

## Coal Combustion Residuals History of Construction -

Virginia Electric and Power Company  
Possum Point Power Station  
Surface Impoundment D  
Dumfries, Virginia

GAI Project Number: C150132.00

October 2016



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## Certification/Statement of Professional Opinion

The Coal Combustion Residuals History of Construction Report (Report) for the Possum Point Power Station Surface Impoundment D was prepared by GAI Consultants, Inc. (GAI). The Report was based on certain information that, other than for information GAI originally prepared, GAI has relied on, but not independently verified. This Certification/Statement of Professional Opinion is therefore limited to the information available to GAI at the time the report was written. On the basis of and subject to the foregoing, it is my professional opinion as a Professional Engineer licensed in the Commonwealth of Virginia that the Report has been prepared in accordance with good and accepted engineering practices as exercised by other engineers practicing in the same discipline(s), under similar circumstances, at the same time, and in the same locale. It is my professional opinion that the Report was prepared consistent with the requirements of section 257.73 of the United States Environmental Protection Agency's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments," published in the Federal Register on April 17, 2015 with an effective date of October 19, 2015 (40 Code of Federal Regulations (CFR) Subpart D).

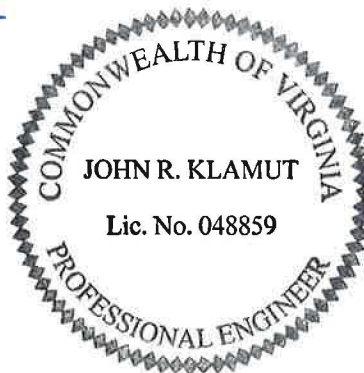
The use of the words "certification" and/or "certify" in this document shall be interpreted and construed as a Statement of Professional Opinion and is not and shall not be interpreted or construed as a guarantee, warranty, or legal opinion.

GAI Consultants, Inc.



John R. Klamut, P.E.  
Engineering Manager

Date 10/13/2016



## Acronyms

CCR	Coal Combustion Residuals
CCR Rule	"Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" 40 CFR 257 Subpart D (2015)
CFR	Code of Federal Regulations
DCR	Virginia Department of Conservation and Recreation
DEQ	Virginia Department of Environmental Quality
Dominion	Virginia Electric and Power Company d/b/a Dominion
EPA	United States Environmental Protection Agency
GAI	GAI Consultants, Inc.
HOC	Coal Combustion Residuals CCR History of Construction
Station	Dominion Possum Point Power Station
USGS	United States Geological Survey
VPDES	Virginia Pollutant Discharge Elimination System
VPDES Permit	Virginia Pollutant Discharge Elimination System Permit No. VA0002071



## 1.0 Introduction

The Possum Point Power Station (Station) is owned by Virginia Electric and Power Company d/b/a Dominion Virginia Power (Dominion) and is located in Prince William County, Virginia. The Station includes Surface Impoundment D, which is being used for the long term storage of coal combustion residuals (CCR).

Surface Impoundment D is located on Dominion property at the Possum Point Power Station in Prince William County, Virginia (coordinates 38° 32' 05" North and 77° 16' 57" West).

Surface Impoundment D is regulated as an existing CCR surface impoundment under the United States Environmental Protection Agency's "Standards for the Disposal of Coal Combustion Residuals in Landfills and Surface Impoundments" [40 CFR 257 Subpart D] published in the Federal Register on April 17, 2015 with an effective date of October 19, 2015 (CCR Rule). Surface Impoundment D is also regulated as a dam by the Virginia Department of Conservation and Recreation (DCR) and has an approved Operation and Maintenance Certificate with Inventory Number 15320.

## 2.0 Purpose

This History of Construction (HOC) is prepared pursuant to § 257.73(c)(1) of the CCR Rule [40 CFR § 257.73(c)(1)]. In this document the CCR Unit is defined as Surface Impoundment D.

## 3.0 History of Construction

As required by § 257.73(c)(1), this HOC includes, to the extent feasible:

- ▶ The name and address of the person(s) owning or operating the CCR Unit; the name associated with the CCR Unit; and the identification number of the CCR Unit if one has been assigned by the state;
- ▶ The location of the CCR Unit identified on the most recent U.S. Geological Survey (USGS) 7-1/2 minute or 15 minute topographic quadrangle map, or a topographic map of equivalent scale if a USGS map is not available;
- ▶ A statement of the purpose for which the CCR Unit is being used;
- ▶ The name and size in acres of the watershed within which the CCR Unit is located;
- ▶ A description of the physical and engineering properties of the foundation and abutment materials on which the CCR Unit is constructed;
- ▶ A statement of the type, size, range, and physical and engineering properties of the materials used in constructing each zone or stage of the CCR Unit; the method of site preparation and construction of each zone of the CCR Unit; and the approximate dates of construction of each successive stage of construction of the CCR Unit;
- ▶ At a scale that details engineering structures and appurtenances relevant to the design, construction, operation, and maintenance of the CCR Unit, detailed dimensional drawings of the CCR Unit, including a plan view and cross sections of the length and width of the CCR Unit, showing all zones, foundation improvements, drainage provisions, spillways, diversion ditches, outlets, instrument locations, and slope protection, in addition to the normal operating pool surface elevation and the maximum pool surface elevation following peak discharge from the inflow design flood, the expected maximum depth of CCR within the CCR surface impoundment, and any identifiable natural or manmade features that could adversely affect operation of the CCR Unit due to malfunction or mis-operation;
- ▶ A description of the type, purpose, and location of existing instrumentation;

- ▶ Area-capacity curves for the CCR Unit;
- ▶ A description of each spillway and diversion design features and capacities and calculations used in their determination;
- ▶ The construction specifications and provisions for surveillance, maintenance, and repair of the CCR Unit; and
- ▶ Any record or knowledge of structural instability of the CCR Unit.

The above requirements are addressed in Sections 3.1 through 3.12 of this HOC.

### **3.1 Surface Impoundment D (CCR Unit)**

Surface Impoundment D, located at the Station, is owned, operated, and maintained by Virginia Electric and Power Company d/b/a Dominion Virginia Power.

The Station and the CCR Unit are operated by:

Virginia Electric and Power Company  
5000 Dominion Boulevard  
Glen Allen, Virginia 23060

The contact information for the Station is:

Mr. David A. Craymer  
Vice President, Power Generation System Operations  
Virginia Electric and Power Company  
5000 Dominion Boulevard  
Glen Allen, VA 23060

Surface Impoundment D (CCR Unit) is permitted as follows:

- ▶ Virginia Department of Environmental Quality (DEQ) Virginia Pollutant Discharge Elimination System (VPDES) Permit No. VA0002071;
- ▶ Virginia Department of Conservation and Recreation (DCR) Dam Permit, Inventory No. 15320;
- ▶ DEQ Solid Waste Permit No. 617 (in progress). The solid waste permit has been applied for but has not been issued by the DEQ as of the date of this report.

### **3.2 Location Map**

Refer to Figure 1 for the Surface Impoundment D Site Location Map, as illustrated by the 2016 US Geological Survey (USGS) Quantico Quadrangle.

### **3.3 Purpose of Surface Impoundment D (CCR Unit)**

Surface Impoundment D is used as an impoundment for the settling and long term storage of CCR and other materials generated at the Station.

### **3.4 Watershed**

Surface Impoundment D is located in the northern portion of the Lower Potomac Watershed (USGS Hydrologic Unit Code 02070011). The Lower Potomac watershed area is 1,815 square miles (EPA, 2015). This corresponds to 1,160,160 acres of contributing area from both Maryland and Virginia. More specifically, the impoundment is in the watershed of Quantico Creek (USGS Hydrologic Unit Code 020700110104), which is a 39 square mile watershed (DEQ, 2015). The drainage area which contributes to Surface Impoundment D, including the impoundment area, is approximately 115 acres (GAI, 2015a).

### 3.5 - Foundation and Abutment Materials

Prior to the construction of Surface Impoundment D, CCR generated from plant operations were conveyed to the adjacent impoundment, Surface Impoundment E. In 1986, Surface Impoundment E was nearing capacity and a plan was submitted to construct the existing Surface Impoundment D embankment on the site of a previous CCR storage facility formally known as Ash Pond D, that had been removed from service in approximately 1971. Existing ash and soft alluvium located at the proposed embankment location were over-excavated prior to the construction of the new embankment (Virginia Power, 1986).

Boring data show that the material beneath the Surface Impoundment D embankment previously consisted of ash and soft alluvium, which were overexcavated prior to construction of the new embankment, as noted above. The abutment soils consisted of stiff to very stiff reddish brown sandy Clay (CL), very stiff to very hard grey silty or sandy Clay (CH), Clayey Sand (SC), Silty Sand (SM), medium dense to very dense gray clayey to silty fine to medium Sand (SC-SM). The design was based on removal of all ash and soft alluvial soils to firm soils or the underlying Stratum 'E' clay [gray-green silty fine sandy clay (CH)]. For the dense (sandy) or very stiff (clayey) consistency materials remaining beyond the limits of over-excavation, foundation preparation included clearing, grubbing, stripping, and minor surface preparation (Virginia Power, 1986). Table 1 indicates the properties for the foundation material beneath Surface Impoundment D.

**Table 1. -  
Impoundment Foundation Soil Properties. -**

Classification	Unit Weight (pounds per cubic foot)	Effective Angle of Internal Friction (degrees)	Cohesion (pounds per square foot)
Gray-Green Silty, Fine Sandy Clay (CH)	125	25	200

Source: Virginia Power, 1986

### 3.6 - Surface Impoundment D (CCR Unit) Properties and Construction Details

The Surface Impoundment D embankment was constructed of fill from on-site borrow soils. The fill materials within the embankment primarily consist of a compacted mixture of silty fine to medium sands with minor amounts of clayey sand and sandy clay. The physical and engineering properties of the soil used to construct the embankment are listed in Table 2.

**Table 2. -  
Impoundment Embankment Fill Properties. -**

Classification	Unit Weight (pounds per cubic foot)	Effective Angle of Internal Friction (degrees)	Cohesion (pounds per square inch)
CL, SC, SM mix	120.0	33	0

Source: Virginia Power, 1986

A drainage blanket was designed and constructed under a portion of the Surface Impoundment D embankment. Groundwater flows conveyed by the drainage blanket are routed to the Surface Impoundment D toe drain outlet structure. Water collected at the Surface Impoundment D toe drain outlet structure is managed in accordance with VPDES Permit No. VA0002071.

The technical specifications implemented as part of the original design report (Virginia Power, 1986) contain the compaction requirements for the construction of the embankment. Embankment fills were to be placed in lifts not to exceed 12-inches and compacted to a minimum of 95 percent of the maximum dry density as defined by the ASTM D698 standard compaction test. The technical specifications also indicate that “any deviations from the compaction requirements shall only be allowed by the Engineer after a review of test results, construction procedures, and field conditions”. Dominion employed an independent third party firm to provide full time QA/QC services during construction that consisted of density testing of compacted fill and various inspections and observations required by the Technical Specifications. At the completion of the project, the third party firm provided a certification that the dam was constructed in accordance with the drawings and specifications. As-built drawings showing completion of construction of Surface Impoundment D were prepared in 1988 (Virginia Power, 1988). The as-built drawings indicate that the embankments were constructed per the technical specifications set forth by the original design report (Virginia Power, 1986).

### 3.7 Detailed Drawing

Detailed drawings of the site are provided in this HOC. The drawings include:

- ▶ Plan View of Existing Conditions;
- ▶ Cross Sections;
- ▶ As-Built Construction Drawing showing details of the perimeter embankment; and
- ▶ Design drawings of decant structure (service spillway).

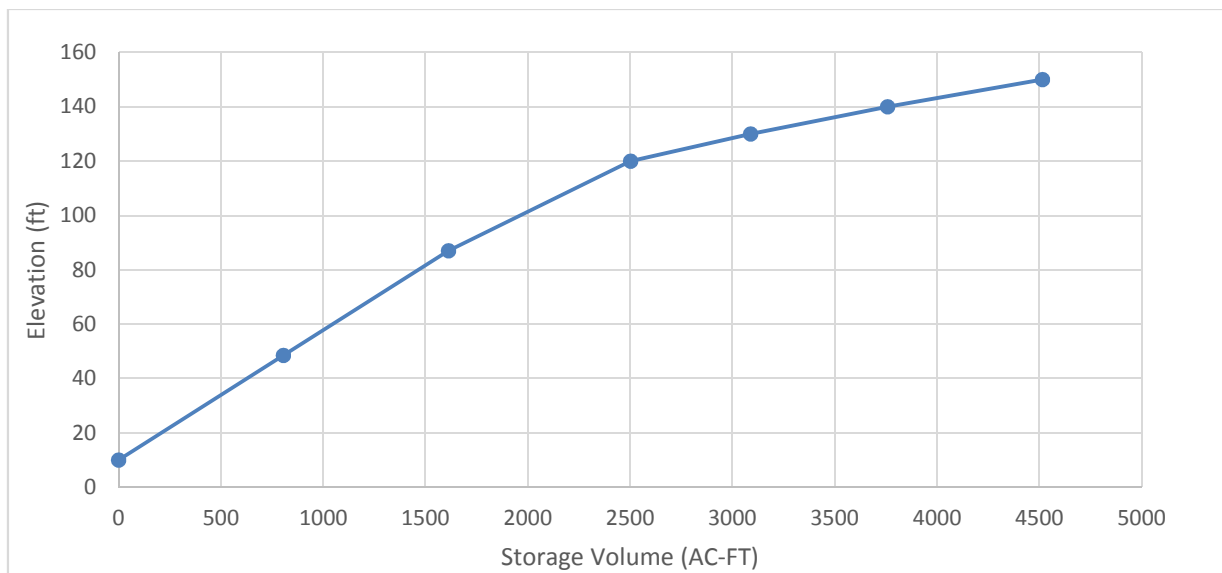
### 3.8 Existing Instrumentation

Observation Wells W-1 through W-5 and Piezometers P-1 through P-3 are located along the embankment crest and by the downstream toe of the embankment. No other instrumentation is present at Surface Impoundment D.

### 3.9 Area Capacity Curves

The CCR capacity of Surface Impoundment D is provided in Table 3.

**Table 3. -  
Surface Impoundment D Stage Storage Volume. -**



### 3.10 - Spillway and Diversion Features

The principal spillway for Surface Impoundment D consists of a 30" diameter concrete pipe located under the embankment, and joined upstream to an outlet tower (vertical decant tower) (Virginia Power, 1986). The outlet tower is situated at the west end of the south embankment of Surface Impoundment D. Water through this spillway was designed to discharge to Surface Impoundment E (O'Brien & Gere, 2010). Currently, water from Surface Impoundment D is being routed through a dewatering water treatment system prior to discharge to Outfall 503 and not through Surface Impoundment E.

When the outlet tower was constructed it was equipped with an overflow weir and several valves and valve sleeves on the upstream face to control the surface impoundment water level. Discharge from Surface Impoundment D currently occurs via these openings in riser tower, which is situated in the southwest corner of Surface Impoundment D. The service spillway was designed with an overflow weir at elevation 142.0 and the tower is also equipped with valves to control the surface impoundment to lower levels (Virginia Power, 1986).

