Plat entitled “Idylwood Substation, Special Exception Plat Amendment & 2232 Plan,” was prepared by Dewberry Engineers Inc. and consists of 32 sheets dated April 2015, and revised through May 2017, and is reviewed below.

### Application Overview

The subject property is currently used as a substation and transmission line right-of-way. As mentioned previously, a remodel and upgrade to the existing facility was approved in 2015. The proposed construction high bus will carry a portion of the transmission power flow around the areas of the substation where construction would occur. The high bus will be a tubular aluminum bus supported by structural supports ranging in height from 35 feet to 37 feet.

The high bus is proposed in approximately the same location on the subject property where an overhead distribution line existed for the past 30 years. This distribution line has recently been removed. The pole heights of the old distribution lines ranged from 34 feet to 39 feet. To be installed between the construction high bus and the single-family residences on Holly Manor Drive is a 15-foot high temporary mobile noise barrier. Figure 2 shows the location of the high bus and noise barrier.

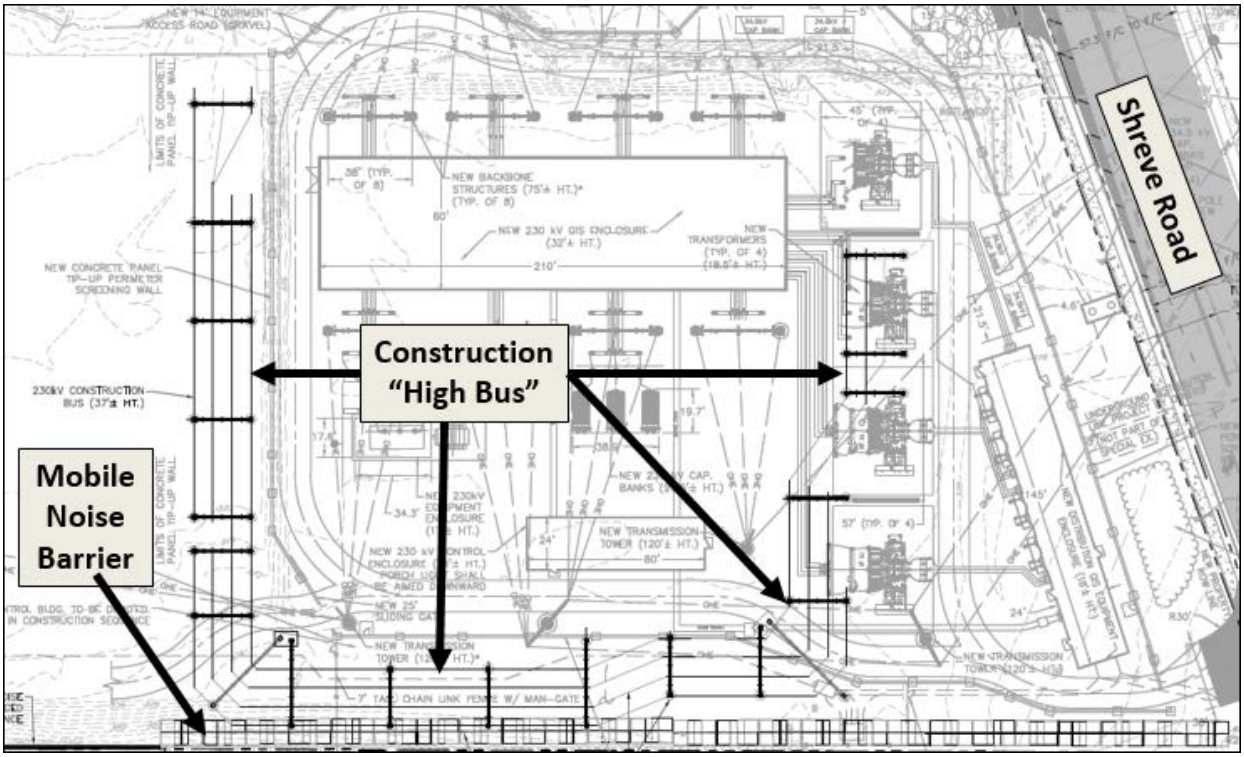



**Figure 2: Temporary Infrastructure Locations**, Source: SEA Plat, Sheet 4-SEA

As previously stated, the high bus is a temporary piece of infrastructure, anticipated to be needed at the Idylwood Substation for approximately three years. The temporary bus must be constructed before actual reconstruction of the above-grade substation equipment in order to carry electricity during reconstruction of the substation. As such, the high bus must be installed and operational before the old equipment is de-energized. Also, once construction commences on the substation interior, there will not be an opportunity or room to construct the construction bus. The high bus will not be in operation during the first year of construction. The applicant anticipates that after approximately one year after certain construction sequences are complete, the high bus will be energized and utilized for approximately two years. The high bus will be dismantled when the newly constructed GIS equipment is installed and energized. Figure 3 provides a section view of the high bus from the eastern property line.

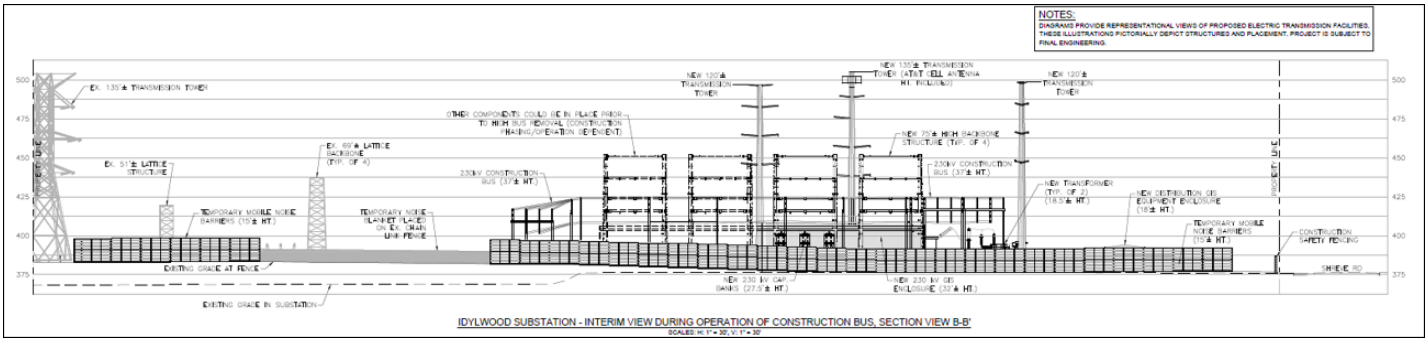



**Figure 3: Interim View during Operation of High Bus**, Source: SEA Plat, Sheet 18-SEA

## ANALYSIS

**Land Use/2232 Review** (Appendix 4)

The applicant requests an amendment to the previous 2232 application (2232-P14-4-1) approved by the Planning Commission on March 24, 2015, and Special Exception application (SE 2014-PR-032) approved by the Board of Supervisors on May 12, 2015, to construct and operate a temporary high bus to facilitate the redevelopment of the Idylwood Substation. As discussed previously, temporary high bus will be located on the site for approximately three years.

The previous 2232 and SE applications approved in 2015 allow the applicant to remodel and upgrade the Idylwood Substation. The applicant notes that Idylwood is an integral component of its northern region electrical grid, and must remain operational while the facility is upgraded. In response to this need, the applicant must construct a temporary high bus along the eastern edge of the substation site, which will shift the power flow around the areas of the substation that are under construction, and ensure it remains operational during the remodel and upgrade. Staff's evaluation of the proposed high bus is provided below and a copy of the staff review memorandum for 2232A-P14-4-1 and 2232 application are provided as Appendix 4.

### Location

The subject property is located on the south side of Shreve Road and to the west of Holly Manor Drive. The site is surrounded by residential uses. The proposed facility is located on a property that is currently developed with the Idylwood Substation, and the site is planned for Public Facilities, Governmental and Institutional. Access to the substation will remain from one existing access point from Shreve Road, on the east side of the property.

### Character and Extent

The high bus is proposed for the eastern edge of the substation site. Five residential properties, located along Holly Manor Drive, border the proposed location of the high bus and will experience the greatest visual impact. The distances of these five residences to the high bus range from 68 to 123 feet. These residential properties contain landscaping and trees that will provide some screening. The maximum height of the high bus is 37 feet, and thus it will sit below the existing tree line running along the edge of the eastern side of the substation. A 15-foot temporary modular sound barrier has been erected along the eastern edge of the site to shield residences located along Holly Manor Drive from construction noise. This temporary sound barrier was installed to satisfy development condition 33 of the original SE approval that required all reasonable efforts be made to reduce construction noise on the east side of the property due to the close proximity of the residences. While the high bus is not expect to generate noise, the sound barrier will also visually screen the lower portion of the high bus.

The high bus will enable the Idylwood substation to remain operational while it is remodeled and upgraded. The high bus will not produce noise while in operation. The substation is located at the intersection of two transmission corridors and is a transmission hub serving Northern Virginia, while the substation itself directly serves Falls Church, Merrifield, Tysons and Fairfax City.

In staff's opinion, this amendment to the original 2232 application (2232A-P14-4-1) continues to meet and satisfy the review criteria as specified in Virginia Code Section 15.2-2232, in terms of location, character and extent; and therefore is substantially in accord with the provisions of the Comprehensive Plan.

**Urban Forest Management** (Appendix 5)

Staff from the Urban Forest Management Division (UFMD) reviewed the application, and initially identified a few concerns with the proposal. Among the concerns were maintaining conformance with the approved SE Plat and development conditions, potential soil compaction issues in portions of the site disturbed due to the installation of the high bus and mobile noise barrier, as well as distribution work being done under a statewide permit; and the potential for impacts to the approved tree save area. During the review process, these concerns have been satisfactorily addressed by the applicant, as described below.

A soil remediation drawing dated May 15, 2017, has been submitted. The purpose of the remediation drawing is to ensure that the soil in the transitional screening yard will be suitable to plant vegetation. The future transitional screening yard area is within the existing substation fenced in gravel area, as well as areas outside of the existing fence that will be compacted from the high bus and overall substation renovation construction activities. This drawing was provided to demonstrate that the soil will be remediated prior to the planting of materials in the transitional screening yard in order ensure the vegetation has a viable growing environment. A development condition has been proposed to memorialize this commitment.

Reaffirmation of the modifications and waivers to the transitional screening, l0-year tree canopy requirements and tree preservation target requirements are requested. As discussed in detail further in the Modifications and Waivers section of this staff report, staff is in support of the proposed reaffirmations.

**ZONING ORDINANCE PROVISIONS** (Appendix 7)

The standards used to evaluate this application can be found in Sect. 9-104, Standards for all Category 1 Uses and in 9-006, the General Standards for all Special Exception uses. There are no additional standards for electrical substations.

Pursuant to Sect. 9-104 of the Zoning Ordinance, Category 1 special exception uses do not need to comply with the lot size requirements or the bulk regulations set forth for the

zoning district in which located. Therefore, requirements related to lot area, width, height, floor area ratios, and angle of bulk plane do not apply.

However, the Zoning and County Ordinances do contain landscaping requirements related to tree cover and transitional screening for Category 1 uses. These requirements were satisfied with the approval of SE 2014-PR-032, to include the reaffirmed waivers and modifications.

**General Special Exception Standards** (Sect. 9-006)

In addition to the standards for all Category 1 uses, all proposed special exception uses also need to satisfy the following special exception general standards. The following provides an analysis of the general standards.

*General Standard 1: The proposed use at the specified location shall be in harmony with the adopted comprehensive plan.* As detailed in the Land Use/2232 Analysis, staff believes the proposal continues to meet and satisfy the review criteria in terms of location, character and extent. The property is shown as public facilities, governmental and institutional uses on the Comprehensive Plan land use map and, as detailed earlier in this staff report, staff believes the proposal is in harmony with the location, character and extent provisions of the Comprehensive Plan. As such, this standard is satisfied.

*General Standard 2: The proposed use shall be in harmony with the general purpose and intent of the applicable zoning district regulations.* This application continues to demonstrate compliance with the zoning district regulations that apply to a Category 1 use, with the exception of landscaping modifications proposed and supported in the original SE approval. As such, this standard is satisfied.

*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.* As discussed in the land use/2232 analysis, the location, character and extent of this application are satisfied. Furthermore, as stated earlier in this report, staff believes that the existing vegetation and temporary noise barrier will help buffer the adjacent properties from the temporary high bus and construction of the substation. Therefore, this standard is satisfied.

*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.* The proposed high bus is an unmanned facility; no pedestrian traffic is anticipated. Any vehicular traffic will be associated with the

construction activities for the substation remodel. Additionally, staff would note that a five-foot sidewalk is proposed to be constructed along the Shreve Road frontage as part of the substation renovation.

*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.* The applicant has provided a satisfactory landscape plan approved in conjugation with SE 2014-PR-032, consisting of evergreen trees and shrubs with deciduous trees and shrubs around the periphery of this site and offsite as permitted by the nearby landowners. As discussed previously in the Urban Forest Management Analysis section, the applicant has committed to remediate the soil in the transitional screening yard area to ensure the vegetation planted can ultimately survive. With the reaffirmation of the waivers and modifications to Article 13 and the proposed soil remediation condition, staff believes this standard is satisfied.

*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.* The proposed use will not impact the open space shown on the approved SE Plat. Additionally, staff would note that for this use, open space is not a technical requirement of the Zoning Ordinance.

*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.* Adequate utility, drainage and parking requirements were provided with SE 2014-PR-032.

*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.* All other signage on the property is subject to Article 12, Signs, of the Zoning Ordinance.

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

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

*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.* As indicted in the standard, the proposed facility is not required to comply with the lot size requirements or bulk regulations.

*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 applicant is not proposing to

store materials or equipment, repair or service vehicles or equipment, or to use the site for the parking of vehicles. The enclosures and facilities are for the substation operation.

*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 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.* The applicant had previously included an analysis of other sites (contained within the staff report for SE 2014-PR-032) and had determined that no other locations within a one-mile radius were suitable and noted that as an existing substation, the proposal meets location selection criteria. Staff finds this standard continues to be met with the proposed amendment.

