From: <Tony_Banks@Dom.com>
To: "Jack Cushing" <JXC9@nrc.gov>, <lance.vail@pnl.gov>
Date: Wed, Sep 6, 2006 3:36 PM
Subject: Fw: North Anna ESP Site: Revision to Wetlands Delineation

Jack, Lance -

Attached is a revised wetlands delineation for the North Anna ESP Site that we provided to the US ACE today. An intended confirmation letter from the ACE is expected by September 12, 2006 and I may be able to forward that to you after I receive it.

Please let me know if you have any questions or concerns related to this transmittal.

Thanks.

Tony Banks, MPH, CHMM
Dominion
ESP/COL Project
804/273-2170

(See attached file: 20060906 North Anna Wetland Delineation Revised Submittal.pdf)(See attached file: Revised Comprehensive Delineation for USACE 11 X 17.pdf)

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CC: "Nitin Patel" <NXP1@nrc.gov>

Mail Envelope Properties (44FF231B.5A4 : 15 : 42404)

Subject: Fw: North Anna ESP Site: Revision to Wetlands Delineation
Creation Date Wed, Sep 6, 2006 3:34 PM
From: <Tony_Banks@Dom.com>

Created By: Tony_Banks@Dom.com

Recipients
nrc.gov
OWGWPO03.HQGWDO01
JXC9 (Jack Cushing)

nrc.gov
TWGWPO03.HQGWDO01
NXP1 CC (Nitin Patel)

pnl.gov
lance.vail

Post Office	Route
OWGWPO03.HQGWDO01	nrc.gov
TWGWPO03.HQGWDO01	nrc.gov
	pnl.gov

Files	Size	Date & Time
MESSAGE	1382	Wednesday, September 6, 2006 3:34 PM
20060906 North Anna Wetland Delineation Revised Submittal.pdf	5067503	
Revised Comprehensive Delineation for USACE 11 X 17.pdf	53171	
Mime.822	1	

Options
Expiration Date: None
Priority: Standard
ReplyRequested: No
Return Notification: None

Concealed Subject: No
Security: Standard

Junk Mail Handling Evaluation Results
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Junk Mail settings when this message was delivered
Junk Mail handling disabled by User
Junk Mail handling disabled by Administrator
Junk List is not enabled
Junk Mail using personal address books is not enabled
Block List is not enabled

Pamela F. Faggert
Vice President and Chief Environmental Officer
5000 Dominion Boulevard, Glen Allen, VA 23060
Phone: 804-273-3467

Dominion

CERTIFIED MAIL
RETURN RECEIPT REQUESTED

September 6, 2006

Regena D. Bronson
U.S. Army Corps of Engineers
Potomac Virginia Field Office
P.O. Box 1704
Leonardtown, MD 20650

RE: North Anna Power Station: Follow-up to Site Visit

Dear Ms. Bronson:

Enclosed, please find the following revisions to our May 24, 2006 request for confirmation of the wetlands delineation of the properties that could be impacted by new construction at our North Anna Power Station:

1. Revised wetland delineation maps showing the locations of the flagged and numbered wetland delineation boundaries.
2. A revised topographic map onto which the delineation survey information has been superimposed.
3. A revised table describing the linear footage of delineated streams (the acreage of wetlands delineated is shown on the Burgess and Niple survey plats).

We are submitting these revisions in light of our discussions with you during your August 1, 2006 visit to the North Anna Power Station.

Thank you for your efforts to date on this project. Please feel free to contact Ken Roller at 804-273-3494 or Tony Banks at 804-273-2179 with any questions or concerns you may have with this transmittal.