An emergency spillway was also constructed to discharge only under extreme conditions (in the event that the Surface Impoundment D filled to near capacity). The emergency spillway is located to the northwest of Surface Impoundment D with its crest at elevation 144 feet (Virginia Power, 1986).

The Surface Impoundment D embankment crest is well above the surrounding ground elevation on its south side but accepts stormwater drainage flow from the north, east and west sides of the surface impoundment, where surrounding elevation is higher than the embankment crest. As such, stormwater does flow into Surface Impoundment D from outside its limits.

The spillway capacity calculations are included as Appendix A.

### 3.11 - Construction Specifications and Provisions for Surveillance, Maintenance, and Repair

A general facility maintenance/inspection schedule and plan is included in the 2014 Operations and Maintenance Plan for Virginia Impounding Structures (Virginia Power, 2014). Applicable provisions in the inspection schedule and plan include:

- ▶ Quarterly inspections shall be performed by Station environmental or operations personnel and annual safety inspections shall be performed by Dominion Power Generation Engineering.
- ▶ The embankment crest shall be inspected for cracking, movement, sloughs, and excessive settlement or horizontal displacement, or other signs of distress. If any signs of distress are observed, appropriate Dominion personnel shall be notified immediately for further observation and evaluation.
- ▶ The upstream and downstream slopes of the dam shall be inspected for signs of seepage, erosion, slope instability, cracks, etc. Any observation of these characteristics shall be brought to the attention of appropriate Dominion personnel for further observation and evaluation.
- ▶ The growth of trees on the dam shall be controlled by removal and or spraying with an approved herbicide, as necessary. The downstream slope and upstream slope above the water level shall be mowed at least two times per year, preferably after the spring growing season and again in the fall.
- ▶ During the quarterly or annual inspections, animal burrows shall be located, and the holes filled with flowable fill as necessary.
- ▶ The principal spillway (decant structure) shall be monitored for any debris building up at the outflow valve openings. Any material that has accumulated shall be removed such that the openings(s) will operate properly.

- ▶ The floor stands and valves shall be checked for operability and shall be lubricated as - necessary to maintain smooth operation. -
- ▶ The principal spillway (outfall structure) and associated bridge shall be observed for cracking in the concrete, tilting, unusual vertical or horizontal movement, steel distress, etc. Any anomalies or signs of distress observed should be brought to the attention of appropriate Dominion personnel for further observation and evaluation.
- ▶ The reservoir rim slopes shall be observed for sloughs, slides, etc. along the rim area. Particular attention shall be paid to the rim slopes in the vicinity of the emergency spillway, where instabilities could cause restrictions in the channel.
- ▶ The stilling basin and channel from the Surface Impoundment D outfall structure outlet pipe to Surface Impoundment E shall be inspected for signs of debris, brush or sediment build-up. Any obstructions in the channel, stilling basin, or the pipe beneath the Surface Impoundment E access road shall be removed as necessary.

Additionally, to meet conditions of the DCR Dam Operations and Maintenance Certificate, annual engineering inspections of the perimeter dikes and impoundment area are performed by a Professional Engineer. Finally to satisfy CCR rule requirements, inspections are performed weekly by Station personnel and an annual inspection is performed by a Professional Engineer.

### **3.12 Record or Knowledge of Structural Instability**

In 1989, a significant rainfall event caused shallow sloughing of the downstream Surface Impoundment D embankment slope. The shallow sloughs were backfilled with graded aggregate materials (Schnabel, 2011).

In September 2011, another significant rainfall event occurred during which the station received over 12 inches of rain within 24 hours, causing a shallow embankment failure on the same section of downstream slope at which the 1989 sloughing event occurred (Schnabel, 2011).

After the 2011 event, Schnabel Engineering, LLC (Schnabel) performed a geotechnical investigation at the Surface Impoundment D embankment slopes to determine the extent of damage and recommendations for slope repair. During this investigation, a 25 foot long by 35 foot high failure on the upstream Surface Impoundment D slope was also observed. The downstream edge of the failure was located just above the water line in the impoundment.

High groundwater levels observed in hand auger borings in the downstream slope failure area revealed the potential presence of a perched water table in the surficial clayey embankment cover soils and adverse conditions for slope repair at the downstream slope location. The site investigation determined vertical sloughing to a depth of as much as 4-5 feet below the slope face. This failure was likely a result of the development of a network of fissures, often seen in embankments of plastic clays due to alternating freeze-thaw cycles. These fissures caused the deterioration of the slopes shear strength resulting in the creation the perched groundwater table condition. The Station completed Schnabel's recommended repair of sloughed areas and improved control of storm water to reduce the volume of storm water runoff across the problematic slope area to prevent further instability in the area. During repairs, it was determined that the sloughing only extended to depths of 2 to 2.5 feet.

Upstream slope failure was determined to be triggered by heavy rainfall after an extended period of drying and a lack of vegetative cover in the area. The station completed Schnabel's recommended repair of sloughed areas and re-establishment of grassy vegetation to prevent further issues in the area.

The areas described above have been stable with no further indications of issues since repairs were made in 2012 (Virginia Power, 2014).

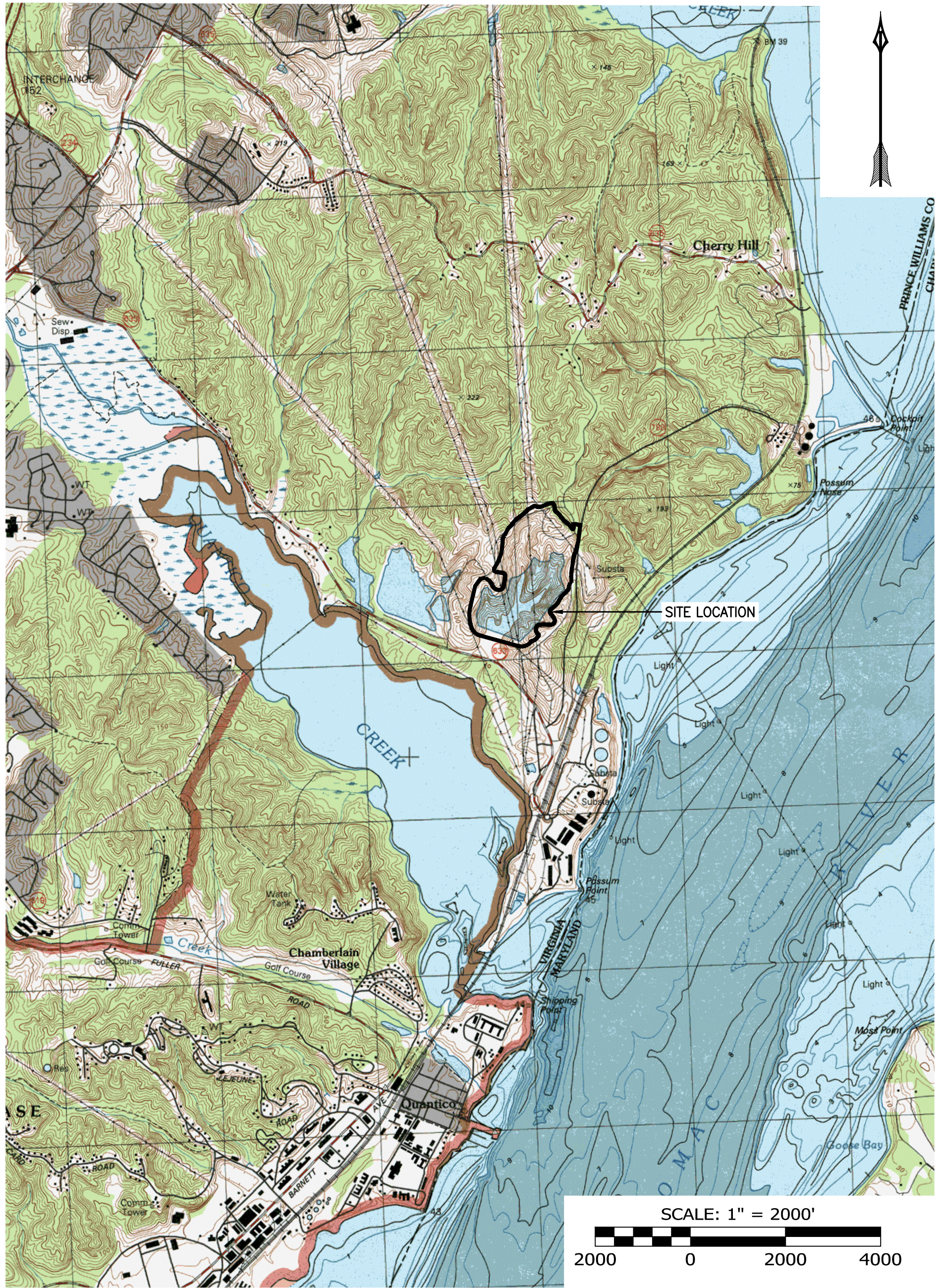
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[https://watersgeo.epa.gov/mwm/?layer=LEGACY\\_WBD&feature=02070011&extraLayers=null](https://watersgeo.epa.gov/mwm/?layer=LEGACY_WBD&feature=02070011&extraLayers=null).
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- O'Brien & Gere. 2010.  
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## **Figure 1** **Site Location Map**



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DRAWING TITLE <b>SITE LOCATION MAP</b>		DRAWN BY: <b>BULLOBW</b>	CHECKED BY: <b>KINNDKW</b>	APPROVED BY: <b>KLAMUJR</b>
PROJECT <b>POSSUM POINT POWER STATION 19000 POSSUM POINT ROAD DUMFRIES, PRINCE WILLIAM COUNTY VIRGINIA 22026</b>	 <b>gai consultants</b>	CLIENT		DWG TYPE:
		<b>VIRGINIA ELECTRIC AND POWER COMPANY 5000 DOMINION BOULEVARD GLEN ALLEN, VA 23060</b>		SCALE: <b>1" = 2000'</b>
		SHEET NO.:	<b>1 OF 1</b>	
		GAI FILE NUMBER: <b>Impoundment D - Site Location Map</b>		
		GAI DRAWING NUMBER: <b>FIGURE 1</b>		
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## **APPENDIX A**

### **Spillway Capacity Design Calculations**

## VII. SPILLWAY SYSTEMS AND FLOOD ROUTING

### Service Spillway

The service spillway (or discharge decant system) will consist of a 24" diameter concrete pressure pipe located under the embankment, and an outlet tower. The 24" diameter pipe will be joined upstream to the vertical decant "tower." The 24" diameter concrete pressure pipe and outlet tower are shown in plan on drawing 715932-C-103. The service spillway profile is shown on drawing 715932-C-126. The concrete pressure pipe is bedded in a concrete saddle from the tower to the point it meets the energy dissipator. The structural details depicting the decant tower are shown on 715932-S-001. The decant tower will be provided with an overflow weir at elevation 142.0 and the tower will also be equipped with valves and valve sleeves to control the pond water level.

The decant structure will be accessed by means of a 100'-0" span, truss-supported bridge from the impoundment crest at elevation 150.0 to the decant structure. The structural details of the bridge are shown on drawing 715932-S-001. The bridge will be supported by the embankment crest on one end and the decant structure on the other.

The decant structure will be founded on a mat foundation at approximate elevation 82, in the stiff, preconsolidated soils of Stratum 'C'. The allowable bearing pressure of the mat foundation has been calculated to be 5000 psf.

The service spillway has as its purpose four functions:

1. To recirculate "decant" water to Ash Pond E during the hydraulic dredging operation.
2. To pass normal storm events during pond operation.
3. To assist (with the emergency spillway) in passing the Probable Maximum Flood.
4. To drain water from the ash pond in a controlled fashion by using the valving system and various drain pipes.

The expected flow rates which are to occur from the service spillway weir are listed versus pond stage in Table VII-1. As is mentioned in item 4 above, the outlet tower is equipped with several valves and valve sleeves on the upstream face. The purpose of these valves and valve sleeves is to permit the pond to be drained to the lowest extent feasible after dredging and during operation. Valves may be relocated from sleeve to sleeve as the pond fills with ash, the lower sleeves being blind-flanged as the valves are moved up the tower. The valves are designed to be operated from the top of the tower, however valve change-out and maintenance will need to occur within the tower. Access to perform maintenance can be gained by the ladder provided and the series of intermediate platforms.

TABLE VII-1  
SERVICE SPILLWAY FLOWRATES

<u>Pond Stage (elev.)</u>	<u>Flow rate (cfs)</u>
142.0 (crest of weir)	0
142.5	5.9
143.0	16.6
143.5	30.4
144.0	43.5
144.5	61.2
145.0	80.2
145.5	100.9
146.0	123.8
146.5	147.3
147.0	153.3
147.5	154.0
148.0	154.6

### Emergency Spillway

The emergency spillway will be located to the northwest of the Ash Pond with its crest at elevation 144.0. The emergency spillway will only discharge under extreme storm conditions, when the ash pond has been filled near capacity. Since the service spillway could possibly be plugged during operation, the emergency spillway must route storm events, including the PMF. The emergency spillway is sized to pass the estimated project PMF peak inflow. The expected flow rates which are to occur from the emergency spillway are listed versus pond stage in Table VII-2. The emergency spillway is shown in plan and section on Drawing 715932-C-107. Calculations for the emergency spillway flowrates are contained in Appendix 'D' of this report.

### Freeboard

The project will operate with a design freeboard of 2'-0 between elevation 148.0 and 150.0.

### Flood Routing

Flood routing was performed using the PMF inflow hydrograph, assuming the service spillway and emergency spillway were operable. The change of flood stage with time is shown in Table VII-3. Flood routings for storms less than the PMF such as the 100-yr, 6-hr storm are not documented in this report due to the obvious large difference in severity. The 100-yr 6-hr storm has a 5.8 inch total rainfall, while the PMF stated above uses a 28 inch total rainfall. Calculations for the PMF flood route are contained in Appendix 'D' of this report.