*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 application is subject to Article 17, Site Plans, of the Zoning Ordinance.

**Waivers and Modifications**

As stated throughout this report, the applicant is requesting approval of the SEA application to allow the construction of the temporary high bus to keep the existing substation running while the new GIS substation is under construction. No other changes to the approved SEA are proposed. As such, staff recommends that all waivers and modifications previously approved with SE 2014-PR-032 and listed below be reaffirmed.

- Modification of transitional screening requirements along all boundaries of the site in favor of that shown on the special exception (SE) plat.

- Directed the Director of the Department of Public Works and Environmental Services (DPWES) to approve a modification of l0-year tree canopy requirements in favor of that shown on the SE plat.

- Directed the Director of DPWES to approve a waiver of the tree preservation target requirements in favor of that shown on the SE plat.

**Waiver of the Major Paved Trail and Waiver of the Striping for the Bike Lane Along Shreve Road**

The Countywide Trails Plan shows a major paved trail along the south side of Shreve Road up to the substation property. It then crosses over Shreve Road to the north side of the roadway. Due to a small portion of the major paved trail being shown located at the northwest corner of the property's frontage, the applicant is requesting a waiver of

the major paved trail shown on the Countywide Trails Plan in favor of the five foot sidewalk along the entire Shreve Road frontage that is to be installed with the substation renovation.

The Countywide Bicycle Master Plan shows a proposed bike land along Shreve Road. As part of the right-of-way dedication across the property frontage, shown on the SEA Plat, the applicant will provide the required width for the five-foot bike lane. However, a waiver is being requested for the actual striping of the bike lane since no portions of Shreve Road in the vicinity of the subject property have a striped bike lane.

As discussed in the Fairfax County Department of Transportation memorandum (Appendix 8) staff has no concerns with the addition of the high bus and supports the requested major paved trail and bike land striping waivers.

## CONCLUSIONS AND RECOMMENDATIONS

### Staff Conclusions

Staff finds that the proposed construction high bus satisfies the criteria of location, character, and extent as specified in Section 15.2-2232 of the Code of Virginia. Staff also concludes that the use proposed with SEA 2014-PR-032 is in harmony with the Comprehensive Plan and in conformance with applicable Zoning Ordinance provisions with the implementation of the proposed development conditions.

### Recommendations

Staff recommends that the Planning Commission find that the high bus proposed under 2232A-P14-4-1 satisfies the criteria of location, character, and extent, as specified in Section 15-2.2232 of the Code of Virginia, as amended, and therefore, is substantially in accord with the Comprehensive Plan.

Staff recommends approval of SEA 2014-PR-032, subject to the proposed development conditions contained in Appendix 1.

Staff recommends approval of a waiver of the major paved trail shown on the Countywide Trails Plan in favor of the five foot sidewalk that is proposed along the entire Shreve Road frontage.

Staff recommends approval of a waiver of the actual striping for the proposed bike lane along Shreve Road as shown on the Countywide Bicycle Master Plan.

Staff recommends that all previously approved waivers and modifications as listed in this staff report be reaffirmed.

It should be noted that it is not the intent of staff to recommend that the Board of Supervisors, in adopting any 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 recommendations of staff; it does not reflect the position of the Board of Supervisors.

**APPENDICES**

1. Proposed Development Conditions
2. Statement of Justification
3. Affidavit
4. SE 2014-PR-032 Clerk's Letter
5. 2232A-P14-4-1 Review and Application
6. Urban Forest Management Memorandum
7. Transportation Memorandum
8. Applicable Zoning Ordinance Sections
9. Glossary

# PROPOSED DEVELOPMENT CONDITIONS

SEA 2014-PR-032

July 5, 2017

If it is the intent of the Board of Supervisors to approve SEA 2014-PR-032 located at 7701 and 7707 Shreve Road, Tax Map Parcels 49-2 ((1)) 151 and 49-2 ((12)) 1A, for an electrical substation to permit the redevelopment and expansion of the existing electrical substation utility facility pursuant to Sect. 9-104 of the Fairfax County Zoning Ordinance, the staff recommends that the Board condition the approval by requiring conformance with the following development conditions. These development conditions incorporate and supersede all previous development conditions. Previously approved conditions or those with minor revisions are marked with an asterisk (*).

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 the Special Exception Amendment shall be in substantial conformance with the approved Special Exception Amendment (SEA) Plat entitled “Idylwood Substation, Special Exception Plat Amendment & 2232 Plan,” prepared by Dewberry Engineers Inc., dated April 2015, as revised through May 2017, and these conditions. Minor modifications to the approved Special Exception Amendment may be permitted pursuant to Par. 4 of Sect. 9-004 of the Zoning Ordinance.

4. Right-of-way along Shreve Road shall be dedicated as generally depicted on the plat, as approved by Fairfax County and the Virginia Department of Transportation (VDOT). The right-of-way shall be dedicated without encumbrances and in fee simple to the Board of Supervisors upon request by either Fairfax County or the Virginia Department of Transportation, whichever occurs first.*

5. The entrances to the substation and the telecommunications facility shall meet the commercial entrance standards of the Virginia Department of Transportation (VDOT) and the driveways outside the perimeter wall shall be asphalt. The existing curb cut/entrance on Holly Manor Lane shall be removed and the curb and gutter and sidewalk shall be restored in the right of way prior to issuance of a Non Residential Use Permit (Non-RUP).*

6. A 5-foot wide sidewalk shall be constructed across the Shreve Road frontage prior to issuance of a Non-RUP.*

7. Stormwater management shall be provided as generally depicted on the SEA Plat or as approved by the Department of Public Works and Environmental Services (DPWES). The applicant shall promptly provide mitigation measures if there are impacts from increased stormwater downstream of the property.*

8. The planting schedule provided on the SE Plat provides suggested vegetation and can be modified upon approval of the Urban Forest Management Division should other vegetation options be preferred, as an example, replacing the Yellow Wood and Greenspire with Red Sunset and/or Black gum varieties.*

9. Landscaping shall be provided onsite in order to meet the intent of the Type 2 and Type 3 Transitional Screening requirements subject to the review and approval of the Urban Forest Management Division. On-site landscaping shall be as generally depicted on the SE Plat. The Applicant shall provide the off-site landscaping to reduce the visual impact of the substation on the adjacent residential properties, property owners who have views of the new substation equipment, and community association common areas. The Applicant shall provide evergreen and/or deciduous vegetation on the lot of each landowner along Holly Manor Drive and Marthas Lane who are adjacent to the substation property or who will have views of the new substation equipment, and who elect to have off-site landscaping installed on their property. The Applicant shall contact the Holly Crest Community Association and/or individual property owners adjacent to the substation along Holly Manor Drive to develop a plan for supplemental landscaping to be installed by the Applicant. The height limitations for vegetation shown on the substation property shall not apply to offsite vegetation nor shall the Applicant conduct trimming or maintenance on said offsite vegetation without the property owners consent. The Applicant shall also contact the representatives of the Dominion Heights Herrell Addition subdivision to determine if off-site landscaping should be provided on those properties as well. The Applicant shall negotiate the quantity, location, species, and type of landscaping with each individual landowner and submit the final design to the Urban Forest Management Division (UFMD) for review and comment. The design shall also be submitted to the Providence District Supervisor's office for review and comment. Landscaping shall be a minimum size of 7 feet tall and between 2 and 2 ½ inches in caliper at the time of planting. The landscaping shall be installed by the Applicant at the sole cost of the Applicant. The viability of such plantings shall be assured by the Applicant for a one (1) year period after installation, but regular care and maintenance shall be provided by the landowner. For satisfaction of this development condition, prior to site plan approval, the Applicant shall demonstrate that the landowners adjacent to the substation along Holly Manor Drive and Marthas Lane and in the Dominion Heights Herrell Addition subdivision were contacted via certified mail of their eligibility to receive off-site landscaping. The Applicant shall begin working with the adjacent homeowners anytime thereafter. Landscaping may be installed prior to or following construction of the substation, as determined by the individual landowner, including the Holly Crest Community Association. Prior to release of the project's performance bond, the Applicant shall demonstrate final compliance of this development condition with either approved landscape layouts including property owner signatures verifying installation of respective off-site landscaping, a property owner's election to not receive off-site landscaping, or evidence of the Applicant's good faith effort to obtain such approval. The Applicant shall work with

UFMD and the Providence District Supervisor's office to resolve any differences that arise during this process.*

10. Prior to the installation of plants to meet requirements of the approved landscape plan, the Applicant, with the Contractor/Developer serving as the agent, shall coordinate a pre-installation meeting on site with the contractor/developer of the site 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.*

11. The wall shall be constructed as generally depicted on the SE Plat and shall be precast masonry panels and pilasters with brick façade along the north, east and west boundaries. Pre-cast concrete masonry panels and pilasters may be installed for the southern wall with matching brick color. The wall shall be built in general conformance with the SE plat and meet the Applicant's latest security requirements. A 7 foot high chain link fence with barbed wire shall be provided along Lots 18, 19 and 20 of Holly Crest in a similar location to the existing chain link fence. (Tax Map Parcels 49-2 ((41)), 0018, 0019 and 0020) This area between the fence and the wall shall be gated to prohibit unauthorized access. The gate along the front shall be 16 feet tall to match the rest of the wall height along Shreve Road, and shall open in towards the substation, slide or roll upwards.*

12. The vegetation and wall proposed on-site are required to remain as generally depicted on the SE Plat Minor modifications as allowed by the Zoning Ordinance may be permitted; however, replacement and appropriate maintenance of the vegetation and wall shall be provided as necessary to ensure the survival of the vegetation and aesthetic quality of the wall. Should the vegetation not survive, the Applicant shall replace such vegetation and maintain it thereafter.*

13. If a gate is necessary in the chain link fence along the southern boundary adjacent to the Dominion Power easement, a gap in the vegetation may be permitted up to 14 feet wide upon review by the Urban Forestry Management Division.*

14. As a condition of the 10-year tree canopy modification, a contribution of $19,538.00 shall be made to the Tree Preservation and Planting Fund at the time of site plan approval.*

15. Tree Preservation: The Applicant shall submit a tree preservation plan and Narrative as part of the first and all subsequent site plan submissions. The preservation plan and narrative shall be prepared by a Certified Arborist or a Registered Consulting Arborist, and shall be subject to the review and approval of the Urban Forest Management Division, DPWES.*

16. The tree preservation plan shall include a tree inventory that identifies the location, species, critical root zone, size, crown spread and condition analysis percentage rating for all individual trees to be preserved, as well as all on- and off-site trees, living or dead with trunks 12 inches in diameter and greater (measured at 4 ½ - feet from the base of the trunk or as otherwise allowed in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) located within 25 feet of the limits of clearing and grading within the undisturbed area. The tree preservation plan shall provide for the preservation of those areas shown for tree preservation, those areas outside of the limits of clearing and grading shown on the SE and those additional areas in which trees can be preserved as a result of final engineering. The tree preservation plan and narrative shall include all items specified in PFM 12-0507 and 12-0509. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as: crown pruning, root pruning, mulching, fertilization, and others as necessary, shall be included in the plan.*

17. Tree Preservation Walk-Through. The limits of clearing and grading are proposed to cover the entire site and it is unlikely that these will be significantly altered. The Applicant shall retain the services of a certified arborist or Registered Consulting Arborist, and shall have the limits of clearing and grading marked with a continuous line of flagging prior to the walk-through meeting. The Providence District Supervisor's office and adjacent neighbors shall be notified in writing in advance of this walk-through for their opportunity to participate in the walk-through. During the tree preservation walk-through meeting, the Applicant's certified arborist or Registered Consulting Arborist shall walk the limits of clearing and grading with an UFMD, DPWES, representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and such adjustment shall be implemented. Trees that are identified as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. If a stump must be removed, this shall be done using a stump-grinding machine in a manner causing as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions. Any trimming of trees on adjacent properties for purposes of construction shall be done under the supervision of a certified arborist and after notification of the property owner.*

18. Limits of Clearing and Grading. The Applicant shall conform strictly to the limits of clearing and grading as shown on the SE Plat, subject to allowances specified in these proffered conditions and for the installation of utilities and/or trails as determined necessary by the Director of DPWES, as described herein. If it is determined necessary to install utilities and/or trails in areas protected by the limits of clearing and grading as shown on the SE Plat, they shall be located in the least disruptive manner necessary as determined by the UFMD, DPWES. A replanting plan shall be developed and implemented, subject to approval by the UFMD, DPWES, for any areas protected by the limits of clearing and grading that must be disturbed for such trails or utilities.*

19. Tree Preservation Fencing: All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fence. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees shall be erected at the limits of clearing and grading as shown on the demolition, and phase I & II erosion and sediment control sheets, as may be modified by the "Root Pruning" proffer below.*

20. All tree protection fencing shall be installed after the tree preservation walk-through meeting but prior to any clearing and grading activities, including the demolition of any existing structures. The installation of all tree protection fencing shall be performed under the supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. Three (3) days prior to the commencement of any clearing, grading or demolition activities, but subsequent to the installation of the tree protection devices, the UFMD, DPWES, shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by the UFMD, DPWES.*

21. Root Pruning. The Applicant shall root prune, as needed to comply with the tree preservation requirements of these development conditions. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the subdivision plan submission. The details for these treatments shall be reviewed and approved by the UFMD, DPWES, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following:

    - Root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches.
    - Root pruning shall take place prior to any clearing and grading, or demolition of structures.
    - Root pruning shall be conducted with the supervision of a certified arborist.
    - An UFMD, DPWES, representative shall be informed when all root pruning and tree protection fence installation is complete."*

22. A plan for the care and maintenance of the trees to be managed and maintained onsite along Shreve Road and for protection of offsite trees shall be developed during site plan review based on consultation and coordination with a certified arborist. The care and maintenance of the onsite trees could include pruning and supplemental planting to meet the intent of Transitional Screening 2. The offsite trees shall include but not be limited to trees numbered 104, 105, 131, 132, 133, 134,114, 116, 117, 113, 107, 109 and 111. During site plan review, the total square footage of the canopy area associated with those trees to be protected, managed and maintained shall be provided. Based on the square footage of canopy, a replacement cost will be prepared by the Urban Forest Management

Division (UFMD) based on the latest County of Fairfax, Department of Public Works and Environmental Services Comprehensive Unit Price Schedule. Once the cost estimate is approved, a bond or letter of credit shall be provided for the replacement value for the onsite trees. For the offsite trees, the trees shall either be replaced or replacement value shall be provided to the property owner (based on the preference of the property owner).*

23. The wall may be built in stages. All reasonable efforts shall be made to complete as much of the wall as possible at the earliest stage possible.*

24. Construction and demolition debris waste shall be recycled to the maximum extent practicable during the various stages of the existing substation demolition.*

25. During site plan review, a plan for the mitigation of construction impacts shall be developed by the Applicant. Measures to alleviate construction impacts on Shreve Road and the surrounding communities should include evaluation of whether a flag person is necessary during construction, setting up a schedule for deliveries of large construction equipment or materials (subject to VDOT regulations), establishment and continuation of a website for the project which will provide alerts (which could include mass emails or use of social media) on high impact (for instance noise or traffic impacts) activities or other measures, designed to provide timely notification to the area residents and those traveling on Shreve Road. This plan shall be provided to the Providence District Supervisors office. Pedestrian access across the property shall be maintained at all times throughout construction.*

26. This use shall be subject to the Noise Ordinance of Fairfax County. The following noise and glare mitigation measures shall be implemented during construction:

    - All motorized vehicles and equipment used on this project shall be equipped with proper mufflers.
    - Delivery routes shall be arranged to minimize the use of backup alarms on commercial vehicles and equipment.
    - The banging of tail gates shall be prohibited. All drivers associated with this project shall be informed each day about this prohibition.
    - All lights used to illuminate the project site, including any staging areas, shall be full cut-off or directionally shielded so that the directed light shall be substantially confined to the construction site.