Sincerely,

Cathy C. Taylor for

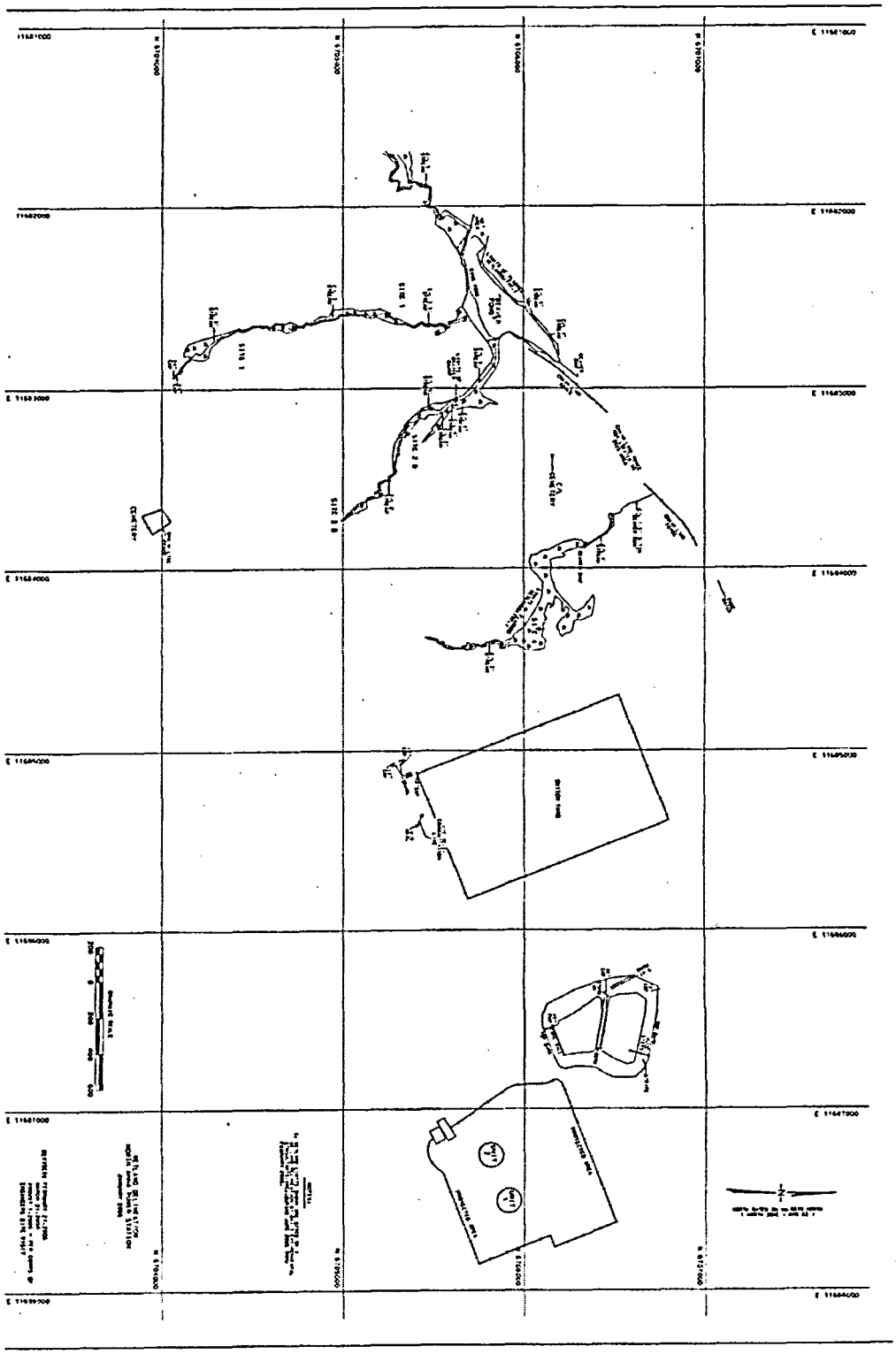
Pamela F. Faggert

Enclosures

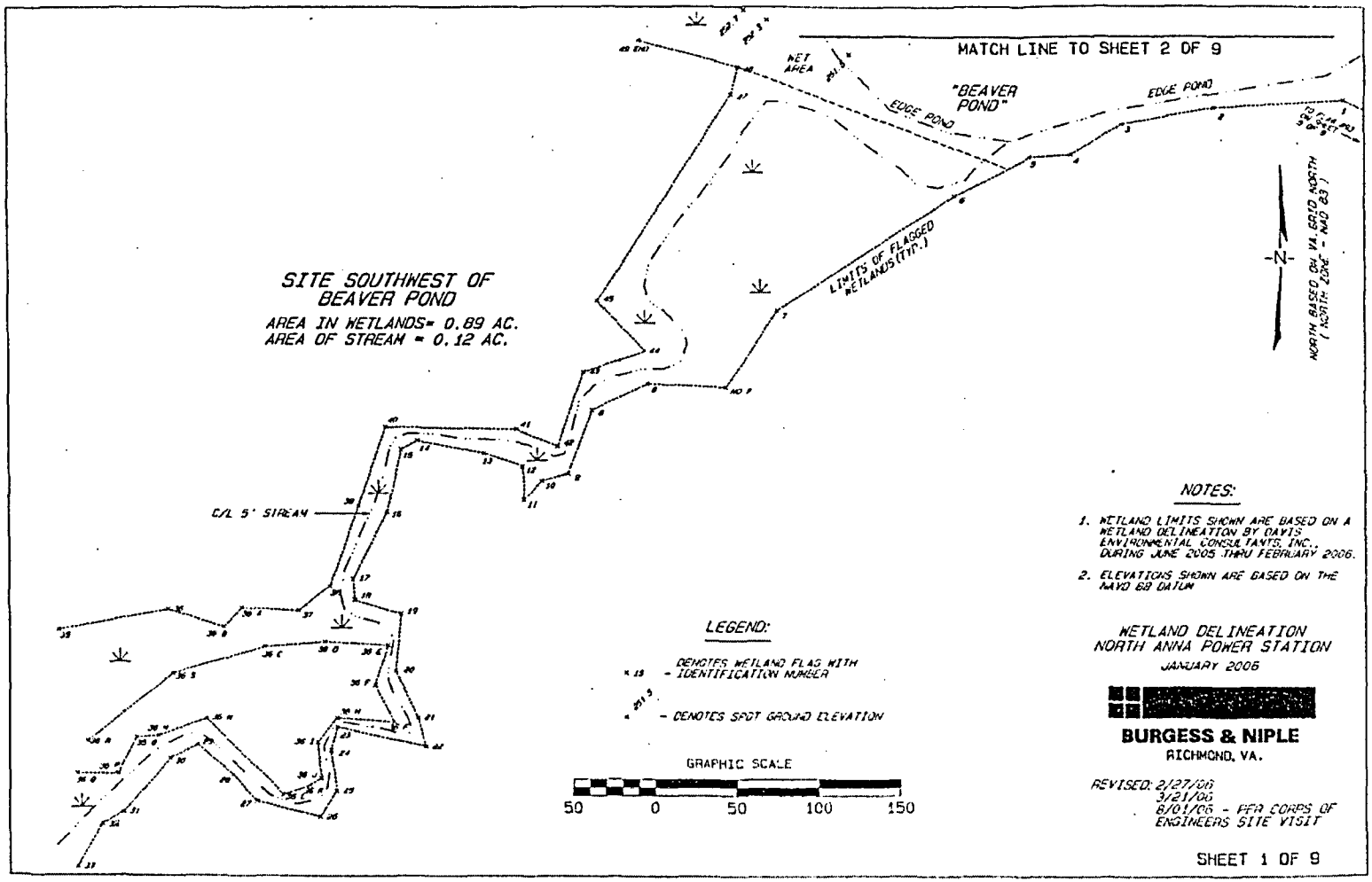
cc: (with attachments)

Mr. Nitin Patel
U.S. Nuclear Regulatory Commission
Washington DC 20555
Docket No. 52-008