TABLE VII-2

EMERGENCY SPILLWAY FLOWRATES

<u>Pond Stage (elev.)</u>	<u>Flow rate (cfs)</u>
144.0 (crest elev.)	0
144.5	130
145.0	370
145.5	680
146.0	1040
146.5	1470
147.0	1920
147.5	2420
148.0	2970

TABLE VII-3  
PMF FLOOD ROUTING

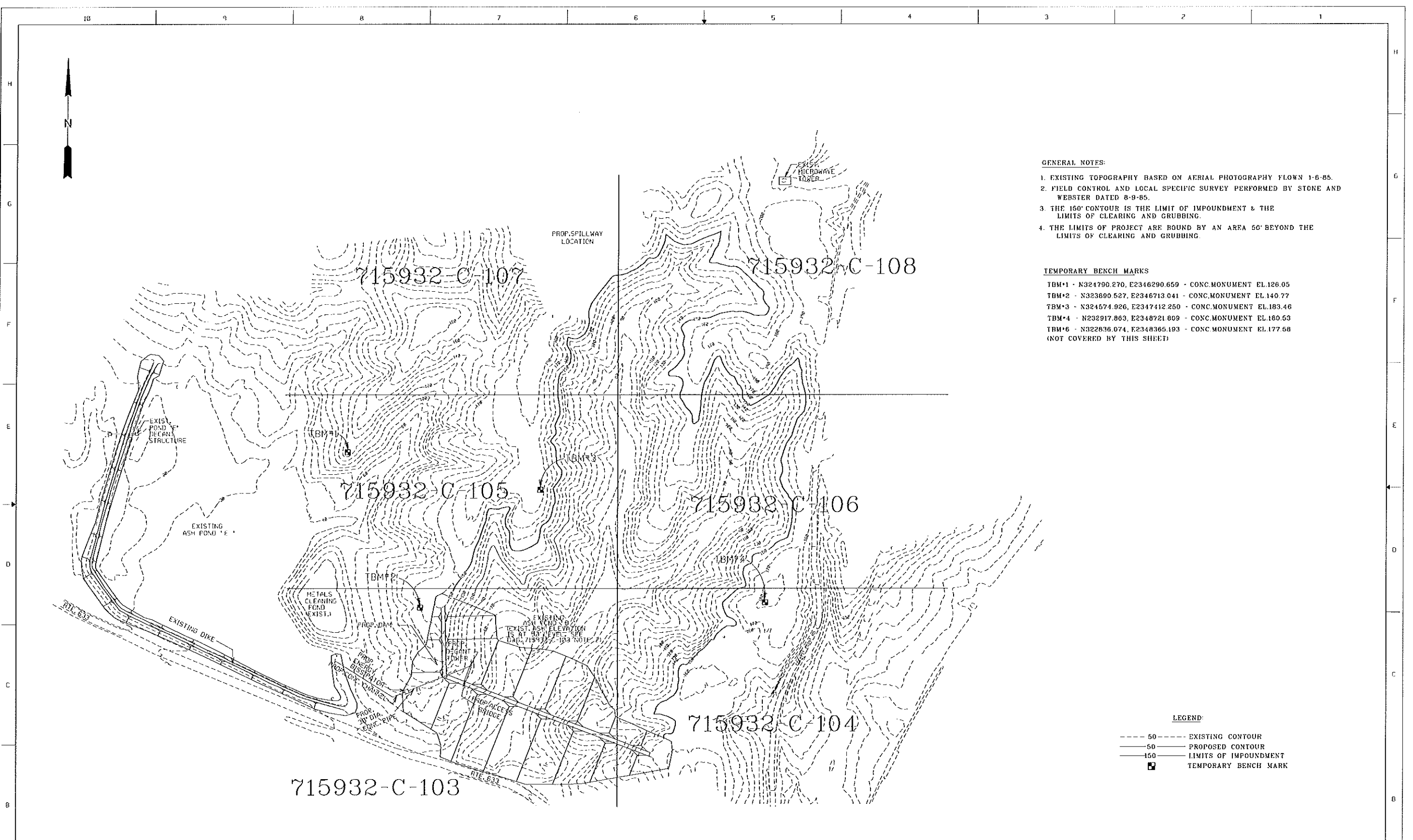
<u>Time from Beginning of Storm Event, (hr).</u>	<u>Pond Stage (elev.[ft])</u>
0	142.0
1	142.13
2	142.44
3	142.89
4	143.43
5	144.52
6	145.48
7	146.68
8	145.94
9	145.46
10	144.96
11	144.68
12	144.53
13	144.37
14	144.23

## **APPENDIX B**

### **Existing Condition Plan View, Cross-Section, and As-Built Drawings**







- GENERAL NOTES:**
- EXISTING TOPOGRAPHY BASED ON AERIAL PHOTOGRAPHY FLOWN 1-6-85.
  - FIELD CONTROL AND LOCAL SPECIFIC SURVEY PERFORMED BY STONE AND WEBSTER DATED 8-9-85.
  - THE 150' CONTOUR IS THE LIMIT OF IMPOUNDMENT & THE LIMITS OF CLEARING AND GRUBBING.
  - THE LIMITS OF PROJECT ARE BOUND BY AN AREA 50' BEYOND THE LIMITS OF CLEARING AND GRUBBING.

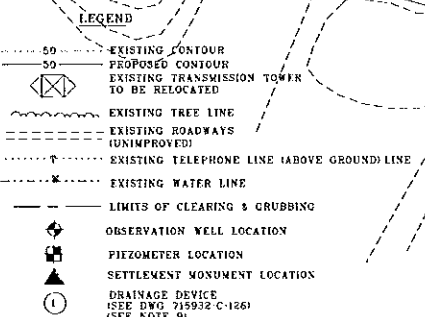
- TEMPORARY BENCH MARKS**
- TBM\*1 - N324790.270, E2346290.659 - CONC. MONUMENT EL. 126.05
  - TBM\*2 - N323890.527, E2346713.041 - CONC. MONUMENT EL. 140.77
  - TBM\*3 - N324574.926, E2347412.250 - CONC. MONUMENT EL. 183.46
  - TBM\*4 - N232917.863, E2348721.809 - CONC. MONUMENT EL. 180.53
  - TBM\*6 - N322836.074, E2348365.193 - CONC. MONUMENT EL. 177.58 (NOT COVERED BY THIS SHEET)

- LEGEND:**
- 50 --- EXISTING CONTOUR
  - 50 — PROPOSED CONTOUR
  - 150 — LIMITS OF IMPOUNDMENT
  - TEMPORARY BENCH MARK

<p>ISSUED FOR BID.</p> <table border="1"> <tr><th>REV</th><th>DATE</th><th>DSGN</th><th>DRWN</th><th>CHKD</th><th>ISSN</th><th>LEAD</th><th>CIVL</th><th>ELEC</th><th>MECH</th><th>ARCH</th><th>EM</th><th>IC</th></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>										REV	DATE	DSGN	DRWN	CHKD	ISSN	LEAD	CIVL	ELEC	MECH	ARCH	EM	IC														<p>REVISED TO CHANGE LOCATION OF DECANT STRUCTURE</p> <table border="1"> <tr><th>REV</th><th>DATE</th><th>DSGN</th><th>DRWN</th><th>CHKD</th><th>ISSN</th><th>LEAD</th><th>CIVL</th><th>ELEC</th><th>MECH</th><th>ARCH</th><th>EM</th><th>IC</th></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>										REV	DATE	DSGN	DRWN	CHKD	ISSN	LEAD	CIVL	ELEC	MECH	ARCH	EM	IC														<p>ISSUED FOR CONSTRUCTION</p> <table border="1"> <tr><th>REV</th><th>DATE</th><th>DSGN</th><th>DRWN</th><th>CHKD</th><th>ISSN</th><th>LEAD</th><th>CIVL</th><th>ELEC</th><th>MECH</th><th>ARCH</th><th>EM</th><th>IC</th></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>										REV	DATE	DSGN	DRWN	CHKD	ISSN	LEAD	CIVL	ELEC	MECH	ARCH	EM	IC														<p>TBM *5 DELETED - TBM *6 INFORMATION ADDED</p> <table border="1"> <tr><th>REV</th><th>DATE</th><th>DSGN</th><th>DRWN</th><th>CHKD</th><th>ISSN</th><th>LEAD</th><th>CIVL</th><th>ELEC</th><th>MECH</th><th>ARCH</th><th>EM</th><th>IC</th></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>										REV	DATE	DSGN	DRWN	CHKD	ISSN	LEAD	CIVL	ELEC	MECH	ARCH	EM	IC														<p>ADJUSTED ORIGINAL GROUND CONTOURS.</p> <table border="1"> <tr><th>REV</th><th>DATE</th><th>DSGN</th><th>DRWN</th><th>CHKD</th><th>ISSN</th><th>LEAD</th><th>CIVL</th><th>ELEC</th><th>MECH</th><th>ARCH</th><th>EM</th><th>IC</th></tr> <tr><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td><td> </td></tr> </table>										REV	DATE	DSGN	DRWN	CHKD	ISSN	LEAD	CIVL	ELEC	MECH	ARCH	EM	IC													
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<p>CHKD ESM</p>										<p>LEAD ENGR HIS</p>										<p>715932-C-102</p>																																																																																																																																																															
<p>DATE 4-18-88</p>										<p>SCALE 1"=200'</p>										<p>UNLESS OTHERWISE NOTED SH OF</p>																																																																																																																																																															



- NOTES**
- EXISTING DIKE CONTOURS AND ASH LINE ALONG DIKE ARE NOT SHOWN FOR CLARITY.
  - CONTOURS WITHIN EXISTING ASH POND "D" AREA (BELOW ELEVATION 50) REPRESENT THE ORIGINAL CONTOURS PRIOR TO THE EXISTENCE OF THE PRESENT ASH POND DIKE, AT APPROXIMATE ELEVATION 66 (STONE & WEBSTER DWG 10144-FY-1A, DATED FEBRUARY 1959).
  - SEE DWG 715932-S-001 THRU 715932-S-005 FOR DETAILS CONCERNING THE DECANT STRUCTURE ACCESS BRIDGE, AND PIPE CONNECTIONS TO DECANT STRUCTURE.
  - FOR GENERAL NOTES & KEY PLAN SEE DWG. 715932-C-102.
  - SEE DWG. 715932-C-126 FOR SECTIONS & DETAILS CONCERNING THE ENERGY DISSIPATOR AND 50" CONCRETE PRESSURE PIPE AND BEDDING.
  - DECANT STRUCTURE IS THE FUNCTIONAL SERVICE SPILLWAY FOR THIS PROJECT.
  - LOCATIONS OF THE WATER AND TELEPHONE LINES ARE APPROXIMATE. ACTUAL LOCATION SHALL BE DETERMINED IN THE FIELD.
  - DWG. 715932-C-101 SHALL BE CHECKED FOR THE PRESENCE OF ANY ENVIRONMENTAL WELLS WHICH ARE IN THE VICINITY OF THE PROPOSED CONSTRUCTION ACTIVITY.
  - SEE DWG. 715932-C-126 FOR DRAINAGE SYSTEM PROFILE, EMBANKMENT CENTERLINE PROFILE, AND DRAINAGE DEVICE INFORMATION.
  - SETTLEMENT MONUMENTS SHALL BE LOCATED AT THE DESIGNATED STATIONS ON THE DOWNSTREAM EDGE OF THE DIKE ROAD, EQUI-DISTANT FROM THE D.O.F. CENTERLINE. (SEE DWG. 715932-C-130)
  - OSSEGRATION WELLS AND PIEZOMETERS WILL BE INSTALLED BY VIRGINIA POWER ENGINEERS.
  - REFER TO DWG. 715932-C-150 FOR TYPICAL DETAILS OF WELLS, PIEZOMETERS AND SETTLEMENT MONUMENTS, AS WELL AS SCHEDULES SHOWING LOCATIONS AND TIP ELEVATIONS.
  - THIS "ORIGINAL DESIGN" DRAWING IS TO BE USED IN CONJUNCTION WITH "AS BUILT" DRAWING 715932-F3-103.



PROP. STD. JB-1 & DI-7B  
GR. LL. = 32.77  
(SEE DWG. 715932-C-127)

1	REVISED TO CHANGE LOCATION OF DECANT STRUCTURE. NOTE 5 WAS REVISED TO CHANGE 24" PIPE TO 30".	0	ISSUED FOR CONSTRUCTION
2-19-1988	JAC ESM PMW JAF MS JAC	29-81	DATE DSSN DPAAN CWD DSSN LEAD CIVL ENGR ELEC ENGR MECH ENGR ARCH ENGR E.M. ENGR AC ENGR
REV	DATE DSSN DPAAN CWD DSSN LEAD CIVL ENGR ELEC ENGR MECH ENGR ARCH ENGR E.M. ENGR AC ENGR	REV	DATE DSSN DPAAN CWD DSSN LEAD CIVL ENGR ELEC ENGR MECH ENGR ARCH ENGR E.M. ENGR AC ENGR

**VIRGINIA POWER**  
WEST VIRGINIA POWER  
NORTH CAROLINA POWER  
ENGINEERING AND CONSTRUCTION  
RICHMOND, VIRGINIA

**SITE PLAN**  
ASH POND "D" EXPANSION  
POSSUM POINT POWER STATION  
VIRGINIA POWER

DSSN MGR JAC	DSSN SUPV MGR	CAD NOZFA01240.3111P103.DGN
DRAWN ESM	DISPL ENGR MGR JAC	DRAWING NO. 715932-C-103
CHKD PMW	LEAD ENGR MS	DATE 4-16-86
SCALE 1"=50'	UNLESS OTHERWISE NOTED	REV. 2

ISSUED FOR BID.		ISSUED FOR FINAL REVIEW AND DAM SAFETY SUBMITTAL.		ISSUED FOR ADDITIONAL PRINCE WILLIAM CO. REVIEW.		ISSUED FOR FINAL REVIEW TO PRINCE WILLIAM COUNTY.		ADDED NOTE 13 (A10).	
REV	DATE DSSN DPAAN CWD DSSN LEAD CIVL ENGR ELEC ENGR MECH ENGR ARCH ENGR E.M. ENGR AC ENGR	REV	DATE DSSN DPAAN CWD DSSN LEAD CIVL ENGR ELEC ENGR MECH ENGR ARCH ENGR E.M. ENGR AC ENGR	REV	DATE DSSN DPAAN CWD DSSN LEAD CIVL ENGR ELEC ENGR MECH ENGR ARCH ENGR E.M. ENGR AC ENGR	REV	DATE DSSN DPAAN CWD DSSN LEAD CIVL ENGR ELEC ENGR MECH ENGR ARCH ENGR E.M. ENGR AC ENGR	REV	DATE DSSN DPAAN CWD DSSN LEAD CIVL ENGR ELEC ENGR MECH ENGR ARCH ENGR E.M. ENGR AC ENGR
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MATCH LINE SHEET 715931-C-104