27. All applicable permits from the US Army Corps of Engineers, Virginia Department of Environmental Quality, and Virginia Department of Conservation and Recreation shall be obtained prior to obtaining site plan approval.*

28. Construction hours be limited to Monday through Friday 7:30am and 6:00 pm. Should work on Saturdays be necessary, hours shall be limited to 8:00 am to 4:00 pm. No construction work shall be performed on Sundays or major federal holidays. Signage shall be posted on-site in English and Spanish, or any other language which may become necessary based on construction personnel, notifying construction personnel of residential properties in close proximity to the substation and to limit truck idling. Construction vehicles shall not idle or park

along Holly Manor Drive and signs for the construction and prohibition on idling shall be placed on the nearby streets subject to VDOT approval. Noise reducing efforts such as using flags or a single buzzer instead of beepers, use of temporary construction noise abatement techniques or such other measures shall be diligently pursued. The Applicant shall provide the Providence District Supervisor's office with a point of contact for construction related issues. The Applicant shall provide a response to construction related issues/questions/complaints within 24 hours of receiving notice. The construction hours noted above shall not prohibit the Applicant from performing emergency construction or maintenance on the substation or adjacent power lines as necessary.*

29. All signs onsite shall be subject to Article 12.*

30. Storage of materials, equipment or trucks not needed for operation of the substation or adjacent power lines is not permitted onsite once construction activities have been completed.*

31. All graffiti shall be removed as expeditiously as possible, and shall be removed no later than a week after the Applicant is notified of the issue. A point of contact for ongoing maintenance issues shall be established with the Providence District Supervisors office and updated as the contact may change.*

32. Construction traffic shall be limited to the Shreve Road entrances.*

33. All reasonable efforts shall be made to reduce construction noise on the east side of the property due to the close proximity of residences. Multi-lingual signage shall be posted on-site notifying construction personnel of these efforts.*

34. Electromagnetic field (EMF) readings at the perimeter of the site shall be provided to the Holly Crest Community Association and other interested property owners within 6 months after the substation equipment becomes operational, or prior to bond release, whichever occurs first.*

35. Following construction of the substation wall and installation of the landscaping at the property's northeastern corner (including the Holly Crest off-site landscaping that is located in this general area and depicted at the northeast corner on the plat), the Applicant shall work with the Holly Crest HOA to determine if there is a need to relocate or replace the Holly Crest entrance sign. The Applicant will fund the relocation or replacement of the entrance sign up to $35,000.00 if it is determined that the sign is not adequately screened from the substation or if the sign appears disconnected from the residential community. The intent is to ensure the sign is associated with the Holly Crest neighborhood and not the substation. If the new landscaping satisfactory separates the sign from the substation use, the $35,000.00 contribution shall be not required. Prior to the issuance of the non-RUP, the applicant shall obtain a letter from the Holly Crest HOA indicating that this condition has been satisfied.*

36. A soil remediation plan will be submitted on the first and all subsequent site plans for review and approval by UFMD. The soil remediation plan shall comply with ANSI A300-Part 2 Standards and its accompanying Best Management Practices.

The remediation plan shall include, but not be limited to, Section 14 Soil Management a. Soil Modification, of ANSI A300-Part 2, latest edition. The remediation plan shall also be generally consistent with the drawing entitled “Areas of Anticipated Soil Remediation”, prepared by Dewberry Engineering, Inc. and dated May 15, 2017, and included as Attachment 1 to these development conditions. The remediation plan shall demonstrate where soil remediation will take place within all of the required Transitional Screening buffer areas around the full perimeter of the site. These areas shall include where construction activities have or have not already occurred.

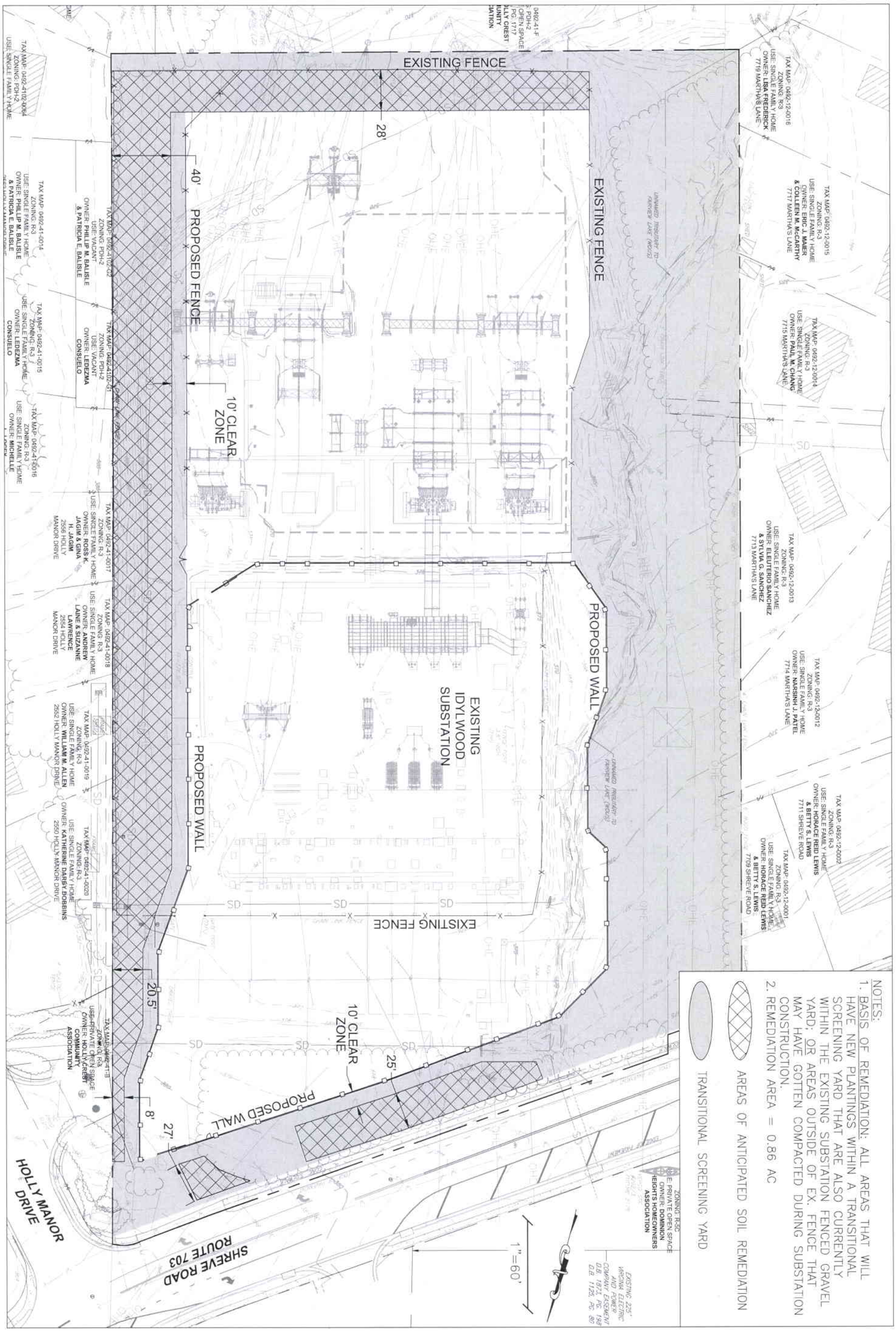
The above proposed conditions are staff recommendations and do not reflect the position of the Board of Supervisors unless and until adopted by that Board.

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. 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.

Pursuant to Section 9-015 of the Zoning Ordinance, this Special Exception shall automatically expire, without notice, 30 months after the date of approval unless the use has been established or construction has commenced and been diligently prosecuted. The Board of Supervisors may grant additional time to establish the use or to commence construction if a written request for additional time is filed with the Zoning Administrator prior to the date of expiration of the Special Exception. The request must explain why additional time is required, specify the amount of additional time requested, and explain the basis for the amount of time requested.

RECEIVED
Department of Planning & Zoning
JUN 01 2017
Zoning Evaluation Division

**Attachement 1**




**Dewberry**
Dewberry Engineers Inc.
4805 LAKE BROOK DRIVE
GLEN ALLEN, VA 23060
PHONE: 804.290.7957
FAX: 804.290.7928

| DATE | SCALE | TITLE | SHEET NO. |
|---|---|---|---|
| 05/15/2017 | 1"=60' | AREAS OF ANTICIPATED SOIL REMEDATION | 1 |
| PROJ. NO. 50058411 | PROJECT | IDYLWOOD SUBSTATION FAIRFAX COUNTY, VIRGINIA | |

# Idylwood Substation
# Statement of Justification
# Special Exception Amendment

January 17, 2017
*Revised June 26, 2017*

## I. INTRODUCTION

Pursuant to Section 9-014 of the Fairfax County Zoning Ordinance dated August 14, 1978, as amended (the "Ordinance"), and 15.2-2232 of the Code of Virginia, the Virginia Electric and Power Company, d/b/a Dominion Energy Virginia ("Dominion") hereby requests an amendment of its recently approved special exception and 15.2-2232 approval to permit the addition of temporary equipment at its existing facility known as the Idylwood Substation. Idylwood Substation is identified as Tax Map Numbers 49-2-((1))-151 and 49-2-((12))-001A, and is addressed as 7701 and 7707 Shreve Road, respectively (the "Property"). The Property is located in the Providence District and is zoned R-3 (Residential 3 DU/AC).

## II. BACKGROUND

The Property has been the site of an existing substation since 1947. It was originally approved for a substation use by the Board of Zoning Approvals on November 26, 1946 and received subsequent Special Permit approval in November 1962 for expansion of the site. Most recently, on May 12, 2015, the Board of Supervisors approved Special Exception 2014-PR-032, which permitted a complete remodel of the Idylwood Substation.

The Property totals 7.2 acres and is an integral station at the center of Dominion's northern region electrical grid. Idylwood is located at the intersection of two major transmission corridors and is both an electrical transmission hub and a major distribution substation. As explained in the most recently approved Special Exception, the planned work at Idylwood is vital. This station is over sixty years old and has undergone several expansions and piecemeal improvements since its original design. The old equipment is spread throughout the 7.2 acres, and the rebuild will upgrade and provide state-of-the art equipment, thus ensuring Dominion's ability to provide reliable electrical service to the surrounding area.

During the recent Special Exception application, Idylwood's rebuild was thoroughly described. It continues to be proposed in two phases. The first phase will involve construction of the new substation equipment toward the front of the property, closer to Shreve Road. Gas-insulated substation ("GIS") equipment will be used instead of typical air-insulated substation equipment. The end result will be a new and improved substation that is quieter, more efficient, and which will operate within a smaller footprint on the Property.

All work must take place while keeping the substation operational. Because Idylwood is at the center of Dominion's northern region electrical grid, it must continue to provide power for the service area. Only minimal pieces of the existing infrastructure will be out of service at any one time in order to meet power needs.

Once the new GIS equipment is installed, the second phase of construction will involve de-energizing and removing old substation equipment throughout the property. Once equipment removal is complete, Dominion will then install the wall and new landscape buffers, which will provide improved screening and buffering to the site. The result will be a consolidated, state-of-the art substation that is quieter, more efficient, located within a smaller footprint, and which will now have improved screening and landscaping.

## III. NEED FOR THE SPECIAL EXCEPTION AMENDMENT:

Following the Special Exception approval, Dominion began its site plan process and completed the intricate task of creating a construction plan for the remodel of a major substation while, at the same time, keeping the substation operational. Dominion's most important task was to temporarily shift a portion of the power flow around the areas of the substation where construction would occur. Dominion's proposal for Idylwood is to place bus work during the construction period at an elevation of approximately 37 feet on the eastern side of the property, away from construction activity.

This "high bus" or "construction bus" is necessary to perform two critical electrical functions during construction. The first is to bring the transmission power source from the southern area of the station to the northern area in order to feed new distribution transformers for the community during construction. The second is to temporarily feed one of the existing transmission lines, which will allow for the relocation of that line from the center of the substation to a more westerly location out of the way of construction. When the new GIS equipment is installed later in the construction sequence, the equipment served by the construction bus will be connected directly to the GIS, and the high bus will be de-energized and removed.