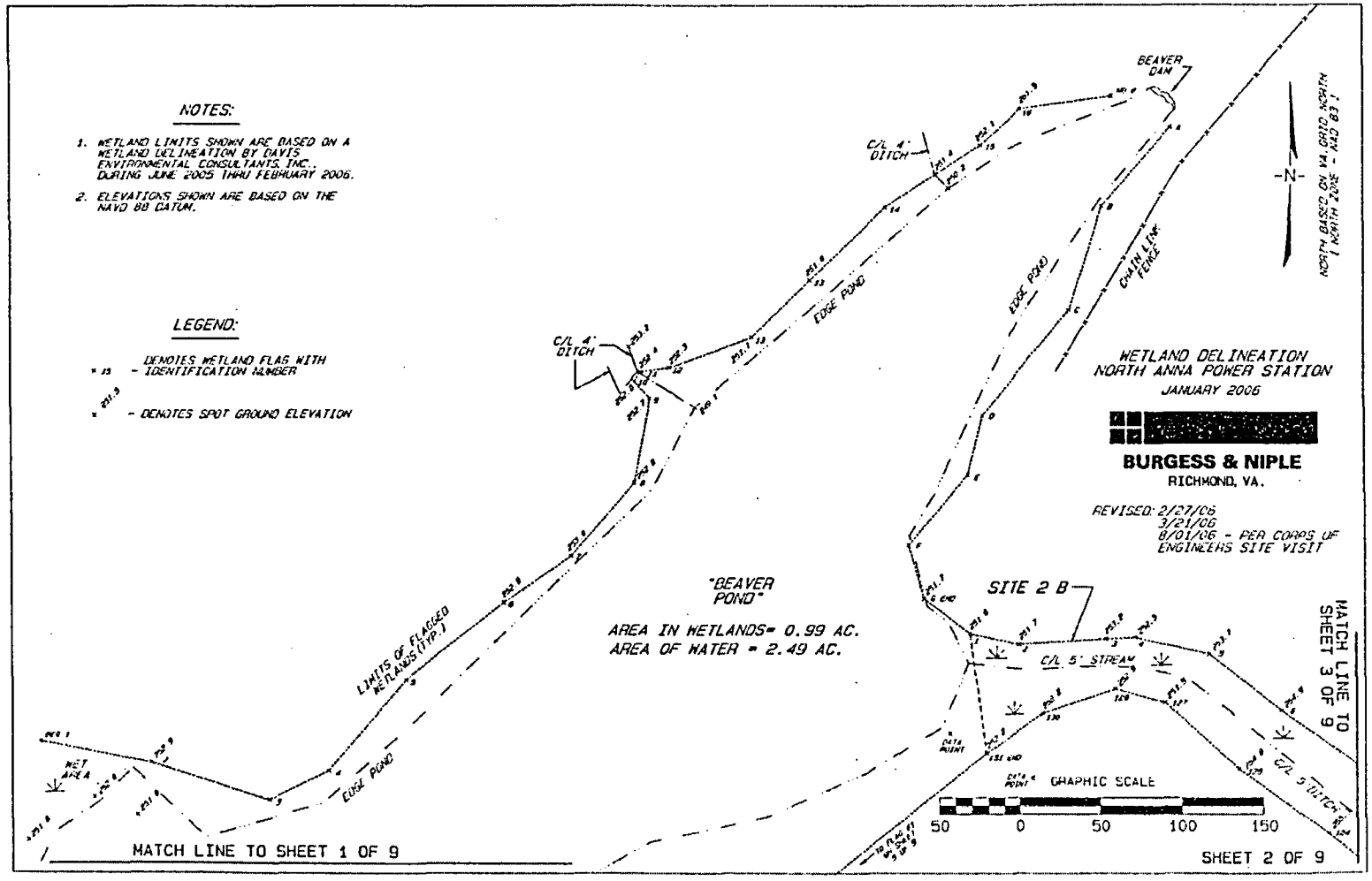
Ms. Joan C. Crowther
Department of Environmental Quality
Northern Regional Office
13901 Crown Court
Woodbridge, VA 22193