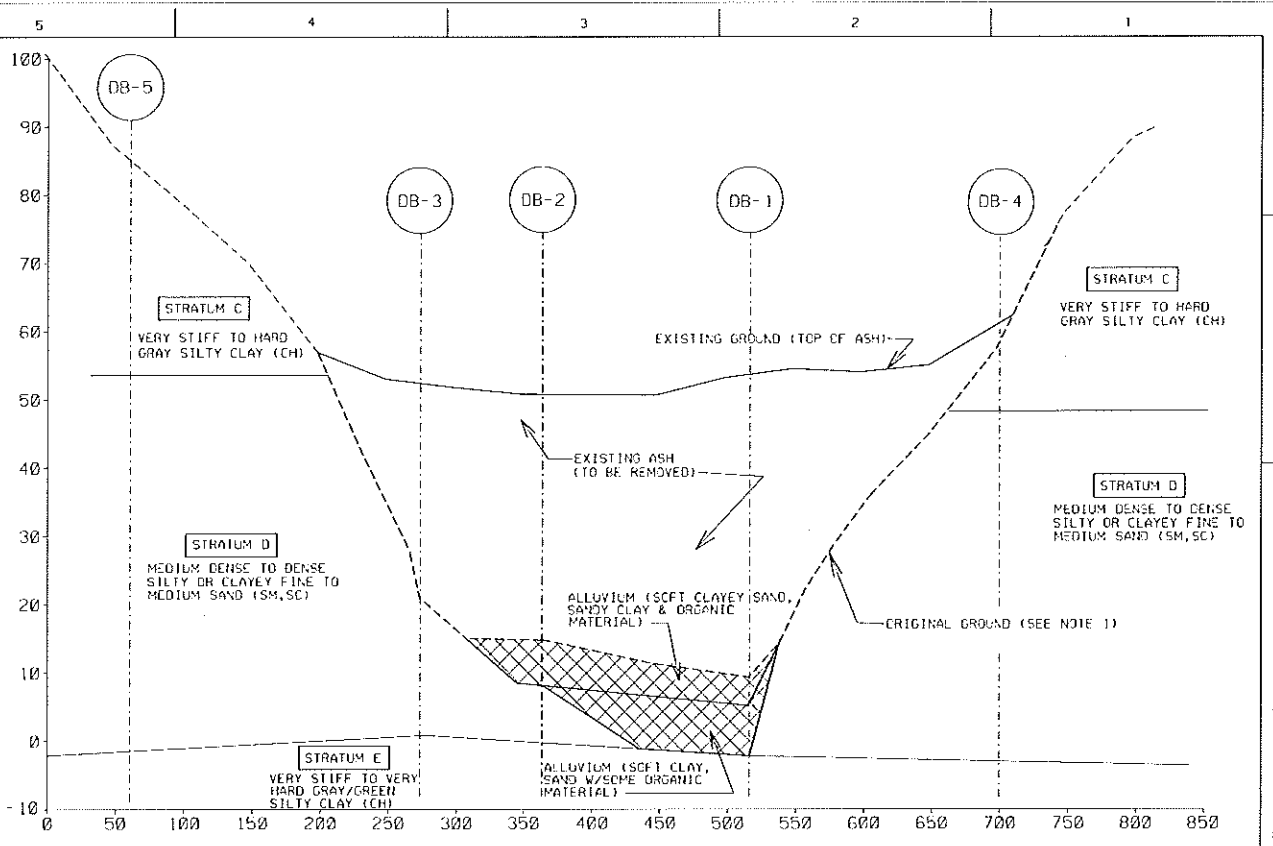
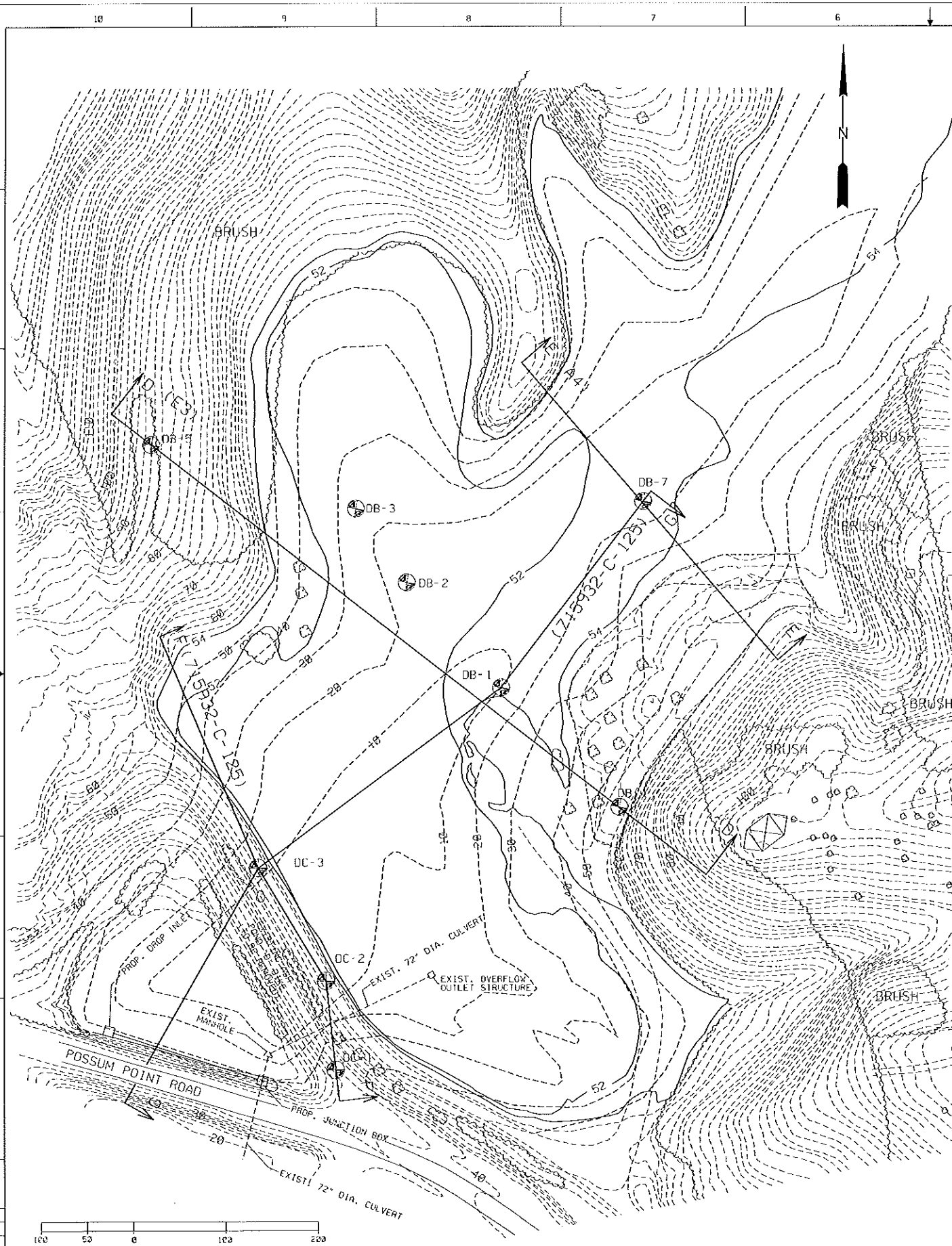








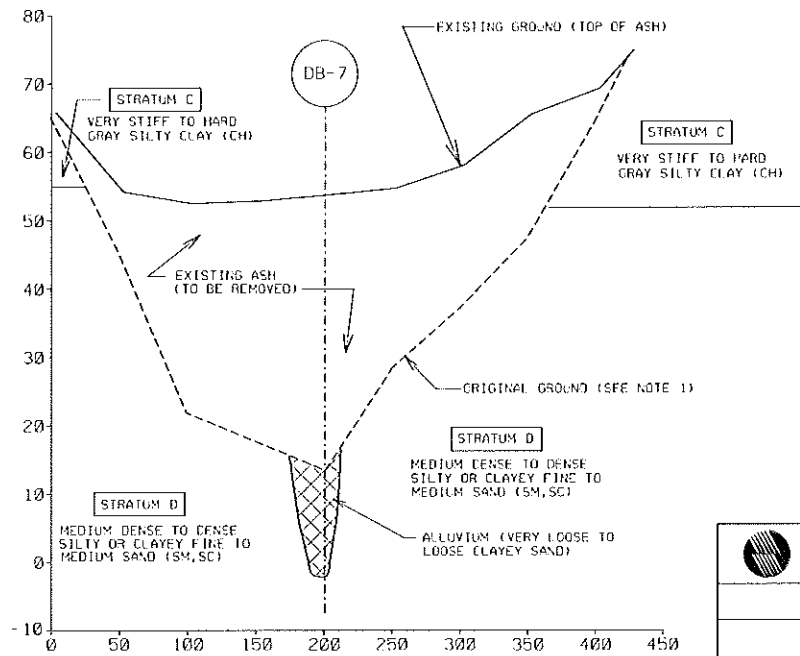




SECTION D - D (THIS SHEET)  
SCALE: HORIZ - 1" = 50'  
VERT - 1" = 10'

- NOTES:**
1. ORIGINAL GROUND CONTOURS FROM ELEVATION 50 AND BELOW WERE OBTAINED FROM STONE & WEBSTER ENGINEERING COMPANY DWG. 10144-FP-1A.
  2. EXISTING TOPOGRAPHY BASED ON AERIAL PHOTOGRAPHY FLOWN 1-6-65.
  3. FIELD CONTROL AND LOCAL SPECIFIC SURVEY PERFORMED BY STONE & WEBSTER DATED 8-9-65.
  4. ASH IS TO BE EXCAVATED TO A DEPTH WHERE ORIGINAL GROUND IS ENCOUNTERED, AS DIRECTED BY THE OWNER.
  5. LIMITS OF OVEREXCAVATION ARE APPROXIMATE. ACTUAL LIMITS TO BE DETERMINED IN FIELD BY THE ENGINEER.
  6. BORINGS PERFORMED BY FROELING & ROBERTSON, INC. - JUNE, 1985.
  7. REFER TO DWG. 715932-C-125 FOR ADDITIONAL SECTIONS.
  8. SEE DWG. 715932-C-121 FOR TEST BORING LOCATIONS.

- LEGEND**
- - - - - EXISTING GROUND
  - ORIGINAL GROUND
  - - - - - EXISTING GROUND (TOP OF ASH)
  - ⊕ SOIL TEST BORE HOLE
  - ▨ UNSUITABLE MATERIAL TO BE OVEREXCAVATED
  - ⊗ EXISTING TRANSMISSION TOWER (TO BE RELOCATED)



SECTION E - E (THIS SHEET)  
SCALE: HORIZ - 1" = 50'  
VERT - 1" = 10'

**VIRGINIA POWER  
WEST VIRGINIA POWER  
NORTH CAROLINA POWER**  
ENGINEERING AND CONSTRUCTION  
RICHMOND, VIRGINIA

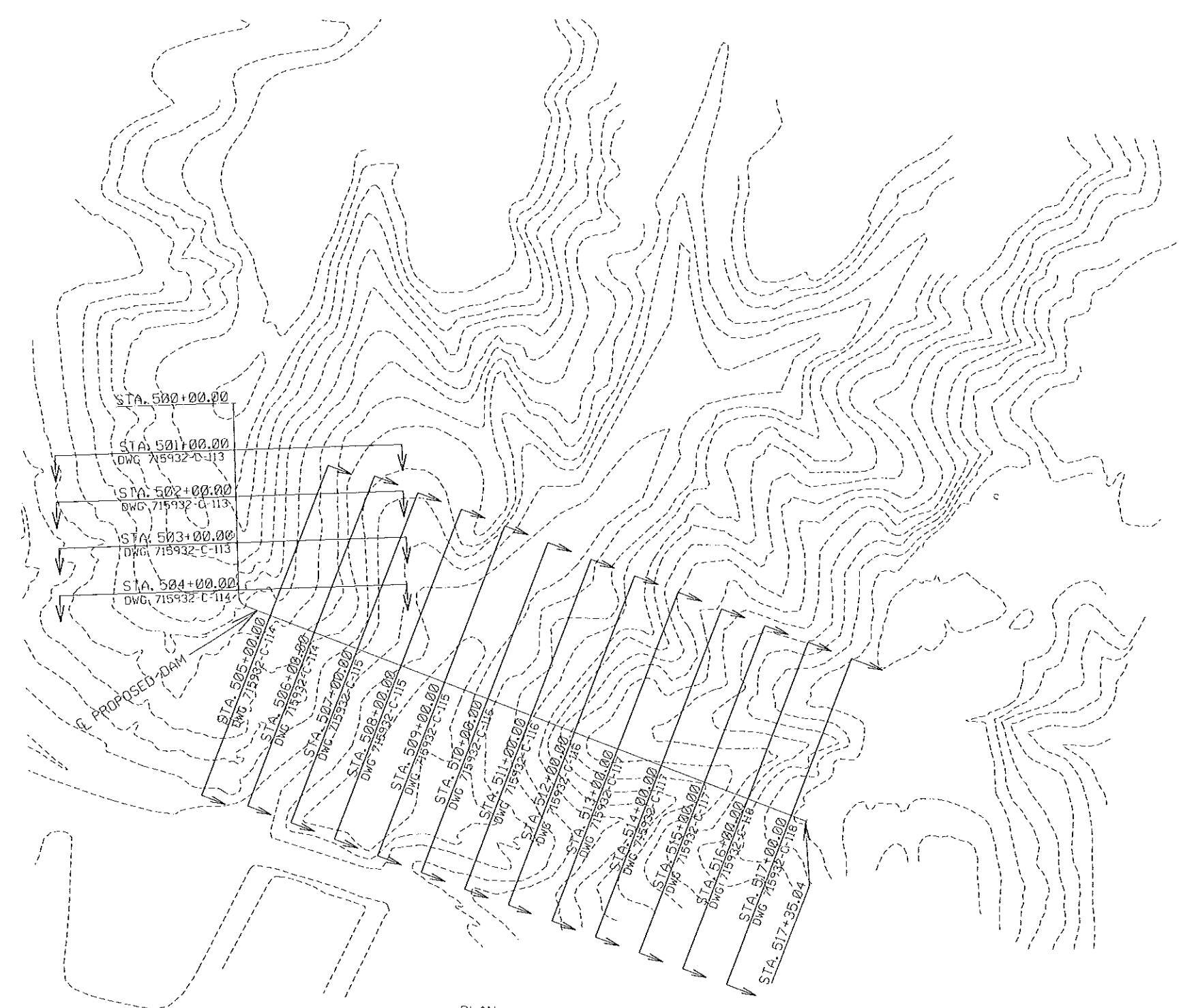
**EXCAVATION PLAN  
ASH POND "D" EXPANSION  
POSSUM POINT POWER STATION  
VIRGINIA POWER**

ISSUED FOR CONSTRUCTION										REVISED OVEREXCAVATION SECTIONS.										ISSUED FOR BID.										ISSUED FOR FINAL REVIEW AND DAM SAFETY SUBMITTAL										ISSUED FOR ADDITIONAL FRINCE WILLIAM CO. REVIEW.										DSGN		DSGN SUPV		CAD NO. ZPA12410.50IPPIII.DGN	
0										D										C										B										A										DRAWN		DISPL ENGR		DRAWING NO.	
REV										REV										REV										REV										REV										CHKD		LEAD ENGR		715932-C-111	
DATE										DATE										DATE										DATE										DATE										DATE 7-22-86		SCALE 1" = 50'		UNLESS OTHERWISE NOTED	



**NOTES:**

1. REFERENCE DRAWINGS 715932-C-113 THRU 715932-C-118 FOR INDIVIDUAL CROSS SECTIONS.
2. CROSS SECTIONS WERE BASED ON ORIGINAL GROUND, APPROXIMATE MINIMUM ELEVATION 8.0, BEFORE EXISTING DIKE WAS CONSTRUCTED. (STCNE & WEBSTER DWG. 10144-FP-1A, DATED FEBRUARY, 1959)
3. SEE DWG 715932-C-122 FOR STAKECUT & ALIGNMENT PLAN.