The need for the temporary construction bus is similar to temporary infrastructure rearrangements during any construction project, such as relocated roadways, water lines, or sidewalks. Further, the temporary placement of a construction bus is similar to the temporary placement of construction equipment such as cranes or scaffolding.

This type of temporary, construction-related methods are not normally reviewed during the special exception process and, thus, was not included on the original special exception plat. However, because the construction bus is currently anticipated to be needed at the Property for an approximate three (3) year period, as well as its proposed location on the eastern edge of the Property, this special exception amendment is submitted for the County's additional review.

## IV. DESCRIPTION OF THE CONSTRUCTION BUS:

Bus work is a common component of substations and can be found in any area depending upon its design and purpose. Its overall role is to carry electrical current to different components within a substation. As stated above, the proposed construction bus will be needed to carry a portion of the transmission power flow around the areas of the substation where construction would occur. The construction bus will be a tubular aluminum bus supported by structural supports ranging in height from 35 to 37 feet.

The construction bus is proposed in approximately the same location on the Property where an overhead distribution line existed for the past 30 years. This distribution line has recently been

removed. The pole heights of the old distribution lines ranged from 34 to 39 feet depending upon topography, and the proposed construction bus supports will be slightly less, ranging from 35 to 37 feet. The construction bus will not produce any noise while in operation.

Dominion examined all locations on the Property for the placement of the temporary construction bus, ultimately determining that there is no other area on the Property where it can be located due to the floodplain and existing overhead transmission on the west side of the site and the need to construct a new station in the middle of the project site. Furthermore, existing equipment and its associated underground cables preclude placing the temporary construction bus in another location.

In addition, the temporary bus must be constructed before actual reconstruction of the above-grade substation equipment components of the project. The reason is two-fold: First, it must be in position and available for when Dominion is at the point it must de-energize the old equipment and switch the new equipment to the high bus. Second, once construction commences on the substation interior, there will not be opportunity or room to construct the construction bus. It will be necessary for the construction bus to be located at the site for an approximate 3-year period until construction concludes. However, it will not be in operation the first year. It will simply be an unused structure, similar in appearance to scaffolding. The structure must be constructed first so it will be ready when needed. Further, due to the complex construction process, there will not be room or opportunity once remodeling of the substation begins to place the high bus in its necessary location. Once certain construction sequences are complete after approximately 1 year, the construction bus will be energized, and Dominion will continue to remodel the remaining substation areas. The high bus will remain in operation for approximately 2 years and will be dismantled when the newly constructed GIS equipment is complete and energized.

## V. TREE TRIMMING AND LANDSCAPING

As shown on the SEA Plat, residential properties that abut the eastern side of the substation have existing landscaping on their properties which will continue to shield views of substation equipment, including the construction bus. In order to protect the construction bus, Dominion reviewed existing off-site landscaping located on five (5) residential properties closest to the proposed high bus, and determined that trimming or specific tree removal (determined by health of the tree) would be necessary on four of the properties. In order to prevent danger limbs or trees from falling onto the high bus, Dominion approached these neighbors to request possible trimming or removal of trees in this area. These off-site landscape plans are shown in more detail on the SEA plat.

It is important to note that Development Condition 17 from the previously approved SE approval states, "Any trimming of trees on adjacent properties for purposes of construction shall be done under the supervision of a certified arborist and after notification of the property owner." Dominion abided by the requirements of this development condition when it approached these neighbors for this construction-related request.

Further, it is also important to note that during the SE process, Dominion offered to install off-site landscaping on any neighbor property who wanted additional screening. Development Condition 9 memorialized this promise, which also notes that said off-site landscaping may be installed prior to construction. Dominion approached these neighbors regarding the trimming/removal of trees in conjunction with discussions related to the addition of off-site landscaping. It is a logical point in the process to discuss these items as some trimming or tree removal will also allow for and support new planting survival.

## VI. SECTION 9-011 OF THE FAIRFAX COUNTY ZONING ORDINANCE:

The following information is provided pursuant to Section 9-011 of the Fairfax County Zoning Ordinance:

A. Type of operation: Electric Substation & Telecommunications Facility

B. Hours of operation: 24 hours/day, 7 days/week

C. Estimated number of patrons: None

D. Proposed number of employees: No permanent employees are proposed. The facility will be visited approximately 1 to 2 times per month by Dominion personnel for site inspection purposes, and for any needed repairs or alterations.

E. Estimate of traffic impact: Given the minimal occurrence of site visits, traffic is not an issue.

F. Vicinity or general area to be served by the use: The distribution component of the substation currently serve a specific service area from Merrifield, Falls Church, Tysons Corner, to the cities of Falls Church and Fairfax. The transmission component of the existing substation serves the entire Northern Virginia region. The proposed remodel and additional equipment will continue to serve these areas.

G. Architectural compatibility: A substation has been in operation at this since 1947. There are no buildings associated with the substation, except unmanned control enclosures. The proposed enclosures and substation equipment will be surrounded by landscaping and a screening wall.

H. Hazardous and toxic substances: There are no current or proposed hazardous or toxic substances proposed with the project, and the site will fully comply with all County, state, and federal environmental regulations.

I. Statement of conformance: To the best of the Applicant's knowledge, the proposed use conforms to the provisions of all applicable ordinances, regulations, adopted standards, and any applicable conditions.

## VII. DESCRIPTION IN CONTEXT OF SECTION 9-006 OF THE ZONING ORDINANCE

**1. The proposed use at the specified location shall be in harmony with the adopted comprehensive plan.**

**RESPONSE**: The location of the existing substation, proposed remodel, and temporary construction bus is in harmony with the adopted Comprehensive Plan. The Plan map shows the property as public facilities, governmental, and institutional and further identifies the property as a Public Service and Utility Facility.

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

**RESPONSE**: The proposed temporary high bus is in harmony with the general purpose and intent of the applicable zoning district regulations as discussed above. The existing electric substation facility is a permitted use within the R-3 District with special exception approval.

**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.**

**RESPONSE**: The existing substation has been located at the Property since 1947 and has residential development adjacent to three sides of the property. The proposed temporary construction bus is located adjacent to approximately five (5) residential neighbors, and it will not hinder or discourage use of these adjacent properties. As stated above, bus work is a common component of substations and can be found in any area depending upon its design and purpose. Further, the construction bus is proposed in approximately the same location on the Property where an overhead distribution line has existed for the past 30 years. The supports for the proposed high bus will be similar in height to the old distribution lines. In addition, the construction bus will not produce any noise while in operation.

**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.**

**RESPONSE**: There is no pedestrian traffic associated with this use.

**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.**

**RESPONSE**: The proposed high bus is temporary and will only be in place during the reconstruction of the substation equipment. Once construction is complete, the previously approved buffering and screening will be installed.

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

**RESPONSE**: Open space is not affected by the temporary high bus.

**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.**

**RESPONSE**: Adequate drainage and facilities exist to serve the temporary high bus.

**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.**

**RESPONSE**: No new signage is proposed for the temporary high bus.

## VIII. 15.2-2232 REQUEST

The proposed, temporary high bus and continued operation of Idylwood substation is appropriate in terms of location, character, and extent.

***Location*** - The entire property is currently used as a substation and transmission line right-of-way, which was constructed and has existed at this property since 1947. Further, it recently received special exception and 15.2-2232 approval to rebuild the substation. The construction bus is proposed in approximately the same location on the Property where an overhead distribution line of approximately the same height existed for the past 30 years. This distribution line has recently been removed, and the proposed construction bus will be temporary, occupying the same location for approximately 3 years.

As described in more detail above, Dominion examined all locations on the Property for the placement of the temporary construction bus, ultimately determining that there is no other area on the Property it can be located due to the floodplain and existing overhead transmission on the west side of the site and the need to construct a new station in the middle of the project site.

***Character*** - The Idylwood substation is an existing public utility, and the proposed construction bus will not change the existing character of the use. The nature and appearance of the high bus equipment is similar to what has previously existed at the site. Once the overall substation remodel is complete and the high bus is dismantled, the area of the high bus will be planted with a new 50 foot landscape buffer, which has never existed at this site before.

***Extent*** - It will be necessary for the construction bus to be located at the site for an approximate 3-year period until construction concludes. As described above, it will not be in operation the first year and will simply be an unused structure. Once certain construction sequences are complete, the construction bus will be energized and will remain in operation for approximately 2 years. It will be dismantled when the newly constructed GIS equipment is complete and energized. The extent of the proposal is necessary in order to construct the new substation equipment.

## IX. WAIVERS AND/OR MODIFICATIONS:

a) Major Paved Trail – The Countywide Trail Plan shows a major paved trail along the south side of Shreve Road up to the substation property. It then crosses over Shreve Road to the north side of the roadway. Because a small portion of the major paved trail is shown to be located at the northwest corner of Dominion's property frontage, Dominion requests a waiver of the major paved trail requirement in this area. It is important to note that a 5' sidewalk is proposed along the entire substation frontage; however, a waiver of the 8' width requirement on the northwest side of the property is requested.

b) Bike Lane – The Countywide Bicycle Master Plan shows a proposed bike lane along Shreve Road. As part of its right-of-way dedication across the property frontage, Dominion has provided the required width for the 5' bike lane. However, for safety purposes, it requests a waiver of the actual striping since no portions of Shreve Road in the vicinity of the subject property have a striped bike lane.

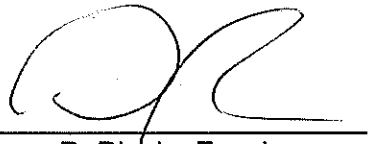
## X. CONCLUSION:

The above-described application proposes necessary temporary equipment to allow for redevelopment of the existing substation. With approval of the requested Special Exception

Amendment, the proposal will conform to the provisions of all applicable ordinances, regulations, standards, and conditions. Furthermore, the proposed use conforms to the Zoning Ordinance and the recommendations of the Comprehensive Plan. Therefore, for the reasons set forth herein, Dominion respectfully requests the approval of this application.

Respectfully submitted,

McGUIREWOODS LLP



Gregory R. Riegle, Esquire
Agent for Applicant

85061690_5.docx

# SPECIAL EXCEPTION AFFIDAVIT

1380446

DATE: JUN 14 2017
(enter date affidavit is notarized)

I, Sheri L. Akin, 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

in Application No.(s): SEA 2014-PR-032
(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) |
|---|---|---|
| Virginia Electric and Power Company d/b/a Dominion Energy Virginia | 120 Tredegar St., Richmond, VA 23219 | Applicant/Title Owner of Tax Map Parcels 49-2 ((1)) 151, 49-2 ((12)) 1A |
| Agents: | | |
| Courtney R. Fisher | 701 East Cary St., 12th Floor, Richmond, VA 23219 | Agent |
| David E. Crowl | 2400 Grayland Avenue, Richmond, VA 23220 | Agent |
| Tiffany Taylor-Minor | 701 East Cary St., 12th Floor, Richmond, VA 23219 | Agent |
| Wilson O. Velazquez | 2400 Grayland Avenue, Richmond, VA 23220 | Agent |
| Mark R. Gill | 701 East Cary St., 12th Floor, Richmond, VA 23219 | Agent |
| Scott P. Reamy | 3072 Centreville Road, Herndon, VA 20171 | Agent |
| Dominick F. Piccolomini | 701 East Cary Street, Richmond, VA 23219 | Agent |
| Angelita D. Gardner-Kittrell | 701 East Cary Street, Richmond, VA 23219 | Agent |

(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 Attachment to Par. 1(a)**

1386Hp

DATE: JUN 14 2017
(enter date affidavit is notarized)

for Application No. (s): SEA 2014-PR-032
(enter County-assigned application number (s))

(**NOTE**: All relationships to the application 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) |
|---|---|---|
| Dewberry Engineers Inc. | 4805 Lake Brook Drive, Suite 200<br>Glen Allen, VA 23060 | Engineer/Agent |
| Agents:<br>Kenneth W. Wagner<br>Benjamin K. Jackson | | <br>Engineer/Agent<br>Engineer/Agent<br>Engineer/Agent |
| McGuireWoods LLP | 1750 Tysons Boulevard, Suite 1800<br>Tysons, VA 22102 | Attorney/Agent |
| Agents:<br>Sheri L. Akin<br>Gregory A. Riegle<br>David R. Gill<br>Jonathan P. Rak<br>Scott E. Adams<br>Kenneth W. Wire<br>Lori R. Greenlief | | <br>Planner/Agent<br>Attorney/Agent<br>Attorney/Agent<br>Attorney/Agent<br>Attorney/Agent<br>Attorney/Agent<br>Planner/Agent |

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

**SPECIAL EXCEPTION AFFIDAVIT**

DATE: JUN 14 2017
(enter date affidavit is notarized)

138646

for Application No. (s): SEA 2014-PR-032
(enter County-assigned application number(s))

==========

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)
Virginia Electric and Power Company
d/b/a Dominion Energy Virginia
120 Tredegar Street
Richmond, VA 23219

**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)

(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: JUN 14 2017
(enter date affidavit is notarized)

1386Hp

for Application No. (s): SEA 2014-PR-032
(enter County-assigned application number (s))

==========

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

Dewberry Engineers Inc.
4805 Lake Brook Drive, Suite 200
Glen Allen, VA 23060

**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 Dewberry Companies Inc.

==========

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

The Dewberry Companies Inc.
8401 Arlington Boulevard
Fairfax, VA 22031

**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)

Barry K. Dewberry
Karen S. Grand Pre'
Thomas L. Dewberry
The Michael S. Dewberry Credit Shelter Trust u/a/d 11/23/05 (f/b/o Michael S. Dewberry II, Katie A. Dewberry, John M. Dewberry, and 1 other minor child of Michael S. Dewberry)

==========

(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**

1386446

DATE: JUN 14 2017
(enter date affidavit is notarized)

for Application No. (s): SEA 2014-PR-032
(enter County-assigned application number(s))