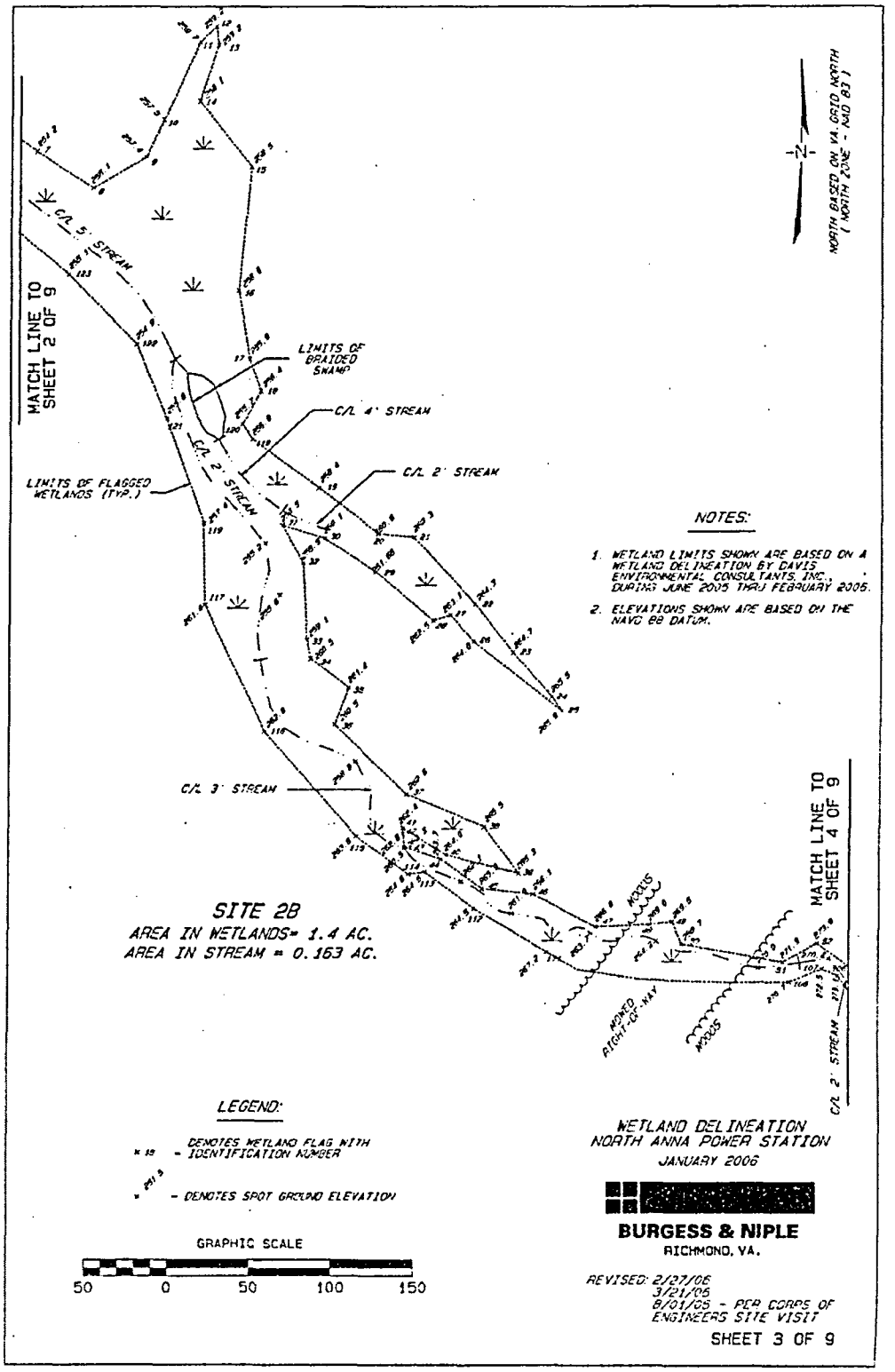


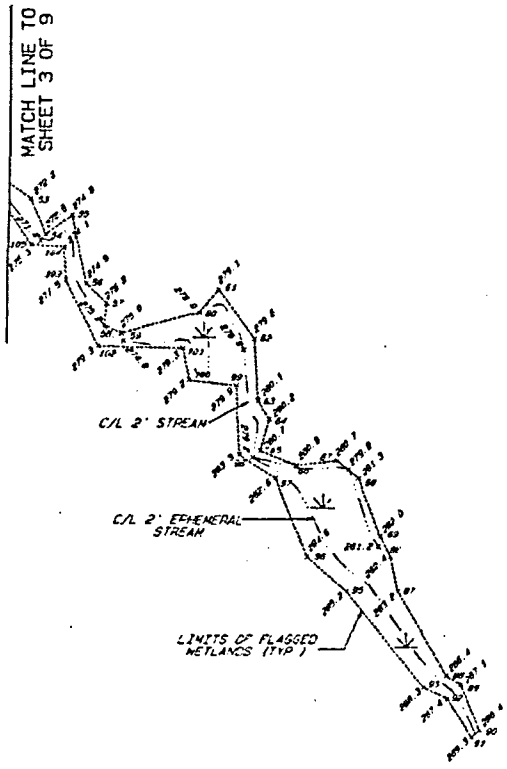
Jack Cushing - 20060906 North Anna Wetland Delineation Revised Submittal.pdf



Jack Cushing - 20060906 North Anna Wetland Delineation Revised Submittal.pdf




MATCH LINE TO SHEET 2 OF 9
C/L 5' STREAM
LIMITS OF BRAIDED SWAMP
C/L 4' STREAM
C/L 2' STREAM
LIMITS OF FLAGGED WETLANDS (TYP.)
C/L 2' STREAM
C/L 3' STREAM
NORTH BASED ON VA. GRID NORTH (NORTH ZONE - NAD 83)
NOTES:
1. WETLAND LIMITS SHOWN ARE BASED ON A WETLAND DELINEATION BY DAVIS ENVIRONMENTAL CONSULTANTS, INC., DURING JUNE 2005 THRU FEBRUARY 2006.
2. ELEVATIONS SHOWN ARE BASED ON THE NAVD 88 DATUM.
SITE 2B
AREA IN WETLANDS= 1.4 AC.
AREA IN STREAM = 0.163 AC.
WOODS
MOWED RIGHT-OF-WAY
WOODS
MATCH LINE TO SHEET 4 OF 9
C/L 2' STREAM
LEGEND:
DENOTES WETLAND FLAG WITH IDENTIFICATION NUMBER
- DENOTES SPOT GROUND ELEVATION
GRAPHIC SCALE
50 0 50 100 150
WETLAND DELINEATION
NORTH ANNA POWER STATION
JANUARY 2006
BURGESS & NIPLE
RICHMOND, VA.
REVISED: 2/27/06
3/21/06
8/01/06 - PER CORPS OF ENGINEERS SITE VISIT
SHEET 3 OF 9



NORTH BASED ON VA. GRID NORTH (NORTH ZONE - NAD 83)

SITE 2B
AREA IN WETLANDS = 1.4 AC.
AREA IN STREAM = 0.163 AC.

NOTES:

1. WETLAND LIMITS SHOWN ARE BASED ON A WETLAND DELINEATION BY DAVIS ENVIRONMENTAL CONSULTANTS INC., DURING JUNE 2005 THRU FEBRUARY 2006.
2. ELEVATIONS SHOWN ARE BASED ON THE NAVD 88 DATUM.