PLAN



**VIRGINIA POWER**  
**WEST VIRGINIA POWER**  
**NORTH CAROLINA POWER**  
 ENGINEERING AND CONSTRUCTION  
 RICHMOND, VIRGINIA

**CROSS SECTION - KEY PLAN**  
**ASH POND "D" EXPANSION**  
 POSSUM POINT POWER STATION  
 VIRGINIA POWER

ISSUED FOR CONSTRUCTION										ADJUSTED ORIGINAL GROUND CONTOURS.										ISSUED FOR BID.										ISSUED FOR FINAL REVIEW AND DAM SAFETY SUBMITTAL										ISSUED FOR ADDITIONAL PRINCE WILLIAM CO. REVIEW.										DSGN		DSGN SUPV		CAD NO. ZFA11240.50IPPI12 BGN																			
DRAWN										DISPL ENGR										CHKD										DATE										DRAWN		DISPL ENGR		DRAWING NO.																													
DATE										DATE										DATE										DATE										DATE		SCALE		UNLESS OTHERWISE NOTED																													
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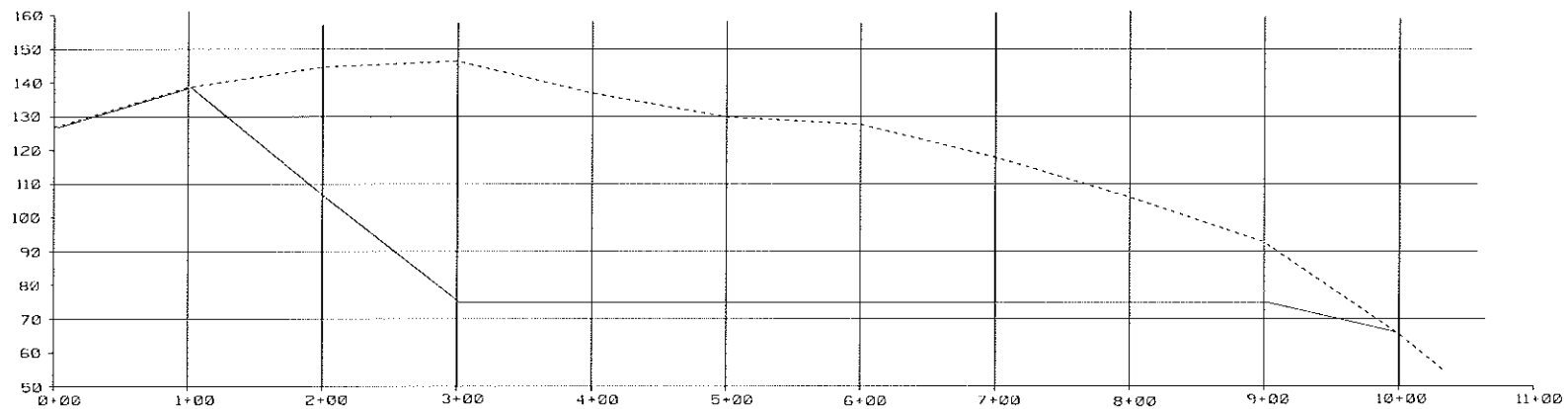




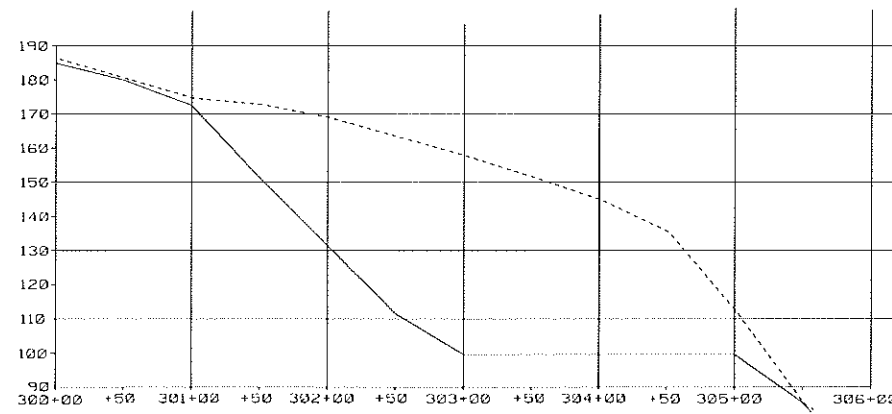




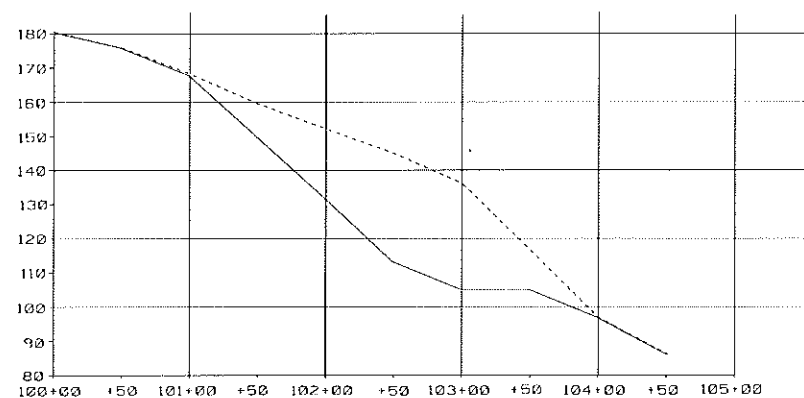




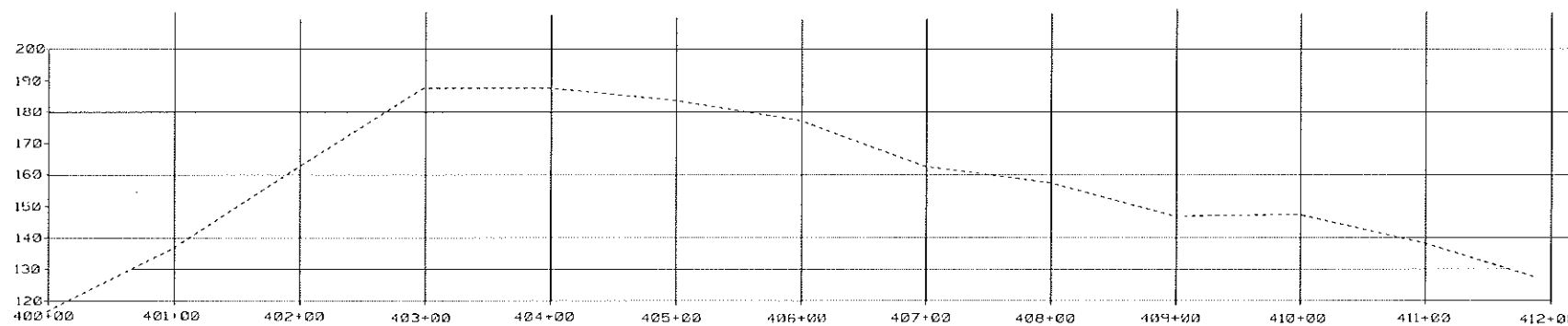
SECTION - BORROW AREA 'A'



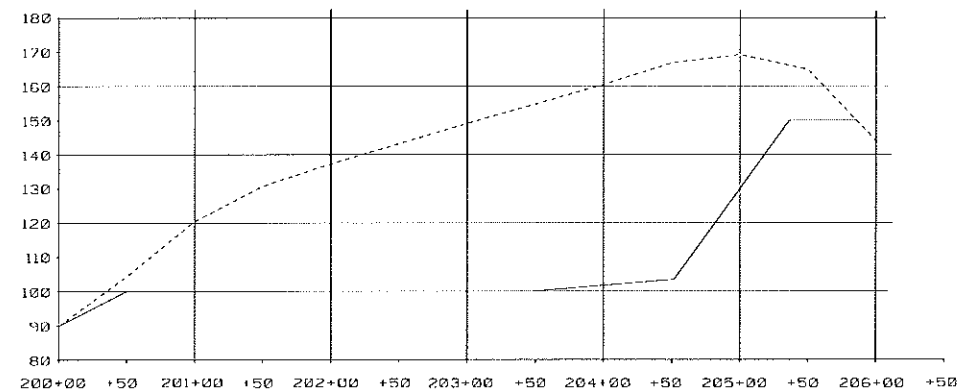
SECTION - BORROW AREA 'C-1'



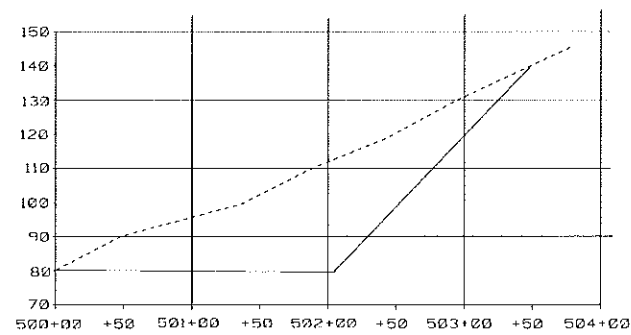
SECTION - BORROW AREA 'B'



SECTION - BORROW AREA 'D'



SECTION - BORROW AREA 'C'



SECTION - BORROW AREA 'E'

LEGEND:

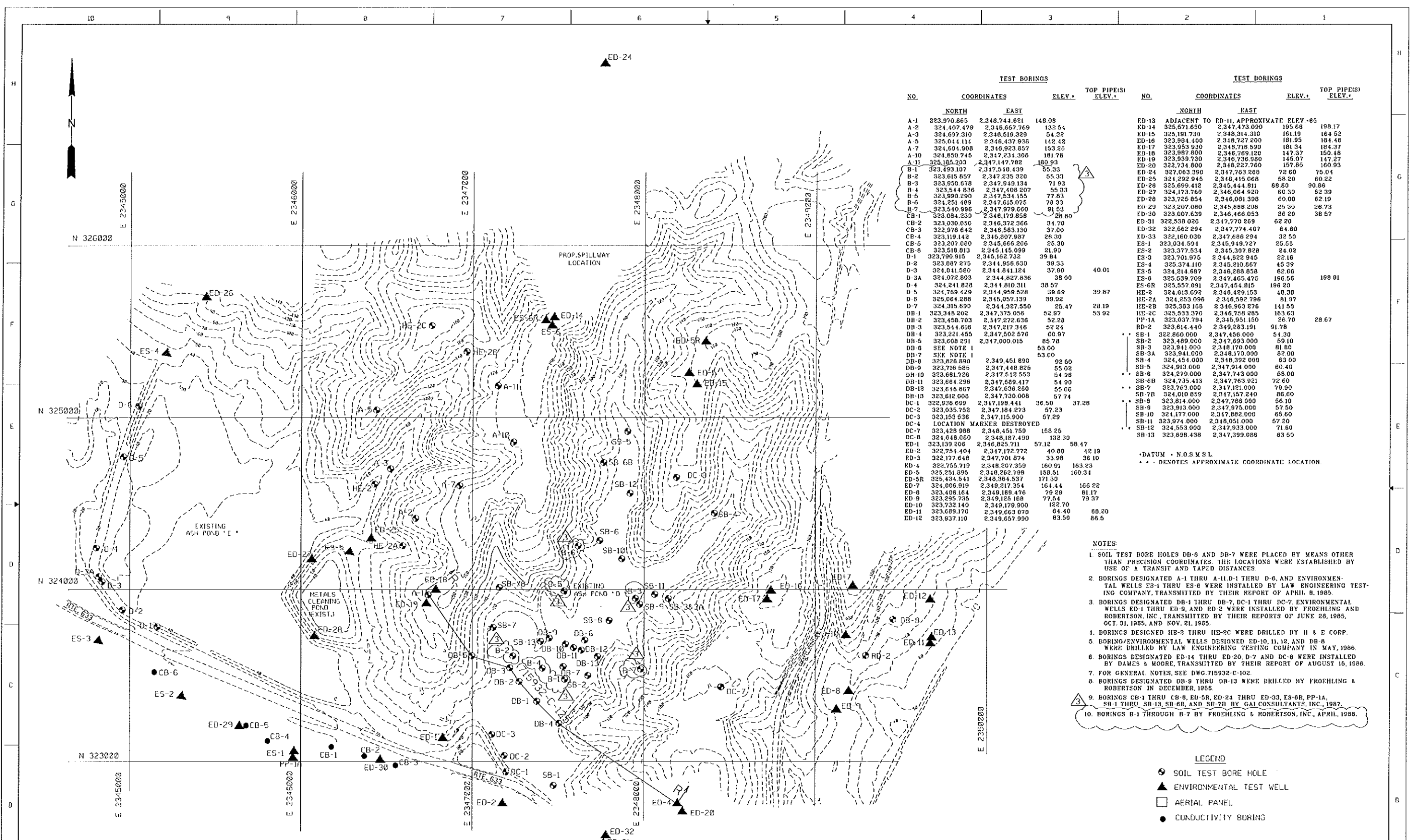
- EXISTING GROUND
- PROPOSED GROUND

NOTE:  
SEE DWG. 715932-C-119 FOR LOCATION OF AREAS AND SECTIONS.