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)
McGuireWoods LLP
1750 Tysons Boulevard, Suite 1800
Tysons, VA 22102

(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)**

Equity Partners of McGuireWoods LLP

| | | |
|---|---|---|
| Adams, John D. | Barger, Brian D. | Brenner, Irving M. |
| Allen, Joel S. | Barrett, John M. | Brooks, Edwin E. |
| Anderson, Arthur E., II | Becker, Scott L. | Brose, R. C. |
| Anderson, James M., III | Beldner, Sabrina A. | Burk, Eric L. |
| Anderson, Mark E. | Bell, Craig D. | Busch, Stephen D. |
| Andre-Dumont, Hubert | Bilik, R. E. | Cabaniss, Thomas E. |
| Atty, Lisa A. | Blank, Jonathan T. | Capwell, Jeffrey R. |
| Bagley, Terrence M. | Boardman, J. K. | Carter, Jean G. |
| Bancroft, Josiah A. | Brantley, Bryan C. | Cason, Alan C. |

(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)**

1386416

DATE: JUN 14 2017
(enter date affidavit is notarized)

for Application No. (s): SEA 2014-PR-032
(enter County-assigned application number (s))

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

McGuireWoods LLP
1750 Tysons Boulevard, Suite 1800
Tysons, VA 22102

(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**)

Chaffin, Rebecca S.
Chapman, Jeffrey J.
Clark, Jeffrey C.
Cockrell, Geoffrey C.
Collins, Darren W.
Cook, Jason W.
Covington, Peter J.
Cramer, Robert W.
Cromwell, Richard J.
Culbertson, Craig R.
Cullen, Richard (nmi)
Daglio, Michael R.
De Ridder, Patrick A.
DiMattia, Michael J.
Dooley, Kathleen H.
Dossa, Mehboob R.
Downing, Scott P.
Edwards, Elizabeth F.
Ensing, Donald A.
Evans, Gregory L.
Evans, Jason D.
Ey, Douglas W., Jr.
Farrell, Thomas M.
Feller, Howard (nmi)
Finger, Jon W.
Finkelson, David E.
Flannery, Diane P.
Foley, Douglas M.
Fox, Charles D., IV
Frank, Hannah T.
Fratkin, Bryan A.
Freedlander, Mark E.
Fuhr, Joy C.
Gambill, Michael A.
Glassman, Margaret M.
Gold, Stephen (nmi)
Goldstein, Philip (nmi)
Goydan, William E.
Grant, Richard S.
Greene, Adam J.
Greene, Christopher K.
Greenspan, David L.
Greis, Jason S.
Gresham, A. B.
Grieb, John T.
Haas, Cheryl L.
Hackett, Mary J.
Hampton, Charles B.
Harmon, Jonathan P.
Harmon, T. C.
Hartsell, David L.
Hatch, Benjamin L.
Hatcher, J. K.
Hayden, Patrick L.
Hayes, Dion W.
Hedrick, James T., Jr.
Hilton, Robert C.
Horne, Patrick T.
Hornyak, David J.
Hosmer, Patricia F.
Howard, Justin D.
Hughes, John L., Jr.
Jackson, J. B.
Jewett, Bryce D., III
Justus, J. B.
Kahn, Brian A.
Kanazawa, Sidney K.
Kane, Matthew C.
Kang, Franklin D.
Kannensohn, Kimberly J.
Katsantonis, Joanne (nmi)
Keeler, Steven J.
Keene, D. B.
Kelly, Brian J.
Kilpatrick, Gregory R.

(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: JUN 14 2017
(enter date affidavit is notarized)

1386446

for Application No. (s): SEA 2014-PR-032
(enter County-assigned application number (s))

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

McGuireWoods LLP
1750 Tysons Boulevard, Suite 1800
Tysons, VA 22102

(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)**

Kobayashi, Naho (nmi)
Konia, Charles A.
Kratz, Timothy H.
Kromkowski, Mark A.
Krueger, Kurt J.
Kutrow, Bradley R.
La Fratta, Mark J.
Lamb, Douglas E.
Lapp, David R.
Lias-Booker, Ava E.
Link, Vishwa B.
Little, Nancy R.
Lukitsch, Bethany G.
Maddock, John H., III
Mandel, Michael D.
Manning, Amy B.
Marshall, Harrison L., Jr.
Marsico, Leonard J.
Martin, Cecil E., III
Martin, George K.
Martinez, Peter W.
Mathews, Eugene E., III
Mayberry, William C.
McCollough, Aaron G.
McDonald, John G.
McFarland, Robert W.
McGinnis, Kevin A.
McIntyre, Charles W.
McKinnon, Michele A.
McLean, David P.
McLean, J. D.
McNab, S. K.
McRill, Emery B.
Michalik, Christopher M.
Milianti, Peter A.
Moldovan, Victor L.
Muckenfuss, Robert A.
Mullins, Patrick T.
Nahal, Hardeep S.
Namazie, Hamid R.
Natarajan, Rajsekhar (nmi)
Neale, James F.
Nesbit, Christopher S.
Newberg, Brad R.
Newhouse, Philip J.
O'Grady, John B.
Older, Stephen E.
Oostdyk, Scott C.
Padgett, John D.
Perzek, Philip J.
Peyton, Daniel L.
Phillips, Michael R.
Powell, David C.
Pryor, Robert H.
Pumphrey, Brian E.
Purpura, Ryan T.
Pusateri, David P.
Rak, Jonathan P.
Reid, Joseph K., III
Richardson, David L.
Riegle, Gregory A.
Riley, James B., Jr.
Riopelle, Brian C.
Roach, Derek A.
Roberts, Manley W.
Rogers, Marvin L.
Rohman, Thomas P.
Rowan, J. P.
Rusher, Mary Nash K.
Russo, Angelo M.
Rust, Dana L.
Satterwhite, Rodney A.
Scheurer, Philip C.
Sellers, Jane W.
Sethi, Akash D.

(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: JUN 14 2017
(enter date affidavit is notarized)

1386/16

for Application No. (s): SEA 2014-PR-032
(enter County-assigned application number (s))

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

McGuireWoods LLP
1750 Tysons Boulevard, Suite 1800
Tysons, VA 22102

(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)**

Shelley, Patrick M.
Simmons, L. D., II
Slone, Daniel K.
Spitz, Joel H.
Spitzer, Mark A.
Spivey, Angela M.
Stallings, Thomas J.
Stearman, Jennifer J.
Steen, Bruce M.
Steggerda, Todd R.
Stein, Marta A.
Stone, Jacquelyn E.
Swan, David I.
Symons, Noel H.
Tarry, Samuel L., Jr.
Taylor, R. T.
Thanner, Christopher J.
Thornhill, James A.
Van Horn, James E.
Vance, Robin C.
Vaughn, Scott P.
Viola, Richard W.
Visconsi Law Corporation, John R.*
Wade, H. L., Jr.
Walker, Barton C.
Walker, John T., IV
Walker, Thomas R.
Walker, W. K., Jr.
Walsh, Amber M.
Westwood, Scott E.
Whelpley, David B., Jr.
White, H. R., III
White, Walter H., Jr.
Wilburn, John D.
Williams, Steven R.
Woodard, Michael B.
Wren, Elizabeth G.

*Does not own 10% or more of McGuireWoods LLP

(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: JUN 14 2017
(enter date affidavit is notarized)

1386(46

for Application No. (s): SEA 2014-PR-032
(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 2014-PR-032

(county-assigned application number(s), to be entered by County Staff)



## SPECIAL EXCEPTION AFFIDAVIT

1386446

DATE: JUN 14 2017

(enter date affidavit is notarized)

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.)

Planning Commissioner Tim Sargeant (At-Large) is employed by Virginia Electric and Power Company, d/b/a Dominion Energy Virginia, which is listed in Par. 1(a) of the Affidavit as the Applicant/Title Owner of the subject property.

**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 [✓] Applicant's Authorized Agent

Sheri L. Akin, Sr. Land Use Planner

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

Subscribed and sworn to before me this 14th day of June 20 17, in the ~~State~~/Comm. of Virginia, County/~~City~~ of Fairfax.

Grace E. Chae

Notary Public

My commission expires: 5/31/2020

Grace E. Chae
Commonwealth of Virginia
Notary Public
Commission No. 7172971
My Commission Expires 5/31/2020

# County of Fairfax, Virginia

*To protect and enrich the quality of life for the people, neighborhoods and diverse communities of Fairfax County*

RECEIVED
Department of Planning & Zoning
JUN 02 2015
Zoning Evaluation Division

May 13, 2015

Courtney Fisher
Virginia Electric and Power Company (d/b/a Dominion Virginia Power)
701 East Cary Street, 12th Floor
Richmond, VA 23219

Re: Special Exception Application SE 2014-PR-032

Dear Ms. Fisher:

At a regular meeting of the Board of Supervisors held on May 12, 2015, the Board approved Special Exception Application SE 2014-PR-032 in the name of VA Electric and Power Company D/B/A Dominion Virginia Power. The subject property is located at 7701 and 7707 Shreve Road, on approximately 7.15 acres of land, zoned R-3, in the Providence District [Tax Map 49-2 ((1)) 151 and 49-2 ((12)) 1 A]. The Board's action permits an electrical substation and telecommunication facility, pursuant to Section 3-304 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 the Special Exception shall be in substantial conformance with the approved Special Exception (SE) Plat entitled "Idylwood Substation," prepared by Dewberry Engineers, Inc., dated February 2014, as revised through April 6, 2015, and these conditions. Minor modifications to the approved Special Exception may be permitted pursuant to Par. 4 of Sect. 9-004 of the Zoning Ordinance.

**Office of the Clerk to the Board of Supervisors**
12000 Government Center Parkway, Suite 533
Fairfax, Virginia 22035
Phone: 703-324-3151 ♦ Fax: 703-324-3926 ♦ TTY: 703-324-3903
Email: clerktothebos@fairfaxcounty.gov
*http://www.fairfaxcounty.gov/bosclerk*

4. Right-of-way along Shreve Road shall be dedicated as generally depicted on the plat, as approved by Fairfax County and the Virginia Department of Transportation (VDOT). The right-of-way shall be dedicated without encumbrances and in fee simple to the Board of Supervisors upon request by either Fairfax County or the Virginia Department of Transportation, whichever occurs first.

5. The entrances to the substation and the telecommunications facility shall meet the commercial entrance standards of the Virginia Department of Transportation (VDOT) and the driveways outside the perimeter wall shall be asphalt. The existing curb cut/entrance on Holly Manor Lane shall be removed and the curb and gutter and sidewalk shall be restored in the right of way prior to issuance of a Non Residential Use Permit (Non-RUP).

6. A 5-foot wide sidewalk shall be constructed across the Shreve Road frontage prior to issuance of a Non-RUP.

7. Stormwater management shall be provided as generally depicted on the SEPlat or as approved by the Department of Public Works and Environmental Services (DPWES). The applicant shall promptly provide mitigation measures if there are impacts from increased stormwater downstream of the property.

8. The planting schedule provided on the SE Plat provides suggested vegetation and can be modified upon approval of the Urban Forest Management Division should other vegetation options be preferred, as an example, replacing the Yellow Wood and Greenspire with Red Sunset and/or Black gum varieties.

9. Landscaping shall be provided onsite in order to meet the intent of the Type 2 and Type 3 Transitional Screening requirements subject to the review and approval of the Urban Forest Management Division. On-site landscaping shall be as generally depicted on the SE Plat. The Applicant shall provide the off-site landscaping to reduce the visual impact of the substation on the adjacent residential properties, property owners who have views of the new substation equipment, and community association common areas. The Applicant shall provide evergreen and/or deciduous vegetation on the lot of each landowner along Holly Manor Drive and Marthas Lane who are adjacent to the substation property or who will have views of the new substation equipment, and who elect to have off-site landscaping installed on their property. The Applicant shall contact the Holly Crest Community Association and/or individual property owners adjacent to the substation along Holly Manor Drive to develop a plan for supplemental landscaping to be installed by the Applicant. The height limitations for vegetation shown on the substation property shall not apply to offsite vegetation nor shall the Applicant conduct trimming or maintenance on said offsite vegetation without the property owners consent. The Applicant shall also contact the representatives of the Dominion Heights Herrell Addition subdivision to determine if off-site landscaping should be provided on those properties as well. The Applicant shall negotiate the quantity, location,

species, and type of landscaping with each individual landowner and submit the final design to the Urban Forest Management Division (UFMD) for review and comment. The design shall also be submitted to the Providence District Supervisor's office for review and comment. Landscaping shall be a minimum size of 7 feet tall and between 2 and 2 ½ inches in caliper at the time of planting. The landscaping shall be installed by the Applicant at the sole cost of the Applicant. The viability of such plantings shall be assured by the Applicant for a one (1) year period after installation, but regular care and maintenance shall be provided by the landowner. For satisfaction of this development condition, prior to site plan approval, the Applicant shall demonstrate that the landowners adjacent to the substation along Holly Manor Drive and Marthas Lane and in the Dominion Heights Herrell Addition subdivision were contacted via certified mail of their eligibility to receive off-site landscaping. The Applicant shall begin working with the adjacent homeowners anytime thereafter. Landscaping may be installed prior to or following construction of the substation, as determined by the individual landowner, including the Holly Crest Community Association. Prior to release of the project's performance bond, the Applicant shall demonstrate final compliance of this development condition with either approved landscape layouts including property owner signatures verifying installation of respective off-site landscaping, a property owner's election to not receive off-site landscaping, or evidence of the Applicant's good faith effort to obtain such approval. The Applicant shall work with UFMD and the Providence District Supervisor's office to resolve any differences that arise during this process.

10. Prior to the installation of plants to meet requirements of the approved landscape plan, the Applicant, with the Contractor/Developer serving as the agent, shall coordinate a pre-installation meeting on site with the contractor/developer of the site 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.