LEGEND:

- DENOTES WETLAND FLAG WITH IDENTIFICATION NUMBER
- DENOTES SPOT GROUND ELEVATION

GRAPHIC SCALE

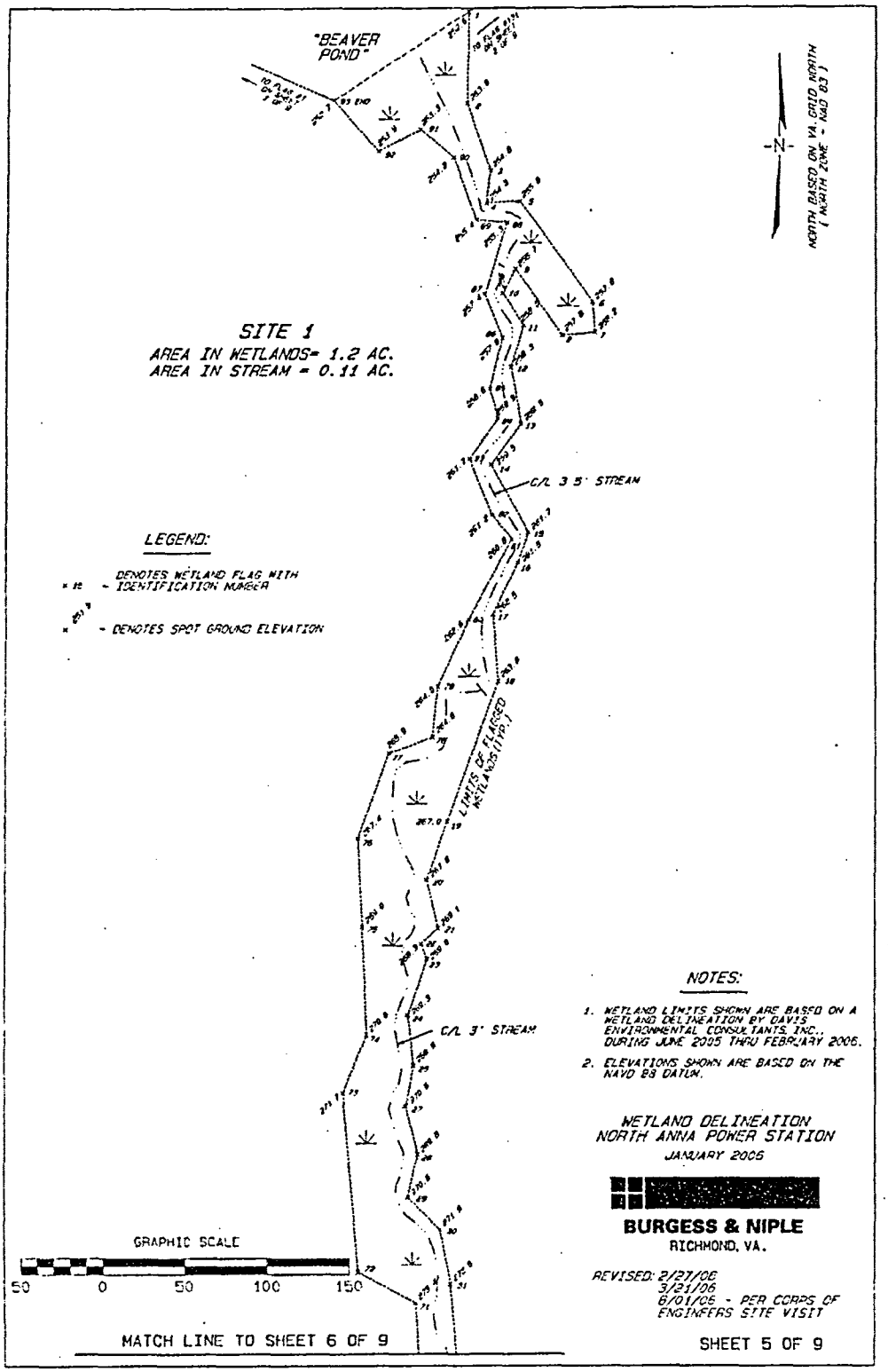