<b>VIRGINIA POWER</b> WEST VIRGINIA POWER NORTH CAROLINA POWER ENGINEERING AND CONSTRUCTION RICHMOND, VIRGINIA		
<b>BORROW AREA TYPICAL SECTIONS</b> ASH POND "D" EXPANSION POSSUM POINT POWER STATION VIRGINIA POWER		
DSCN MJB JAC	DSGN SUPV JAF	CAD NO ZFA11240.50HPP120.DGN
DRAWN ESM	DISPL ENGR MJB JAC	DRAWING NO.
CHKD PMW	LEAD ENGR MIS	<b>715932-C-120</b>
DATE 7-16-88	SCALE H: 1" = 50'	UNLESS OTHERWISE NOTED

REVISED TO MATCH BID ISSUE										ISSUED FOR CONSTRUCTION										ISSUED FOR BID										ISSUED FOR FINAL REVIEW AND DAM SAFETY SUBMITTAL										ISSUED FOR ADDITIONAL PRINCE WILLIAM CO REVIEW											
REV	DATE	DSGN	DPANN	CHKD	DSGN	LEAD	CIVL	ELEC	MECH	APCH	E.M.	ISC	REV	DATE	DSGN	DPANN	CHKD	DSGN	LEAD	CIVL	ELEC	MECH	APCH	E.M.	ISC	REV	DATE	DSGN	DPANN	CHKD	DSGN	LEAD	CIVL	ELEC	MECH	APCH	E.M.	ISC	REV	DATE	DSGN	DPANN	CHKD	DSGN	LEAD	CIVL	ELEC	MECH	APCH	E.M.	ISC
10      9      8      7      6      5      4      3      2      1																																																			





TEST BORINGS				TEST BORINGS					
NO.	COORDINATES		ELEV.	TOP PIPE(S) ELEV.	NO.	COORDINATES		ELEV.	TOP PIPE(S) ELEV.
	NORTH	EAST				NORTH	EAST		
A-1	323,970.865	2,346,744.621	146.08		ED-13	323,671.650	2,347,473.090	195.68	198.17
A-2	324,407.479	2,346,667.769	132.54		ED-14	325,671.650	2,347,473.090	161.19	164.52
A-3	324,697.310	2,346,519.329	54.52		ED-15	325,014.730	2,348,014.310	181.95	184.48
A-5	325,044.114	2,346,437.936	142.42		ED-16	323,984.400	2,348,727.200	181.95	184.48
A-7	324,604.908	2,346,923.857	153.25		ED-17	323,953.930	2,348,716.590	181.34	184.37
A-10	324,850.745	2,347,234.366	181.78		ED-18	323,987.800	2,346,769.120	147.37	150.18
A-11	325,185.793	2,347,147.782	180.93		ED-19	323,939.730	2,346,736.960	145.97	147.27
B-1	323,493.107	2,347,510.439	55.33		ED-20	322,734.800	2,348,227.760	157.85	160.93
B-2	323,615.857	2,347,235.320	55.33		ED-24	327,063.390	2,347,763.288	72.60	75.04
B-3	323,950.878	2,347,949.134	71.93		ED-25	321,292.945	2,348,415.068	58.20	60.22
B-4	323,544.836	2,347,408.207	55.33		ED-26	325,699.412	2,345,444.811	68.30	90.66
B-5	323,990.290	2,347,534.155	77.83		ED-27	324,173.760	2,346,064.820	68.30	62.19
B-6	324,251.489	2,347,615.075	78.33		ED-28	323,725.854	2,346,091.398	60.00	62.19
B-7	323,540.996	2,347,979.660	91.63		ED-29	323,207.000	2,345,668.206	25.30	26.73
CB-1	323,084.239	2,346,179.858	28.60		ED-30	323,007.639	2,346,166.053	36.20	38.57
CB-2	323,030.050	2,346,372.366	34.70		ED-31	322,538.026	2,347,770.269	62.20	
CB-3	322,976.642	2,346,563.130	37.00		ED-32	322,562.294	2,347,774.407	64.60	
CB-4	323,119.142	2,346,807.997	26.30		ED-33	322,160.030	2,347,686.294	32.50	
CB-5	323,207.080	2,345,665.266	25.30		ES-1	323,034.594	2,345,949.727	25.58	
CB-6	323,518.810	2,346,145.099	21.90		ES-2	323,377.534	2,345,307.828	24.02	
D-1	323,790.915	2,345,162.732	39.84		ES-3	323,701.975	2,344,822.945	22.16	
D-2	323,887.275	2,344,956.630	39.33		ES-4	325,374.110	2,345,210.667	45.39	
D-3	324,041.580	2,344,811.124	37.90		ES-5	324,214.687	2,346,288.858	62.66	
D-3A	324,072.803	2,344,827.836	38.00		ES-6	325,539.709	2,347,465.475	196.56	198.91
D-4	324,241.828	2,344,810.311	38.67		ES-6R	325,557.091	2,347,454.815	196.20	
D-5	324,769.429	2,344,959.628	39.69		HE-2	324,613.692	2,346,429.153	48.38	
D-6	325,064.288	2,345,057.139	39.92		HE-2A	324,253.096	2,346,592.796	81.97	
D-7	324,315.690	2,344,387.550	25.47		HE-2B	325,383.168	2,346,963.276	141.58	
DB-1	323,348.202	2,347,375.056	52.87		HE-2C	325,533.370	2,346,768.285	183.63	
DB-2	323,458.612	2,347,272.636	52.28		PP-1A	323,037.794	2,345,951.150	28.70	
DB-3	323,544.616	2,347,217.916	52.24		RD-2	323,614.440	2,349,283.191	91.78	
DB-4	323,221.455	2,347,502.676	60.57		SB-1	322,860.000	2,347,456.000	54.30	
DB-5	323,608.291	2,347,000.015	85.78		SB-2	323,489.000	2,347,693.000	59.10	
DB-6	SEE NOTE 1		53.00		SB-3	323,941.000	2,348,179.000	81.80	
DB-7	SEE NOTE 1		53.00		SB-3A	323,941.000	2,348,170.000	82.00	
DB-8		2,349,451.890	92.50		SB-4	324,454.000	2,348,392.000	63.00	
DB-9	323,716.585	2,347,448.825	55.02		SB-5	324,913.000	2,347,914.000	60.40	
DB-10	323,681.726	2,347,542.553	54.96		SB-6	324,279.000	2,347,743.000	58.00	
DB-11	323,664.296	2,347,589.417	54.90		SB-6B	324,735.413	2,347,763.921	72.60	
DB-12	323,646.867	2,347,636.280	55.06		SB-7	323,763.000	2,347,121.000	79.90	
DB-13	323,612.606	2,347,700.008	57.74		SB-7R	324,010.859	2,347,157.240	86.60	
DC-1	322,936.659	2,347,189.441	36.50	37.28	SB-8	323,814.000	2,347,788.000	56.10	
DC-2	323,035.752	2,347,184.273	57.23		SB-9	323,913.000	2,347,975.000	57.50	
DC-3	323,153.636	2,347,115.900	57.29		SB-10	324,177.000	2,347,882.000	65.60	
DC-4	LOCATION MARKER DESTROYED				SB-11	323,974.000	2,348,051.000	57.20	
DC-7	323,428.988	2,348,451.759	158.25		SB-12	324,553.000	2,347,933.000	71.60	
DC-8	324,658.060	2,348,187.490	132.30		SB-13	323,898.438	2,347,399.088	83.50	
ED-1	323,139.206	2,346,865.711	57.12	58.47					
ED-2	322,754.404	2,347,172.722	40.80	42.19					
ED-3	322,177.648	2,347,701.874	33.99	36.10					
ED-4	322,755.719	2,348,207.359	160.91	163.23					
ED-5	325,251.895	2,348,262.798	158.51	160.34					
ED-5R	325,434.541	2,348,364.537	171.30						
ED-7	324,006.919	2,349,217.354	164.44	166.22					
ED-8	323,408.164	2,349,189.476	79.29	81.17					
ED-9	323,295.735	2,349,125.168	77.54	79.37					
ED-10	323,732.140	2,349,179.900	122.70						
ED-11	323,689.170	2,349,663.070	64.40	66.20					
ED-12	323,937.110	2,349,657.990	83.50	86.5					

DATUM - N.O.S.M.S.L.  
 \* - DENOTES APPROXIMATE COORDINATE LOCATION.

NOTES:  
 1. SOIL TEST BORE HOLES DB-6 AND DB-7 WERE PLACED BY MEANS OTHER THAN PRECISION COORDINATES THE LOCATIONS WERE ESTABLISHED BY USE OF A TRANSIT AND TAPED DISTANCES.  
 2. BORINGS DESIGNATED A-1 THRU A-11, D-1 THRU D-6, AND ENVIRONMENTAL WELLS ES-1 THRU ES-6 WERE INSTALLED BY LAW ENGINEERING TESTING COMPANY, TRANSMITTED BY THEIR REPORT OF APRIL 8, 1985.  
 3. BORINGS DESIGNATED DB-1 THRU DB-7, DC-1 THRU DC-7, ENVIRONMENTAL WELLS ED-1 THRU ED-9, AND RD-2 WERE INSTALLED BY FROEHLING AND ROBERTSON, INC. TRANSMITTED BY THEIR REPORTS OF JUNE 28, 1985, OCT. 31, 1985, AND NOV. 21, 1985.  
 4. BORINGS DESIGNATED HE-2 THRU HE-2C WERE DRILLED BY H & E CORP.  
 5. BORING/ENVIRONMENTAL WELLS DESIGNATED ED-10, 11, 12, AND DB-8 WERE DRILLED BY LAW ENGINEERING TESTING COMPANY IN MAY, 1986.  
 6. BORINGS DESIGNATED ED-14 THRU ED-20, D-7 AND DC-8 WERE INSTALLED BY DAMES & MOORE, TRANSMITTED BY THEIR REPORT OF AUGUST 16, 1986.  
 7. FOR GENERAL NOTES, SEE DWG. 715932-C-102.  
 8. BORINGS DESIGNATED DB-9 THRU DB-13 WERE DRILLED BY FROEHLING & ROBERTSON IN DECEMBER, 1986.  
 9. BORINGS CB-1 THRU CB-6, ED-5R, ED-24 THRU ED-33, ES-6R, PP-1A, SB-1 THRU SB-13, SB-6B, AND SB-7B BY GALCONSULTANTS, INC. 1987.  
 10. BORINGS B-1 THROUGH B-7 BY FROEHLING & ROBERTSON, INC. APRIL, 1988.

LEGEND

- SOIL TEST BORE HOLE
- ENVIRONMENTAL TEST WELL
- AERIAL PANEL
- CONDUCTIVITY BORING

COORDINATES REVISED FOR BORINGS ED-5R, SB-6B, SB-7B, SB-13 ISSUED FOR BID.		ADDED ADDITIONAL BORING LOCATIONS ISSUED FOR FINAL REVIEW AND DAM SAFETY SUBMITTAL.		ADDED BORINGS B-1 THROUGH B-7, DRILLED APRIL 1988.		VIRGINIA POWER WEST VIRGINIA POWER NORTH CAROLINA POWER ENGINEERING AND CONSTRUCTION RICHMOND, VIRGINIA	
ISSUED FOR CONSTRUCTION DRILLED DECEMBER 1986.		ADDED BORINGS DB-9 THROUGH DB-12, DRILLED DECEMBER 1986.		BORING LOCATIONS PLAN ASH POND "D" EXPANSION POSSUM POINT POWER STATION VIRGINIA POWER		DSGN JAC DRAWN PMW CHKD JRA DATE 4-16-86	
ISSUED FOR ADDITIONAL PRINCE WILLIAM CO REVIEW		ISSUED FOR FINAL REVIEW TO PRINCE WILLIAM COUNTY		ISSUED FOR PRELIMINARY COUNTY, DAM SAFETY, AND NPDES PERMITS. ISSUED FOR 30% ESTIMATE		CAD NO. 2FA1240.501PP121 DGN DRAWING NO. 715932-C-121 SCALE 1"=200' UNLESS OTHERWISE NOTED	















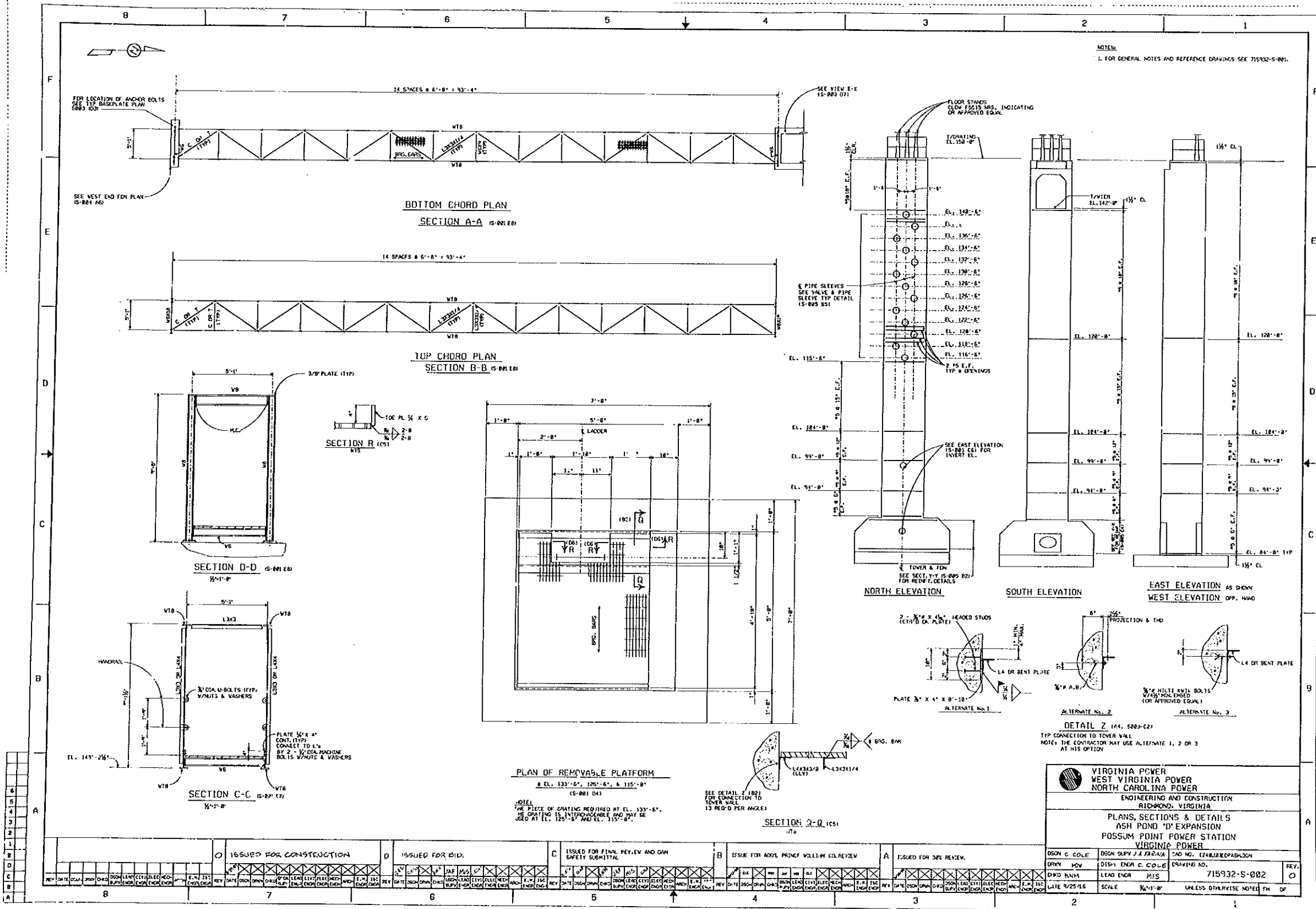








715932-S-002



6	ISSUED FOR CONSTRUCTION
5	ISSUED FOR BID.
4	ISSUED FOR FINAL REVIEW AND O&M SAFETY SUBMITTAL
3	ISSUED FOR ADDL PRINC WILLIAM ED REVIEW
2	ISSUED FOR 3RD REVIEW.
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**VIRGINIA POWER**  
WEST VIRGINIA POWER  
NORTH CAROLINA POWER