11. The wall shall be constructed as generally depicted on the SE Plat and shall be precast masonry panels and pilasters with brick façade along the north, east and west boundaries. Pre-cast concrete masonry panels and pilasters may be installed for the southern wall with matching brick color. The wall shall be built in general conformance with the SE plat and meet the Applicant's latest security requirements. A 7 foot high chain link fence with barbed wire shall be provided along Lots 18, 19 and 20 of Holly Crest in a similar location to the existing chain link fence. (Tax Map Parcels 49-2 ((41)), 0018, 0019 and 0020) This area between the fence and the

wall shall be gated to prohibit unauthorized access. The gate along the front shall be 16 feet tall to match the rest of the wall height along Shreve Road, and shall open in towards the substation, slide or roll upwards.

12. The vegetation and wall proposed on-site are required to remain as generally depicted on the SE Plat Minor modifications as allowed by the Zoning Ordinance may be permitted; however, replacement and appropriate maintenance of the vegetation and wall shall be provided as necessary to ensure the survival of the vegetation and aesthetic quality of the wall. Should the vegetation not survive, the Applicant shall replace such vegetation and maintain it thereafter.

13. If a gate is necessary in the chain link fence along the southern boundary adjacent to the Dominion Power easement, a gap in the vegetation may be permitted up to 14 feet wide upon review by the Urban Forestry Management Division.

14. As a condition of the 10-year tree canopy modification, a contribution of $19,538.00 shall be made to the Tree Preservation and Planting Fund at the time of site plan approval.

15. Tree Preservation: The Applicant shall submit a tree preservation plan and Narrative as part of the first and all subsequent site plan submissions. The preservation plan and narrative shall be prepared by a Certified Arborist or a Registered Consulting Arborist, and shall be subject to the review and approval of the Urban Forest Management Division, DPWES.

16. The tree preservation plan shall include a tree inventory that identifies the location, species, critical root zone, size, crown spread and condition analysis percentage rating for all individual trees to be preserved, as well as all on- and off-site trees, living or dead with trunks 12 inches in diameter and greater (measured at 4 ½ -feet from the base of the trunk or as otherwise allowed in the latest edition of the Guide for Plant Appraisal published by the International Society of Arboriculture) located within 25 feet of the limits of clearing and grading within the undisturbed area. The tree preservation plan shall provide for the preservation of those areas shown for tree preservation, those areas outside of the limits of clearing and grading shown on the SE and those additional areas in which trees can be preserved as a result of final engineering. The tree preservation plan and narrative shall include all items specified in PFM 12-0507 and 12-0509. Specific tree preservation activities that will maximize the survivability of any tree identified to be preserved, such as: crown pruning, root pruning, mulching, fertilization, and others as necessary, shall be included in the plan.

17. Tree Preservation Walk-Through. The limits of clearing and grading are proposed to cover the entire site and it is unlikely that these will be significantly altered. The Applicant shall retain the services of a certified arborist or Registered Consulting Arborist, and shall have the limits of clearing and grading marked with a continuous

line of flagging prior to the walk-through meeting. The Providence District Supervisor's office and adjacent neighbors shall be notified in writing in advance of this walk-through for their opportunity to participate in the walk-through. During the tree preservation walk-through meeting, the Applicant's certified arborist or Registered Consulting Arborist shall walk the limits of clearing and grading with an UFMD, DPWES, representative to determine where adjustments to the clearing limits can be made to increase the area of tree preservation and/or to increase the survivability of trees at the edge of the limits of clearing and grading, and such adjustment shall be implemented. Trees that are identified as dead or dying may be removed as part of the clearing operation. Any tree that is so designated shall be removed using a chain saw and such removal shall be accomplished in a manner that avoids damage to surrounding trees and associated understory vegetation. If a stump must be removed, this shall be done using a stump-grinding machine in a manner causing as little disturbance as possible to adjacent trees and associated understory vegetation and soil conditions. Any trimming of trees on adjacent properties for purposes of construction shall be done under the supervision of a certified arborist and after notification of the property owner.

18. Limits of Clearing and Grading. The Applicant shall conform strictly to the limits of clearing and grading as shown on the SE Plat, subject to allowances specified in these proffered conditions and for the installation of utilities and/or trails as determined necessary by the Director of DPWES, as described herein. If it is determined necessary to install utilities and/or trails in areas protected by the limits of clearing and grading as shown on the SE Plat, they shall be located in the least disruptive manner necessary as determined by the UFMD, DPWES. A replanting plan shall be developed and implemented, subject to approval by the UFMD, DPWES, for any areas protected by the limits of clearing and grading that must be disturbed for such trails or utilities.

19. Tree Preservation Fencing: All trees shown to be preserved on the tree preservation plan shall be protected by tree protection fence. Tree protection fencing in the form of four (4) foot high, fourteen (14) gauge welded wire attached to six (6) foot steel posts driven eighteen (18) inches into the ground and placed no further than ten (10) feet apart or, super silt fence to the extent that required trenching for super silt fence does not sever or wound compression roots which can lead to structural failure and/or uprooting of trees shall be erected at the limits of clearing and grading as shown on the demolition, and phase I & II erosion and sediment control sheets, as may be modified by the "Root Pruning" proffer below.

20. All tree protection fencing shall be installed after the tree preservation walk-through meeting but prior to any clearing and grading activities, including the demolition of any existing structures. The installation of all tree protection fencing shall be performed under the supervision of a certified arborist, and accomplished in a manner that does not harm existing vegetation that is to be preserved. Three (3) days prior to the commencement of any clearing, grading or demolition activities,

but subsequent to the installation of the tree protection devices, the UFMD, DPWES, shall be notified and given the opportunity to inspect the site to ensure that all tree protection devices have been correctly installed. If it is determined that the fencing has not been installed correctly, no grading or construction activities shall occur until the fencing is installed correctly, as determined by the UFMD, DPWES.

21. Root Pruning. The Applicant shall root prune, as needed to comply with the tree preservation requirements of these development conditions. All treatments shall be clearly identified, labeled, and detailed on the erosion and sediment control sheets of the subdivision plan submission. The details for these treatments shall be reviewed and approved by the UFMD, DPWES, accomplished in a manner that protects affected and adjacent vegetation to be preserved, and may include, but not be limited to the following:

    a. Root pruning shall be done with a trencher or vibratory plow to a depth of 18 inches.
    b. Root pruning shall take place prior to any clearing and grading, or demolition of structures.
    c. Root pruning shall be conducted with the supervision of a certified arborist.
    d. An UFMD, DPWES, representative shall be informed when all root pruning and tree protection fence installation is complete."

22. A plan for the care and maintenance of the trees to be managed and maintained onsite along Shreve Road and for protection of offsite trees shall be developed during site plan review based on consultation and coordination with a certified arborist. The care and maintenance of the onsite trees could include pruning and supplemental planting to meet the intent of Transitional Screening 2. The offsite trees shall include but not be limited to trees numbered 104, 105, 131, 132, 133, 134,114, 116, 117, 113, 107, 109 and 111. During site plan review, the total square footage of the canopy area associated with those trees to be protected, managed and maintained shall be provided. Based on the square footage of canopy, a replacement cost will be prepared by the Urban Forest Management Division (UFMD) based on the latest County of Fairfax, Department of Public Works and Environmental Services Comprehensive Unit Price Schedule. Once the cost estimate is approved, a bond or letter of credit shall be provided for the replacement value for the onsite trees. For the offsite trees, the trees shall either be replaced or replacement value shall be provided to the property owner (based on the preference of the property owner).

23. The wall may be built in stages. All reasonable efforts shall be made to complete as much of the wall as possible at the earliest stage possible. .

24. Construction and demolition debris waste shall be recycled to the maximum extent practicable during the various stages of the existing substation demolition.

25. During site plan review, a plan for the mitigation of construction impacts shall be developed by the Applicant. Measures to alleviate construction impacts on Shreve Road and the surrounding communities should include evaluation of whether a flag person is necessary during construction, setting up a schedule for deliveries of large construction equipment or materials (subject to VDOT regulations), establishment and continuation of a website for the project which will provide alerts (which could include mass emails or use of social media) on high impact (for instance noise or traffic impacts) activities or other measures, designed to provide timely notification to the area residents and those traveling on Shreve Road.This plan shall be provided to the Providence District Supervisors office. Pedestrian access across the property shall be maintained at all times throughout construction.

26. This use shall be subject to the Noise Ordinance of Fairfax County.

27. All applicable permits from the US Army Corps of Engineers, Virginia Department of Environmental Quality, and Virginia Department of Conservation and Recreation shall be obtained prior to obtaining site plan approval.

28. Construction hours be limited to Monday through Friday 7:30 am and 6:00 pm. Should work on Saturdays be necessary, hours shall be limited to 8:00 am to 4:00 pm. No construction work shall be performed on Sundays or major federal holidays. Signage shall be posted on-site in English and Spanish, or any other language which may become necessary based on construction personnel, notifying construction personnel of residential properties in close proximity to the substation and to limit truck idling. Construction vehicles shall not idle or park along Holly Manor Drive and signs for the construction and prohibition on idling shall be placed on the nearby streets subject to VDOT approval. Noise reducing efforts such as using flags or a single buzzer instead of beepers, use of temporary construction noise abatement techniques or such other measures shall be diligently pursued. The Applicant shall provide the Providence District Supervisor's office with a point of contact for construction related issues. The Applicant shall provide a response to construction related issues/questions/complaints within 24 hours of receiving notice. The construction hours noted above shall not prohibit the Applicant from performing emergency construction or maintenance on the substation or adjacent power lines as necessary.

29. All signs onsite shall be subject to Article 12.

30. Storage of materials, equipment or trucks not needed for operation of the substation or adjacent power lines is not permitted onsite once construction activities have been completed.

31. All graffiti shall be removed as expeditiously as possible, and shall be removed no later than a week after the Applicant is notified of the issue. A point of contact for

ongoing maintenance issues shall be established with the Providence District Supervisors office and updated as the contact may change.

32. Construction traffic shall be limited to the Shreve Road entrances.

33. All reasonable efforts shall be made to reduce construction noise on the east side of the property due to the close proximity of residences. Multi-lingual signage shall be posted on-site notifying construction personnel of these efforts.

34. Electromagnetic field (emf) readings at the perimeter of the site shall be provided to the Holly Crest Community Association and other interested property owners within 6 months after the substation equipment becomes operational, or prior to bond release, whichever occurs first.

35. Following construction of the substation wall and installation of the landscaping at the property's northeastern corner (including the Holly Crest off-site landscaping that is located in this general area and depicted at the northeast corner on the plat), the Applicant shall work with the Holly Crest HOA to determine if there is a need to relocate or replace the Holly Crest entrance sign. The Applicant will fund the relocation or replacement of the entrance sign up to $35,000.00 if it is determined that the sign is not adequately screened from the substation or if the sign appears disconnected from the residential community. The intent is to ensure the sign is associated with the Holly Crest neighborhood and not the substation. If the new landscaping satisfactory separates the sign from the substation use, the $35,000.00 contribution shall be not required. Prior to the issuance of the non-RUP, the applicant shall obtain a letter from the Holly Crest HOA indicating that this condition has been satisfied.

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.

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 or construction has commenced and been diligently prosecuted. The Board of Supervisors may grant additional time to establish the use or to commence construction if a written request for additional time is filed with the Zoning Administrator prior to the date of expiration of the Special Exception. The request must explain why additional time is required, specify the amount of additional time requested, and explain the basis for the amount of time requested.

**The Board also:**

- Approved modification of transitional screening requirements along all boundaries of the site in favor of that shown on the special exception (SE) plat

- Directed the Director of the Department of Public Works and Environmental Services (DPWES) to approve a modification of 10-year tree canopy requirements in favor of that shown on the SE plat

- Directed the Director of DPWES to approve a waiver of the tree preservation target requirements in favor of that shown on the SE plat

Please note that on March 4, 2015, the Planning Commission approved Public Facilities Application 2232-P14-4. The Commission noted that the applications met the criteria of character, location and extent, and was in conformance with Section 15.2-2232 of the *Code of Virginia*, as amended.

Sincerely,

Catherine A. Chianese
Clerk to the Board of Supervisors

cc: Chairman Sharon Bulova
Supervisor Linda Smyth, Providence District
Tim Shirocky, Acting Director, Real Estate Division, Dept. of Tax Administration
Barbara C. Berlin, Director, Zoning Evaluation Division, DPZ
Diane Johnson-Quinn, Deputy Zoning Administrator, Dept. of Planning and Zoning
Thomas Conry, Dept. Manager, GIS, Mapping/Overlay
Michael Davis, Section Chief, Transportation Planning Division
Donald Stephens, Transportation Planning Division
Ken Williams, Plans & Document Control, ESRD, DPWES
Department of Highways-VDOT
Sandy Stallman, Park Planning Branch Manager, FCPA
Charlene Fuhrman-Schulz, Development Officer, DHCD/Design Development Division
Jill Cooper, Executive Director, Planning Commission
Karyn Moreland, Chief Capital Projects Sections, Dept. of Transportation

**COUNTY OF FAIRFAX** **APPLICATION No:** SE 2014-PR-032
(Staff will assign)

**Department of Planning and Zoning**
**Zoning Evaluation Division**
12055 Government Center Parkway, Suite 801
Fairfax, VA 22035 (703) 324-1290, TTY 711
www.fairfaxcounty.gov/dpz/zoning/applications

RECEIVED
Department of Planning & Zoning
MAY 20 2014
Zoning Evaluation Division

# APPLICATION FOR A SPECIAL EXCEPTION

(PLEASE TYPE or PRINT IN BLACK INK)

| | |
|---|---|
| **APPLICANT** | **NAME**<br>VA. ELECTRIC & POWER CO. D/B/A DOMINION VIRGINIA POWER |
| | **MAILING ADDRESS**<br>701 E. Cary St. RICHMOND, VA 23219 |
| | **PHONE HOME** ( ) **WORK** (804) 771-6408 |
| | **PHONE MOBILE** (804) 380-9335 |
| **PROPERTY INFORMATION** | **PROPERTY ADDRESS**<br>7701 SHREVE ROAD FALLS CHURCH, VA 22043 |
| | **TAX MAP NO.** 0492-01-0151, 0490-12-0001A **SIZE (ACRES/SQ FT)** 7.15ac (TOTAL) |
| | **ZONING DISTRICT** R-3 **MAGISTERIAL DISTRICT** PROVIDENCE |
| | **PROPOSED ZONING IF CONCURRENT WITH REZONING APLICATION:** N/A |
| **SPECIAL EXCEPTION REQUEST INFORMATION** | **ZONING ORDINANCE SECTION**<br>9-101 |
| | **PROPOSED USE**<br>EXISTING USE: ELEC. SUBSTATION, TELECOMM. FACILITY<br>PROPOSED USE: ELEC. SUBSTATION, TELECOMM. FACILITY |
| **AGENT/CONTACT INFORMATION** | **NAME**<br>COURTNEY FISHER |
| | **MAILING ADDRESS**<br>701 EAST CARY STREET, 12TH FLOOR RICHMOND, VA 23219 |
| | **PHONE NUMBER** **HOME** **WORK** 804-771-6408 |
| | **PHONE NUMBER** **MOBILE** 804-380-9335 |
| **MAILING** | **Send all correspondence to (check one):** ☐ **Applicant** –or– ☒ **Agent/Contact** |

**The name(s) and addresses of owner(s) of record shall be provided on the affidavit form attached and made part of this application. The undersigned has the power to authorize and does hereby authorize Fairfax County staff representatives on official business to enter the subject property as necessary to process the application.**

COURTNEY FISHER
**TYPE/PRINT NAME OF APPLICANT/AGENT**

**SIGNATURE OF APPLICANT/AGENT**

Deborah Lee Robertson SE 2014-0064 MPS 6/19/14

**DO NOT WRITE IN THIS SPACE**

Date application accepted: June 19, 2014 Application Fee Paid: $ 16,375.00

# SE 2014-PR-032

# Zoning Application Closeout Summary Report

**Printed: 5/15/2015**

## General Information

| | |
|---|---|
| **APPLICANT:** | VA. ELECTRIC & POWER CO. D/B/A DOMINION VIRGINIA POWER |
| **DECISION DATE:** | 05/12/2015 |
| **CRD:** | NO |
| **HEARING BODY:** | BOS |
| **SUPERVISOR DISTRICT:** | |
| **ACTION:** | APPROVE |
| **STAFF COORD:** | SUZANNE WRIGHT |

**DECISION SUMMARY:**

ON MAY 12, 2015, THE BOARD UNANIMOUSLY APPROVED SE 2014-PR-032 ON A MOTION BY SUPERVISOR SMYTH, SUBJECT TO DEVELOPMENT CONDITIONS DATED MAY 7, 2015.

## Zoning Information

| Existing Zoning | | Proposed Zoning | | Approved Zoning | |
|---|---|---|---|---|---|
| **DISTRICT** | **AREA** | **DISTRICT** | **AREA** | **DISTRICT** | **AREA** |
| | | | | R- 3 | 7.15 ACRES |

## Tax Map Numbers

049-2- /01/ /0151-
049-2- /12/ /0001-A

## Approved Land Uses

### Zoning District: R- 3

| | APPROVED RESIDENTIAL DEVELOPMENT | | | APPROVED NON-RESIDENTIAL DEVELOPMENT | | |
|---|---|---|---|---|---|---|
| **LAND USE** | **DWELLING UNITS** | **LAND AREA** | **NO. OF ADU'S** | **GFA** | **LAND AREA** | **FAR** |
| ELEC/SUBST | | | | | 7.15 ACRES | |
| TOTAL | | | | | 7.15 ACRES | |

## Approved Waivers/Modifications

WAIVE TREE PRESERVATION TARGET AREA PERCENTAGE
MODIFY TRANSITIONAL SCREENING REQUIREMENT
MODIFY 10-YEAR TREE CANOPY REQUIREMENT

## Approved Development Conditions

DEVELOPMENT CONDITION STATEMENT DATE: 05-07-2015

| DEVELOPMENT CONDITION | DUE | TRIG # | TRIG EVENT | CONTRIB | EXPIR DTE |
|---|---|---|---|---|---|
| URBAN FORESTRY REVIEW | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| SIDEWALK / TRAIL | 01-01-0001 | 0 | NON-RUP | 0 | 01-01-0001 |
| DRIVEWAY AND DRIVEWAY ENTRANCES | 01-01-0001 | 0 | NON-RUP | 0 | 01-01-0001 |
| BARRIER (ARTICLE 13) | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| PERMITS SHALL BE OBTAINED | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| WATER QUALITY / CLEAN WATER ACT | 01-01-0001 | 0 | SITE PLAN | 0 | 01-01-0001 |
| OTHER - ENVIRONMENT | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| CONSTRUCTION VEHICLE RESTRICTIONS | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| LANDSCAPING - OFF-SITE | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| LANDSCAPE PLAN REQUIRED | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| CONTRIBUTION - OTHER LAND USE | 01-01-0001 | 0 | SITE PLAN | 19,538 | 01-01-0001 |
| SIGNAGE | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| TREE SAVE FENCING | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| STORMWATER MANAGEMENT POND - ON-SITE | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| TREE PRESERVATION / SURVEY | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| LIMITS OF CLEARING AND GRADING | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| RIGHT OF WAY - DEDICATION | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| OTHER - LAND USE | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| TRANSITIONAL SCREENING | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| LANDSCAPE MAINTENANCE | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| SUBJECT TO SITE PLANS / SUBDIVISION PLATS | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| OTHER - GENERAL | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |
| APPROVED FOR LOCATION/STRUCTURE/USES ETC ON PLAT | 01-01-0001 | 0 | N/A | 0 | 01-01-0001 |

# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** June 28, 2017

**TO:** Tracy Strunk, AICP, Director
Zoning Evaluation Division, DPZ

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

**SUBJECT:** Section 15.2-2232 Review
**Application 2232A-P14-4-1** (concurrent with **SEA 2014-PR-032**)
Virginia Electric & Power Company d/b/a Dominion Energy Virginia
Idylwood Substation
7701 and 7707 Shreve Road, Falls Church, VA 22043
Tax Map 49-2 ((1)) 151 and 49-2 ((12)) 1A

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 temporary high bus at the existing Idylwood Substation.

**PROJECT DESCRIPTION**
The applicant, Virginia Electric & Power Company, d/b/a Dominion Energy Virginia ("Dominion"), requests an amendment to the previous 2232 application (2232-P14-4-1) approved by the Planning Commission on March 24, 2015 and Special Exception application (SE 2014-PR-032) approved by the Board of Supervisors on May 12, 2015, to construct and operate a temporary high bus to facilitate the redevelopment of the Idylwood Substation. The temporary high bus will be located on the site for approximately three (3) years. The proposed 2232 amendment is also subject to review and approval of SEA 2014-PR-032.

The previous 2232 and Special Exception applications approved in 2015, allow Dominion to remodel and upgrade the Idylwood Substation. Idylwood is an integral component of Dominion's northern region electrical grid, and must remain operational while the facility is upgraded. In response to this need, Dominion must construct a temporary high bus along the eastern edge of the substation site, which will shift the power flow around the areas of the substation that are under construction, and ensure it remains operational during the remodel and upgrade.

The proposed facility is summarized below (the 2232 Review Application is attached and includes by reference the plans included with the SEA-PR-032 staff report).

**Location**
7701 and 7707 Shreve Road, Falls Church, VA 22043. The 7.15 acre property is located on the south side of Shreve Road and to the west of Holly Manor Drive. The site is surrounded by residential uses.

**Existing Conditions**
The site is currently developed with an electric substation facility owned by Dominion. The site includes three (3) existing lattice transmission structures and one (1) transmission tower ranging in height from 120 to 155 feet. The site also includes a compound surrounded by a seven (7) foot chain link fence with one (1) foot of barbed wire along the top. Within the compound there are four (4) backbone structures ranging in height from 50 to 69 feet; four (4) transformers 25 feet in height; and distribution bays, control buildings and switching equipment ranging in height from 12 to 31 feet.

**Proposed Facility**
The Special Exception and 2232 applications approved in 2015 allow for the remodel and upgrade of the Idylwood substation, which will result in the replacement of the existing air insulated substation equipment with gas insulated equipment (GIS). GIS equipment requires a smaller footprint than traditional air insulated equipment, and is often used at constrained sites such as Idylwood, where space for expansion is limited. Additionally, the redevelopment of the substation also includes new backbone structures, transformers and transmission towers. Because the existing substation equipment must remain operational during the rebuild, the footprint of the substation will be shifted to the north, closer to Shreve Road. Additionally, a temporary high bus must be constructed to keep the existing substation running while the new GIS substation is under construction. The temporary high bus will consist of 20 tubular aluminum structures buttressed by structural supports ranging in height from 35 to 37 feet, and will be located on the site for approximately three (3) years. As stated previously, the high bus will shift the power flow around the areas of the substation under construction. It will connect the transmission power source from the southern area of the substation to the northern area, in order to feed the new distribution transformers during construction. It will also be used to temporarily feed an existing transmission line, which will allow for the relocation of the transmission line from the center to the west of the substation site, in order to make room for the new GIS substation equipment. Once the installation of the new GIS equipment is completed, the high bus will be de-energized and removed from the site.

**Screening**
The high bus is proposed for the eastern edge of the substation site. Five (5) residential properties, located along Holly Manor Drive, border the proposed location of the high bus, and will experience the greatest visual impact. The distances of these five residences to the high bus range from 68 to 123 feet. However, these residential properties contain landscaping and trees that will provide some screening. The maximum height of the high bus is 37 feet, and will sit below the existing tree line running along the edge of the eastern side of the substation. These trees are located on the adjacent residential properties, but Dominion has determined that it is necessary to trim and remove trees located on four of the adjacent properties to prevent limbs and trees from falling on to the high bus. Per a development condition of SE 2014-PR-032, Dominion has offered to install off-site landscaping on any neighbor's property that would like additional screening. It should also be noted that a 15 foot temporary modular sound barrier has been erected along the eastern edge of the site, also a development condition form the previously approved Special

Exception, in order to shield residences located along Holly Manor Drive from construction noise.

**Access**
Access to the high bus will be provided from one existing access point from Shreve Road, on the east side of the property.

**Operations**
The high bus and existing substation will operate 24 hours per day, 7 days per week for two (2) years. It will be an unmanned facility that will be visited by Dominion Energy Virginia employees approximately once or twice per month, or for any needed repairs.

**Service Area**
The high bus will enable the Idylwood substation to remain operational while it is remodeled and upgraded. The substation is located at the intersection of two transmission corridors and is a transmission hub serving Northern Virginia, while the substation itself directly serves Falls Church, Merrifield, Tysons and Fairfax City.

**Noise Impacts**
The high bus will not produce noise while in operation.

**COMPREHENSIVE PLAN GUIDANCE**
The subject property is located in the Area I, Jefferson Planning District, J-8 Shreve-West Community Planning Sector. The Comprehensive Plan Map identifies the property as planned for Public Facilities, Governmental and Institutional.

**Area Plan**
Fairfax County Comprehensive Plan, Area I, 2013 Edition; Jefferson Planning District, as amended through 3-14-2017, Overview, Figure 6: Existing Public Facilities, page 12:

> **Figure 6** identifies the Va. Power Idylwood Substation as existing public facilities in J-8.

**Policy Plan**
Fairfax County Comprehensive Plan, Policy Plan, 2013 Edition; Public Facilities, as amended through 11-1-2016, Countywide Objectives and Policies, pages 2-4:

**"Objective 3: Balance the provision of public facilities with growth and development.**

Policy a. Construct new facilities in size and quantity which is consistent with projected population needs.

**Objective 4: Mitigate the impact of public facilities on adjacent planned and existing land uses.**

Policy b. Co-locate public facilities whenever appropriate to achieve convenience and economies of scale, as long as the integrity of the Comprehensive Plan is not impinged.

Policy d. Ensure that public facilities are properly screened and buffered in order to mitigate visual impact on adjacent planned development of a different use or nature.

Policy e. Ensure that site size and development conforms to all requirements of the Fairfax County Zoning Ordinance and exceeds site acreage requirements, as possible, to achieve maximum compatibility with surrounding land uses."

Fairfax County Comprehensive Plan, Policy Plan, 2013 Edition; Public Facilities, as amended through 11-1- 2016, Electrical and Land-Line Utility Services, pages 34-38:

**"Objective 41: Locate electrical and land-line service facilities to provide maximum service levels as unobtrusively as possible. (See Figure 7.)**

Policy b. Collocate facilities such as distribution and transmission poles, switching and hub centers and electrical substations whenever feasible and appropriate to minimize visual and neighborhood impacts.

Policy c. Plan for existing and future needs of facilities in conjunction with emerging development designs.

Policy d. Provide adequate acreage for expansion of substations, hub centers and equipment areas and maintain levels of screening to accommodate expansion.

**Objective 42: Meet service area requirements with a minimum of facilities and ensure that those facilities are designed to minimize impacts on adjacent properties.**

Policy a. Provide justification for the proposed facility's need. Specify alternative actions and justify why the proposed location type and facility is the least disruptive.

Policy b. Mitigate the visual impact of switching and hub centers, equipment areas and electrical substations from adjacent development. Land with existing mature vegetation is preferable, as are access roads which obscure entrances, berms which provide screening, and slopes that provide localized lower elevations.

Policy d. Conceal, screen or site ground transformers and distribution boxes to reduce their visual presence and potential for clutter.

Policy e. Provide for the appropriate screening and buffering of proposed facilities.

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

## 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 proposed location of the high bus is currently developed with the Idylwood Substation, and the site is planned for Public Facilities, Governmental and Institutional. It is located at the intersection of two (2) transmission corridors and is a transmission hub and major distribution substation. The high bus is proposed for the eastern edge of the site, and will be adjacent to five (5) residences located on Holly Manor Drive. According to Dominion, the proposed site of the high bus is the only suitable location, because the substation's power flow must be temporarily shifted around the areas of the site where construction will occur in order to ensure it will remain operational during its reconstruction. Dominion examined other areas of the site, and determined that no other parts of the site can accommodate the high bus. The floodplain and overhead transmission towers on the west side of the property preclude using that area for the high bus. The middle section of the substation site would also not accommodate the proposed facility, since the new substation will be constructed there. Therefore, the eastern edge of the substation property is the only location on the site that can accommodate the high bus.