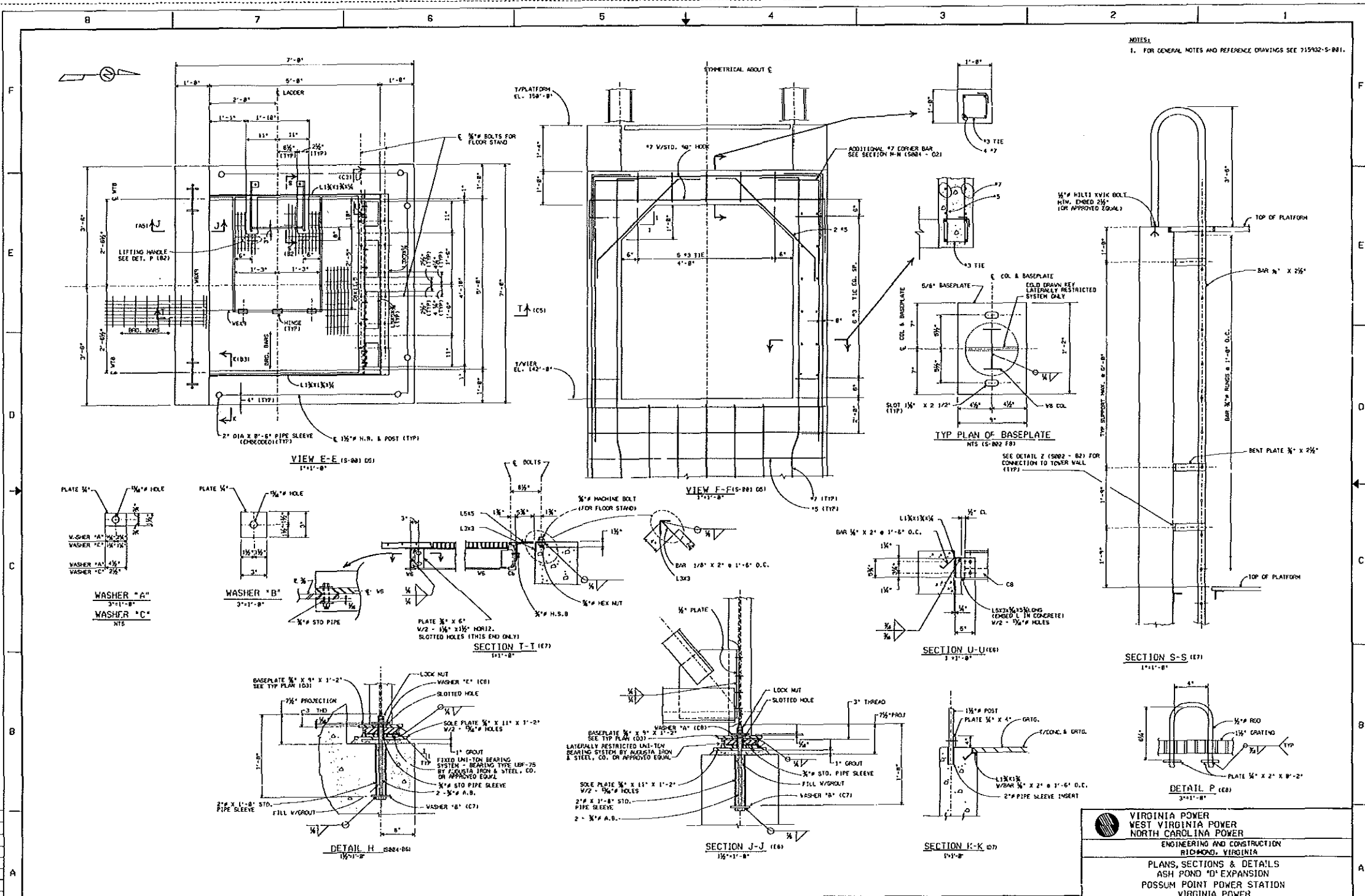
ENGINEERING AND CONSTRUCTION  
RICHMOND, VIRGINIA

PLANS, SECTIONS & DETAILS  
ASH POND 'D' EXPANSION  
POSSUM POINT POWER STATION  
VIRGINIA POWER

DESIGNER	DRYAN	DESIGNER	DRYAN	DRAWING NO.	715932-S-002
CHECKER	DRYAN	LEADER	MIS	SCALE	3/4" = 1'-0"
DATE	9/25/16	SCALE	3/4" = 1'-0"	UNLESS OTHERWISE NOTED	

715932-S-003

NOTES:  
1. FOR GENERAL NOTES AND REFERENCE DRAWINGS SEE 715932-S-001.



**VIRGINIA POWER**  
WEST VIRGINIA POWER  
NORTH CAROLINA POWER  
ENGINEERING AND CONSTRUCTION  
RICHMOND, VIRGINIA

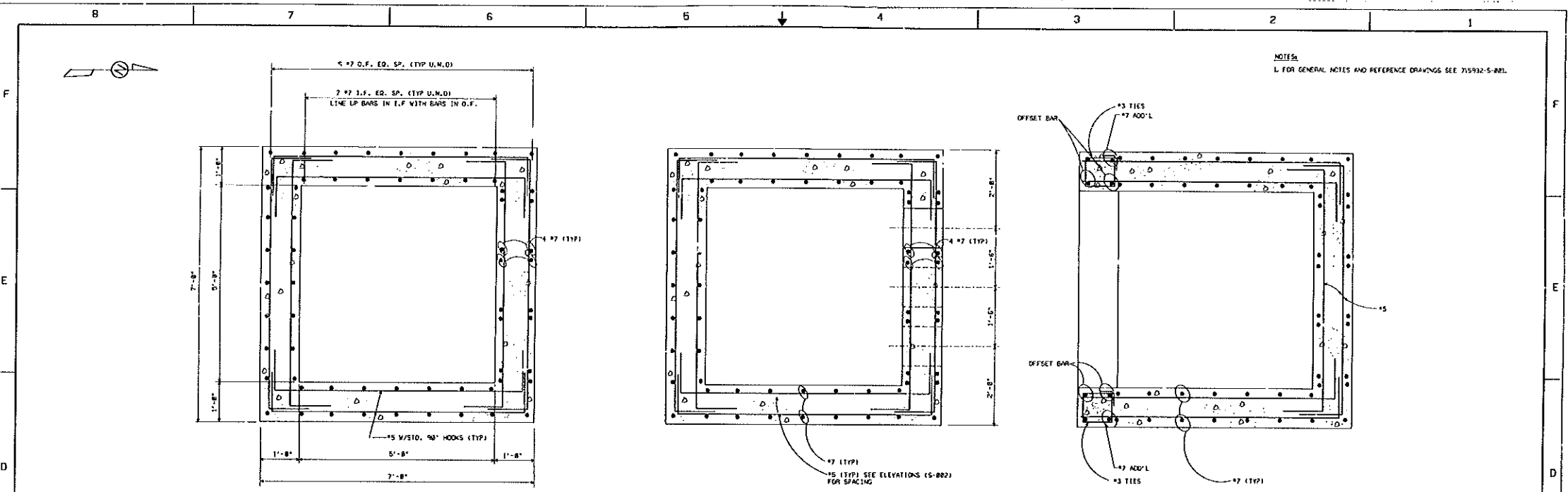
PLANS, SECTIONS & DETAILS  
ASH POND #10 EXPANSION  
POSSUM POINT POWER STATION  
VIRGINIA POWER

DESIGNER	DRYDEN	DATE	12/15/59
CHECKED	KEMM	DATE	12/15/59
SCALE	1/4" = 1'-0"	UNLESS OTHERWISE NOTED	SH OF

ISSUED FOR CONSTRUCTION  
ISSUED FOR REVISION  
ISSUED FOR FINAL REVIEW AND OWN SAFETY SUBMITTAL  
ISSUED FOR ADDITIONAL PRINCE WILLIAM CO. REVIEW  
ISSUED FOR MEK REVIEW

REV	DATE	BY	APP	DESCRIPTION
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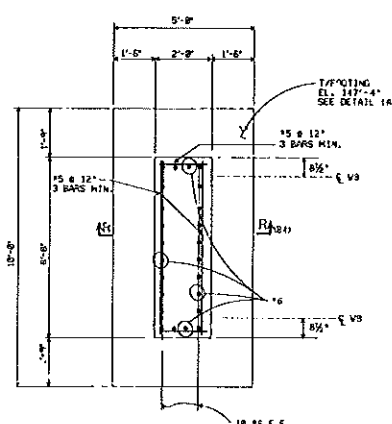
715932-S-004



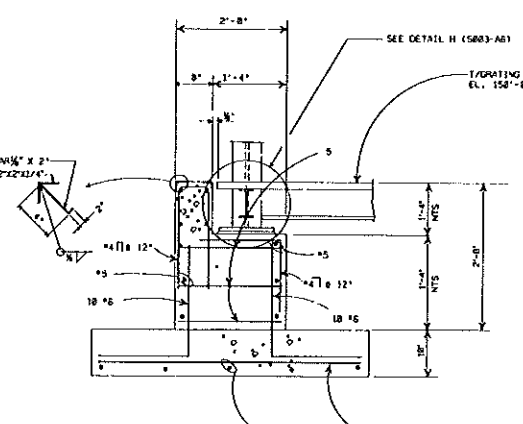
SECTION L-L (S-801 C4)

SECTION M-M (S-801 C4)

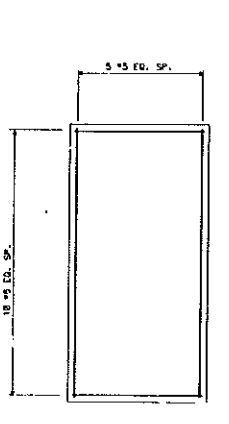
SECTION N-N (S-801 C4)



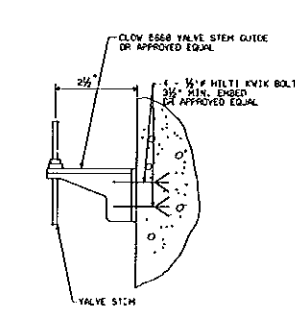
FOUNDATION PLAN @ SOUTH END OF WALKWAY TRUSS (S-802 E8)



SECTION R-R (S-801 C4)



FOOTING DETAIL (S-801 C4)



TYPICAL VALVE STEM GUIDE DETAIL (NO SCALE)

VIRGINIA POWER  
WEST VIRGINIA POWER  
NORTH CAROLINA POWER  
ENGINEERING AND CONSTRUCTION  
RICHMOND, VIRGINIA

CONCRETE SECTIONS & DETAILS  
ASH POND 'D' EXPANSION  
POSSUM POINT POWER STATION  
VIRGINIA POWER

DSGN: C. COLE    DSN: SUPV: J. FARINA    CAD NO.: (24)RJEOPAS-LOON  
DRY: NEW    DISL: ENGR: C. COLE    DRAWING NO.:  
CHKD: KMA    LEAD ENGR: V.S.    715932-S-004    REV. 0  
DATE: 11/25/85    SCALE: 1/4"=1'-0"    UNLESS OTHERWISE NOTED: 24 OF

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REV	DATE	BY	CHKD	APP'D	DESCRIPTION
0					ISSUED FOR CONSTRUCTION
1					ISSUED FOR BID.
2					ISSUED FOR FINAL REVIEW AND SAFETY SUBMITTAL
3					ISSUE FOR ADDL. PRICE WILLIAM CO. REVIEW
4					ISSUED FOR SEC. REVIEW.



DRAWING NUMBER

715932-AB-103

LET. G NUMBER

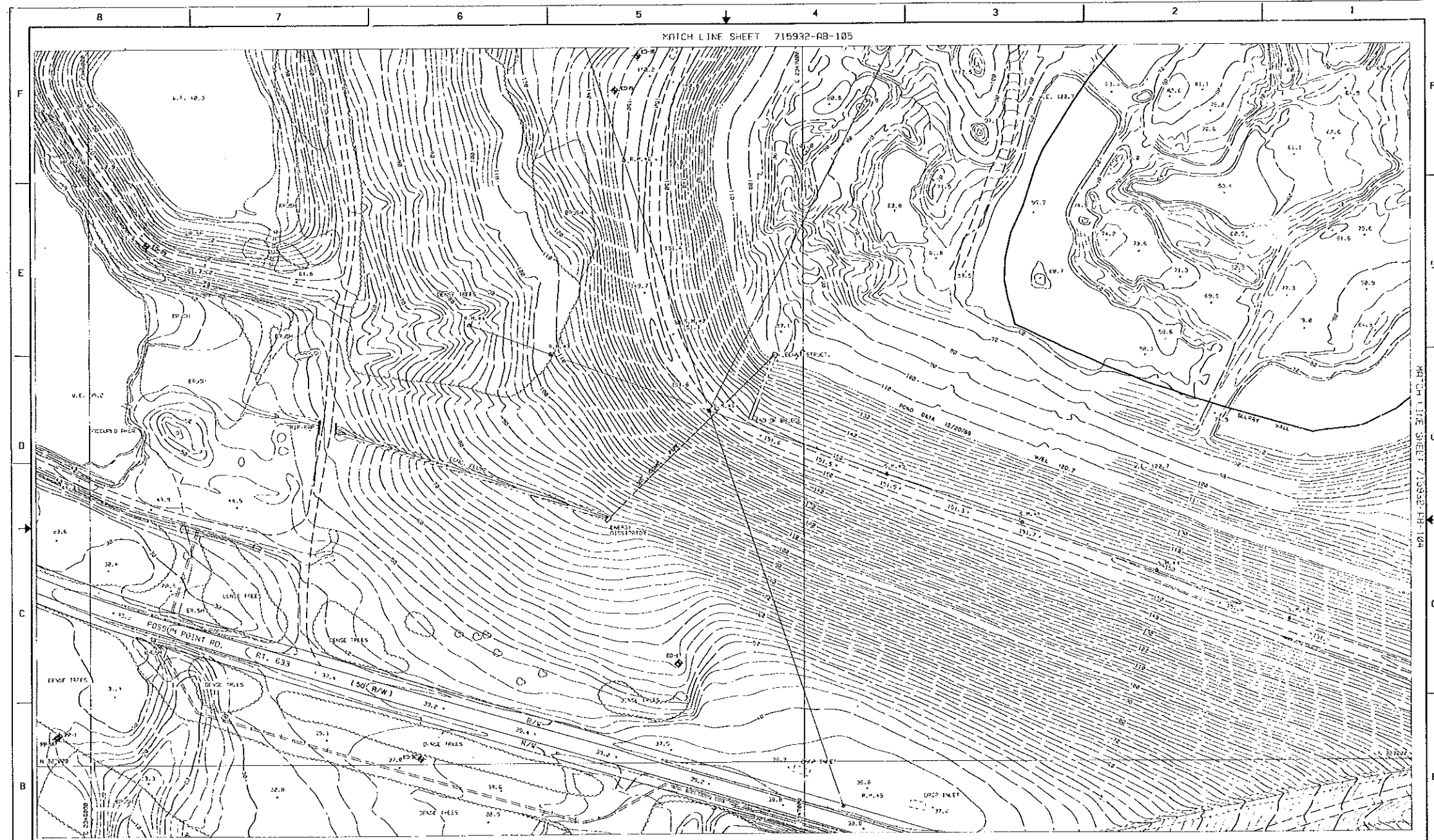
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THIS "AS-BUILT" DRAWING IS TO BE USED IN CONJUNCTION  
WITH "ORIGINAL DESIGN" DRAWING 715932-C-105