**Character**

As stated previously, the proposed high bus will consist of 20 tubular aluminum structures buttressed by structural supports ranging in height from 35 to 37 feet. The location proposed for the facility is the approximate location of a former distribution line recently removed from the site. The height of the former distribution line ranged from 34 to 39 feet, similar in height to the proposed high bus. Additionally, the substation site currently contains backbone structures ranging in height from 50 to 69 feet, and transmission towers ranging in height from 120 to 155 feet; therefore, the proposal to construct a temporary high bus is not out of character with the existing conditions of the Idylwood substation site.

**Extent**

It is anticipated that the high bus will be in existence on the Idylwood Substation site for approximately three (3) years. It will be unused during the first year, and according to Dominion, will appear similar to 'scaffolding". However, Dominion states that the high bus must be constructed a year before it is needed to avoid future impacts on the interior portion of the substation. Additionally, the high bus must be in position and available for use when the new equipment is ready to be energized. The high bus will be in operation for approximately two (2) years. When the installation of the new GIS equipment is complete, the high bus will be de-energized and removed from the site.

**CONCLUSION AND RECOMMENDATIONS**

Staff concludes that the subject proposal, as amended, by Virginia Electric & Power Co. d/b/a Dominion Energy Virginia, to construct and operate a temporary high bus for approximately three (3) years at Idylwood Substation located at 7701 and 7707 Shreve Road, Falls Church, VA 22043, 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 **2232A-P14-4-1,** as amended, substantially in accord with provisions of the adopted Comprehensive Plan.

CBC/DBS

RECEIVED
JUN 28 2017
DEPARTMENT OF PLANNING & ZONING
PLANNING DIVISION

# 2232 PUBLIC FACILITY REVIEW
# (Non-Telecommunications)

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

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

**APPLICATION NUMBER** 2232A-P14-4-1

*(Please Type or Clearly Print)*

## PART I: APPLICATION SUMMARY

**LOCATION OF PROPOSED USE**

Address 7701 & 7707 Shreve Road

City/Town Falls Church, VA Zip Code 22043

Place Name (if at county facility) Idylwood Substation

Tax Map I.D. Number(s) 49-2-((1))-151 & 49-2-((12))-1A

Fairfax County Supervisor District Providence District

Total Area of Subject Parcel(s) 7.148 ac / 311,367 sf

Zoning District R-3

**APPLICANT(S)**

Name (Company or Agency) Virginia Electric & Power Company, d/b/a Dominion Energy Virginia

Agent Name Gregory A. Riegle, Esquire /Sheri L. Akin, AICP, Planner

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

Agent's Mailing Address McGuireWoods LLP, 1750 Tysons Boulevard, Suite 1800

City/Town Tysons Corner State VA Zip Code 22102

Telephone Number (703) 712-5360 Fax (___) _____

E-mail griegle@mcguirewoods.com

Secondary Contact (Must Be Provided) Sheri L. Akin, AICP

Telephone Number (703) 712-5483 E-mail sakin@mcguirewoods.com

RECEIVED
JUN 28 2017
DEPARTMENT OF PLANNING & ZONING
PLANNING DIVISION

**PROPERTY OWNER(s) OF RECORD**

Owner Virginia Electric & Power Company, d/b/a Dominion Energy Virginia

Street Address 701 E. Cary Street

City/Town Richmond State VA Zip Code 23219

Has property owner been contacted about this proposed use? Yes ■ No ____

**BRIEF DESCRIPTION OF PROPOSED USE**

The site operates as an existing substation. A prior 2232 public facility review was completed for the substation along with a Special Exception, which was approved by the Board of Supervisors on May 12, 2015 (SE 2014-PR-032). This submission is an amendment request to place temporary high bus equipment along the eastern property line during the 3-year construction process.

**PRIOR TELECOMMUNICATIONS APPROVAL(S)**

Research and provide all previous 2232, 456, 6409, or "Feature Shown" (FS) approvals for the applicant carrier that is the subject of this application. Provide explanation for any conflicting information between previous approval(s) of record and the information shown in this current application.

2232-P14-4

**PRIOR ZONING APPROVAL(S)**

Research and provide previous zoning approvals (RZ, SE, SP, VC, etc.) for all uses on site such as proffered conditions, special exceptions, special permits, variances, or development plans. This applies to any carrier with telecommunication equipment on the subject property.

SE 2014-PR-032

RECEIVED
JUN 28 2017
DEPARTMENT OF PLANNING & ZONING
PLANNING DIVISION

**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 Sheri S Akin

Date 6-28-17

**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**

# County of Fairfax, Virginia

**MEMORANDUM**

**DATE:** June 13, 2017

**TO:** Kelly Posusney, Staff Coordinator
Zoning Evaluation Division, DPZ

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

**SUBJECT:** Idylwood Substation, SEA 2014-PR-032

I have reviewed the above referenced Special Exception Amendment Plat & 2232 Plan set stamped "Received, Department of Planning and Zoning, April 5, 2017"; and Comment Response memo dated April 4, 2017. The following comments are based on this review.

1. **Comment**: The exhibit titled Areas of Anticipated Soil Remediation, does not appear to include the areas of the eastern construction entrance and the east side of the property where land disturbance activities have already commenced. These areas should be shown as anticipating soil remediation as well. It is unclear if the exhibit will be included in the SEA Plat submission.

   **Recommendation**: Add the areas described above to the Areas of Anticipated Soil Remediation.

JSB/

UFMDID #: 226801

cc: DPZ File

**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

# County of Fairfax, Virginia

**MEMORANDUM**

**DATE:** April 20, 2017

**TO:** Kelly Posusney, Staff Coordinator
Zoning Evaluation Division, DPZ

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

**SUBJECT:** Idylwood Substation, SEA 2014-PR-032

I have reviewed the above referenced Special Exception Amendment Plat & 223 Plan set stamped "Received, Department of Planning and Zoning, April 5, 2017"; and Comment Response memo dated April 4, 2017. The following comments are based on this review.

Comment/Response Memo Comments:

1. **Comment**: The Response to the General Comment states that the tree save area along the site frontage was retained and measures were taken to protect the area. It further states that corrective measures were taken and are explained below. The area was not retained pursuant to the original Special Exception, in that a site plan would be submitted and approved by the County prior to any construction active around the tree save area. The area was not retained after a Pre-construction meeting was held with UFMD as described in the approved development conditions. Further, corrective measures have not been addressed on the plan set. This may require additional development conditions to address the deficiencies of corrective actions that may be needed to restore this save area.

   **Recommendation**: The Plat should contain a brief narrative that will state that corrective measures will be described in detail on the first and all subsequent site plan submissions.

2. **Comment**: The Response to Comment 1 states that gravel, fill and equipment have contributed to soil degradation along the eastern boundary. It is unclear if these conditions exist in other areas which will become the Transitional Screening areas along other portions of the site.

   **Recommendation**: The applicant should commit to the restoration of soils that have been degraded within all required Transitional Screening areas. The Applicant should demonstrate where degraded soils may be located and provide a commitment for their restoration prior to planting.

**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. **Comment**: In the Response to Comment 1 the applicant states that they would be agreeable to a Development Condition for the restoration of soils within the Transitional Screening buffer yards. However, on sheet 14D-SEA, under Mobil Noise Barrier/Construction Bus Narrative, Area Restoration, the note reads that "The soil shall be amended as needed based on soil samples and tilled to a depth of 1 foot prior to the installation of landscape material". The narrative is not adequate to address soil remediation.

   **Recommendation**: The note on sheet 14D-SEA should reflect that soil remediation will be carried out pursuant to the following proposed Development Condition:

   > The Applicant shall demonstrate where soil remediation will take place within all of the required Transitional Screening buffer areas around the full perimeter of the site. These areas shall include where construction activities have or have not already occurred. The soil remediation plan shall comply with ANSI A300-Part 2 Standards and its accompanying Best Management Practices. The remediation plan shall include, but not be limited to, Section 14 Soil Management a. Soil Modification, of ANSI A300-Part 2, latest edition. The remediation plan will be submitted on the first and all subsequent site plans for review and approval by UFMD.

Comments:

4. **Comment**: On sheet 7B-SEA the proposed Temporary Noise Barriers are shown in a different configuration in the south eastern corner of the site. Further, it is unclear as to their impact to the transitional screening area. The Temporary Noise Barriers in this area have not been illustrated on sheet 14D-SEA.

   **Recommendation**: The applicant should provide the same level of detail for these barriers in this location.

5. **Comment**: On sheet 14B-SEA the December 30, 2014 Tree Inventory does not fully reflect the present site conditions. The inventory and condition analysis should be brought up to the current year. Further, existing trees 104 and 105 are listed to remain and the inventory states that no grading will take place within the CRZ. However, the underground lines have now been brought through the CRZ and has severely impacted the roots of these trees. These trees should be listed as to be removed with a letter of permission from the adjoining property owner since they appear to be co-owned.

   **Recommendation**: The applicant should prepare a current tree inventory and condition analysis.

6. **Comment**: On sheet 14D-SEA under Mobil Noise Barrier/Construction Bus Narrative, Method of Installation, Mobil Nosie Barrier, it states that a stake and rod system is used to secure to the ground. It is unclear as to the distance and position of these anchors as they would relate to off-site trees.

   **Recommendation**: The applicant should demonstrate that these devises will not impact off-site trees.

7. **Comment**: On sheet 14D-SEA under Mobil Noise Barrier/Construction Bus Narrative, Method of Installation, Construction Bus, it states that each tower will have 54" concrete foundation. It is unclear if that is a depth or a diameter. Further, under Removal it is unclear if the foundation will be removed. And if they are not removed it is unclear that the required Transitional Screening material in these areas will be able to be planted.

   **Recommendation**: The applicant should fully describe the impact of the 54" concrete foundations will have on the Transitional Screening plant material.

If you have any further questions, please feel free to contact me at 703-324-1770

JSB/

UFMDID #: 226801

cc: DPZ File

# County of Fairfax, Virginia

## MEMORANDUM

**DATE:** May 16, 2017

**TO:** Tracy D. Strunk, AICP, Acting Director
Zoning Evaluation Division
Department of Planning and Zoning, DPZ

**FROM:** Michael Davis, Acting Chief
Site Analysis Section, DOT

**FILE:** SE 2014-PR-032

**SUBJECT:** SEA 2014-PR-032 Idylwood Substation
7701 & 7707 Shreve Road
Land Identification Map: 49-2 ((1)) 151 & 49-2 ((12)) 1A

The following memorandum is FCDOT staff's response to the Special Exception Amendment (SEA) application accepted on January 24, 2017. The applicant has requested to amend SE 2014-PR-032 previously approved on May 12, 2015, which permitted a complete remodel of the Idylwood Substation. The current SEA application is to permit the addition of temporary equipment to maintain electrical service during the remodeling project. Staff has reviewed the submission and have no concerns with the addition of temporary equipment.

It should be noted that at the time of this memo, the applicant has not submitted the required major paved trail waiver and bicycle waiver for the subject property's Shreve Road frontage. These waivers can be included in the staff report for the Board action or submitted to the Department of Public Works and Environmental Services (DPWES) at time of site plan submission.

MAD/BCN

Cc: Kelly Posusney, DPZ/ZED

**Fairfax County Department of Transportation**
4050 Legato Road, Suite 400
Fairfax, VA 22033-2895
Phone: (703) 877-5600 TTY: 711
Fax: (703) 877-5723
www.fairfaxcounty.gov/fcdot

FCDOT
Serving Fairfax County for 30 Years and More

**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.

## 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 s 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 be 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 staggared 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 |
| ADU | Affordable Dwelling Unit |
| ARB | Architectural Review Board |
| BMP | Best Management Practices |
| BOS | Board of Supervisors |
| BZA | Board of Zoning Appeals |
| COG | Council of Governments |
| CBC | Community Business Center |
| CDP | Conceptual Development Plan |
| CRD | Commercial Revitalization District |
| DOT | Department of Transportation |
| DP | Development Plan |
| DPWES | Department of Public Works and Environmental Services |
| DPZ | Department of Planning and Zoning |
| DU/AC | Dwelling Units Per Acre |
| EQC | Environmental Quality Corridor |
| FAR | Floor Area Ratio |
| FDP | Final Development Plan |
| GDP | Generalized Development Plan |
| GFA | Gross Floor Area |
| HC | Highway Corridor Overlay District |
| HCD | Housing and Community Development |
| LOS | Level of Service |
| Non-RUP | Non-Residential Use Permit |
| OSDS | Office of Site Development Services, DPWES |
| PCA | Proffered Condition Amendment |
| PD | Planning Division |
| PDC | Planned Development Commercial |
| PDH | Planned Development Housing |
| PFM | Public Facilities Manual |
| PRC | Planned Residential Community |
| RC | Residential-Conservation |
| RE | Residential Estate |
| RMA | Resource Management Area |
| RPA | Resource Protection Area |
| RUP | Residential Use Permit |
| RZ | Rezoning |
| SE | Special Exception |
| SEA | Special Exception Amendment |
| SP | Special Permit |
| TDM | Transportation Demand Management |
| TMA | Transportation Management Association |
| TSA | Transit Station Area |
| TSM | Transportation System Management |
| UP & DD | Utilities Planning and Design Division, DPWES |
| VC | Variance |
| VDOT | Virginia Dept. of Transportation |
| VPD | Vehicles Per Day |
| VPH | Vehicles per Hour |
| WMATA | Washington Metropolitan Area Transit Authority |
| WS | Water Supply Protection Overlay District |
| ZAD | Zoning Administration Division, DPZ |
| ZED | Zoning Evaluation Division, DPZ |
| ZPRB | Zoning Permit Review Branch |