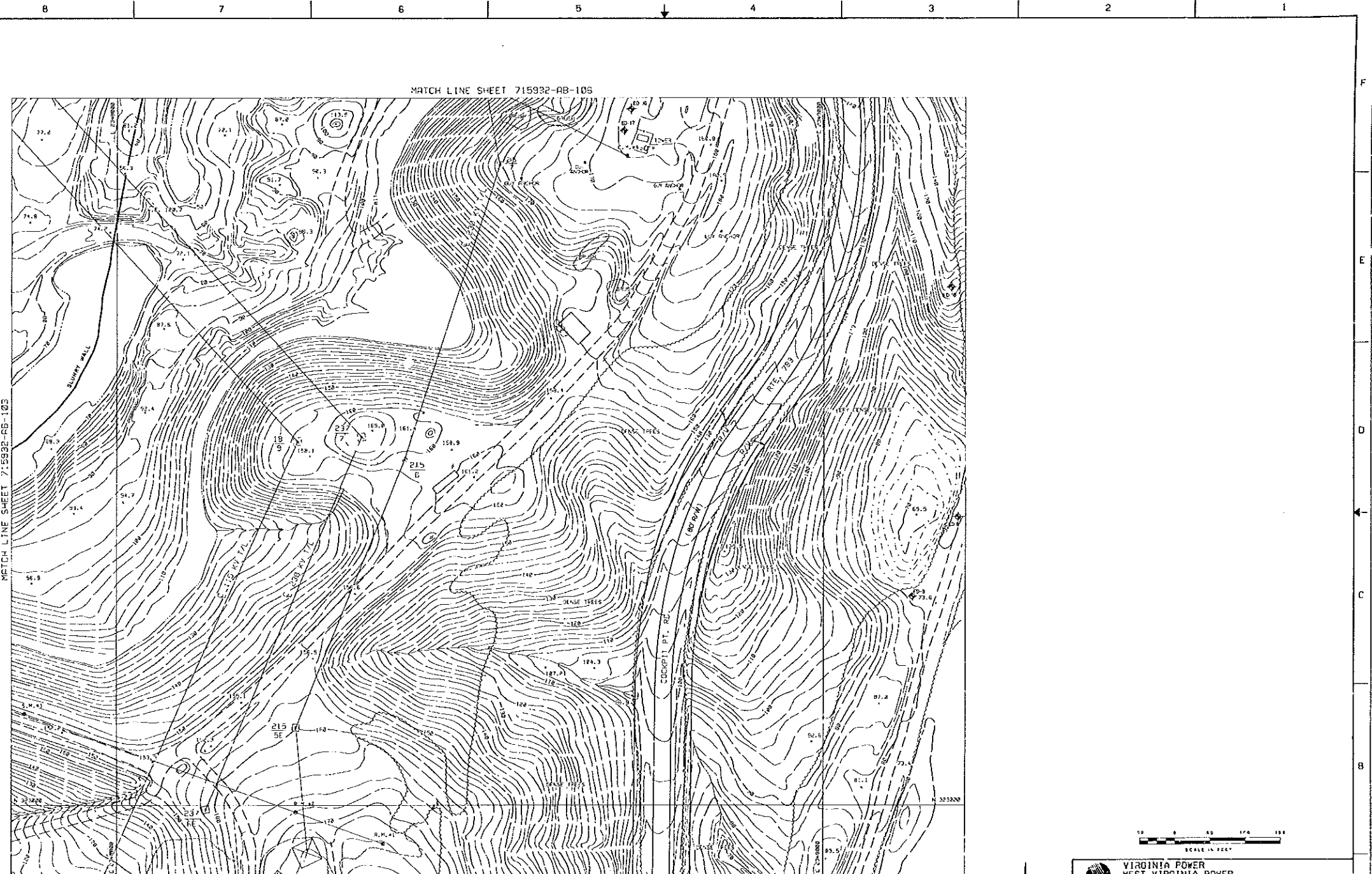
**VIRGINIA POWER**  
WEST VIRGINIA POWER  
NORTH CAROLINA POWER  
ENGINEERING AND CONSTRUCTION  
RICHMOND, VIRGINIA

**POSSUM POINT POWER STATION**  
VIRGINIA POWER  
**AS-BUILT SITE PLAN**  
**ASH POND "D" EXPANSION**

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FINAL AS BUILT												PRELIMINARY											
REV.	DATE	BY	CHKD.	APP'D.	REV.	DATE	BY	CHKD.	APP'D.	REV.	DATE	BY	CHKD.	APP'D.	REV.	DATE	BY	CHKD.	APP'D.				


TICKET	DESIGN SUPV	DWG NO.
DRWN. P.S.I.	DISEN. ENGR	DRAWING NO.
CHKD. B.M.S.	LEAD ENGR	715932-AB-103
DATE 12/20/88	SCALE 1" = 50'	UNLESS OTHERWISE NOTED



MATCH LINE SHEET 715932-AB-103

MATCH LINE SHEET 715932-AB-105



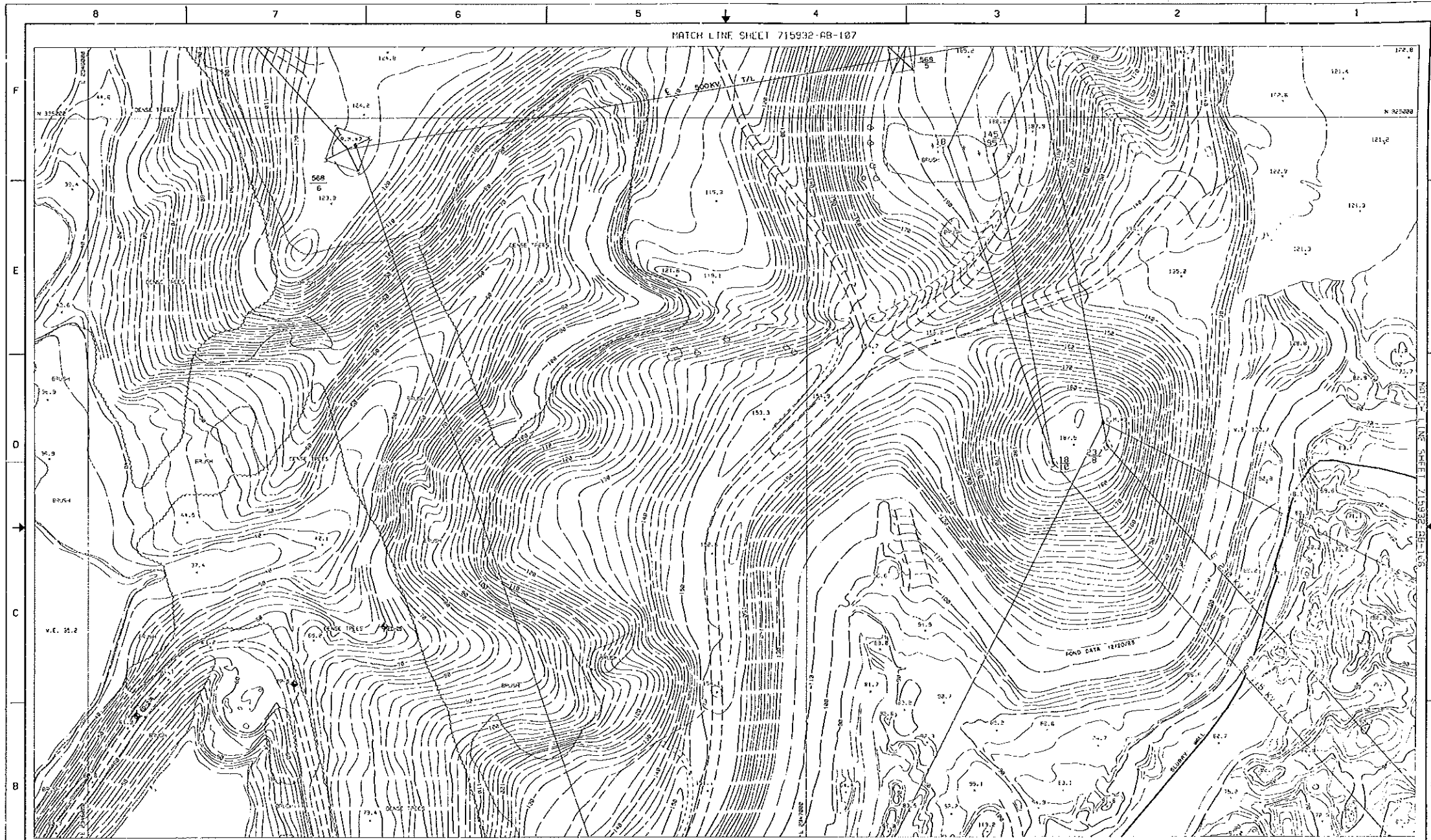

**VIRGINIA POWER**  
 WEST VIRGINIA POWER  
 NORTH CAROLINA POWER  
 ENGINEERING AND CONSTRUCTION  
 RICHMOND, VIRGINIA  
**POSSUM POINT POWER STATION**  
 VIRGINIA POWER  
**AS-BUILT SITE PLAN**  
**ASH POND "D" EXPANSION**

THIS "AS-BUILT" DRAWING IS TO BE USED IN CONJUNCTION WITH "ORIGINAL DESIGN" DRAWING 715932-C-1074

DESIGN		CHECKED		DATE		DESIGN		CHECKED		DATE		DESIGN		CHECKED		DATE		DESIGN		CHECKED		DATE	
1	AS-BUILT																						
2	PRELIMINARY																						

DESIGN	DISC. SUPV.	DATE	12/20/88
DRWN. P.S.L.	DISPL. ENGR.	DRAWING NO.	715932-AB-104
DRWD. B.M.S.	LEAD ENGR.	SCALE	1" = 60'
		UNLESS OTHERWISE NOTED SH. OF	

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MATCH LINE SHEET 715932-AB-103



THIS "AS-BUILT" DRAWING IS TO BE USED IN CONJUNCTION WITH "ORIGINAL DESIGN" DRAWING 715932-C-105

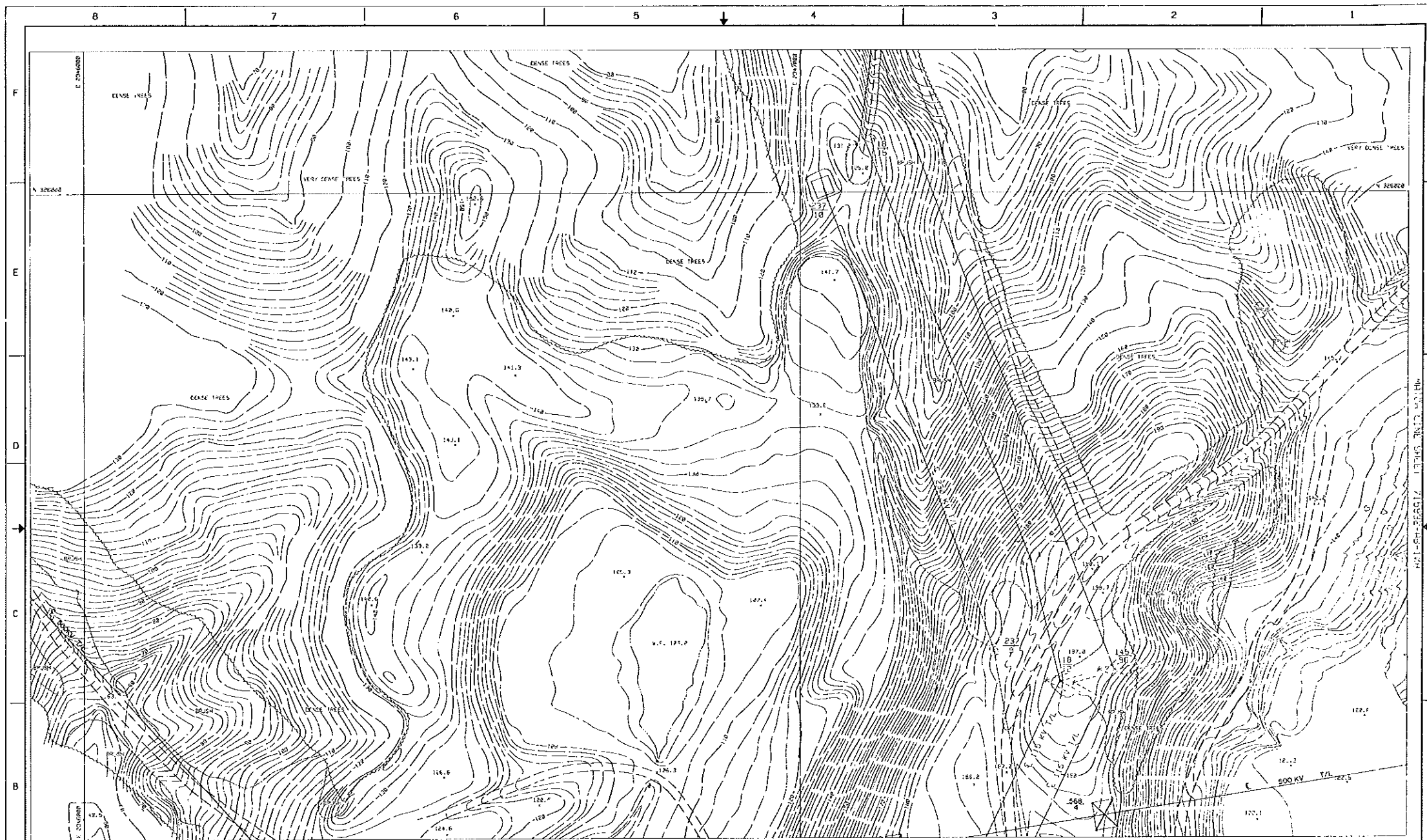
VIRGINIA POWER WEST VIRGINIA POWER NORTH CAROLINA POWER ENGINEERING AND CONSTRUCTION RICHMOND, VIRGINIA		
POSSUM POINT POWER STATION VIRGINIA POWER <b>AS-BUILT SITE PLAN</b> <b>ASH POND "D" EXPANSION</b>		
DESIGNED DRWN P.S.L. CHKD B.M.S.	DESGN SUPV DISPL ENGR LEAD ENGR	CAD NO. DRAWING NO. 715932-AB-105
DATE 12/20/88 SCALE 1"=50'		REV. 2 UNLESS OTHERWISE NOTED SH. OF

KEY	FINAL AS BUILT										PRE DREDGE										PRELIMINARY									
	DATE	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN	DATE	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN	DATE	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN	DRWN

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MATCH LINE SHEET 715932-AB-105



THIS "AS-BUILT" DRAWING IS TO BE USED IN CONJUNCTION WITH "ORIGINAL DESIGN" DRAWING 715932-C-107

VIRGINIA POWER WEST VIRGINIA POWER NORTH CAROLINA POWER ENGINEERING AND CONSTRUCTION RIDGEMOND, VIRGINIA		
POSSUM POINT POWER STATION VIRGINIA POWER <b>AS-BUILT SITE PLAN          ASH POND "D" EXPANSION</b>		
DSON DRWN P.S.I. CWD B.M.S.	DSON SUPV DISPL ENGR LEAD ENGR	CAD NO. DRAWING NO. 715932-AB-107
DATE 12/20/88		REV. 2
SCALE 1" = 50'		UNLESS OTHERWISE NOTED SH OF

FINAL AS BUILT												PRE DREDGE												PRELIMINARY											
REV	DATE	BY	CHKD	APPV	DIS	APPV	DATE	BY	CHKD	APPV	DIS	APPV	DATE	BY	CHKD	APPV	DIS	APPV	DATE	BY	CHKD	APPV	DIS	APPV											

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