50 0 50 100 150

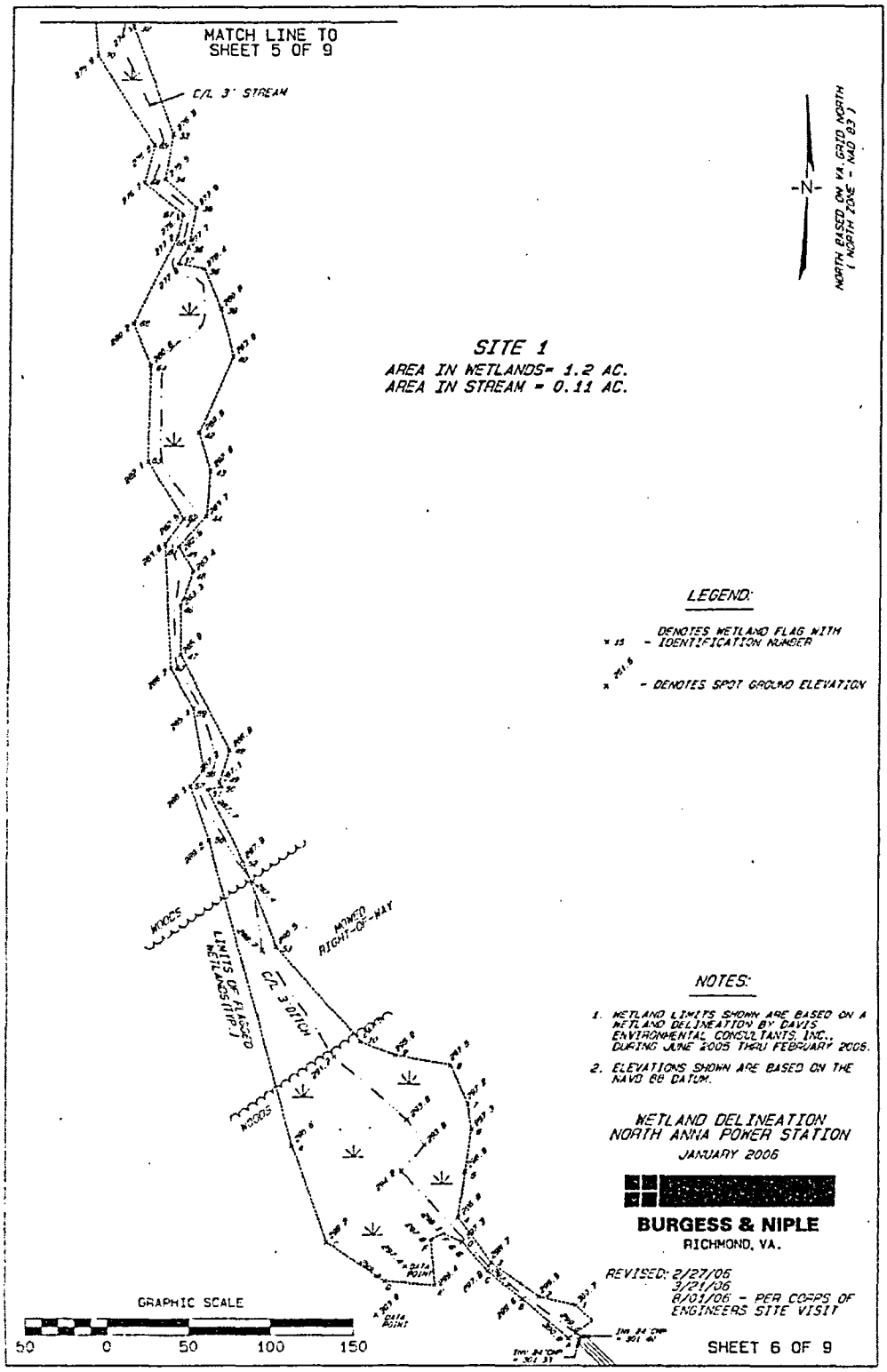
WETLAND DELINEATION
NORTH ANNA POWER STATION
JANUARY 2006

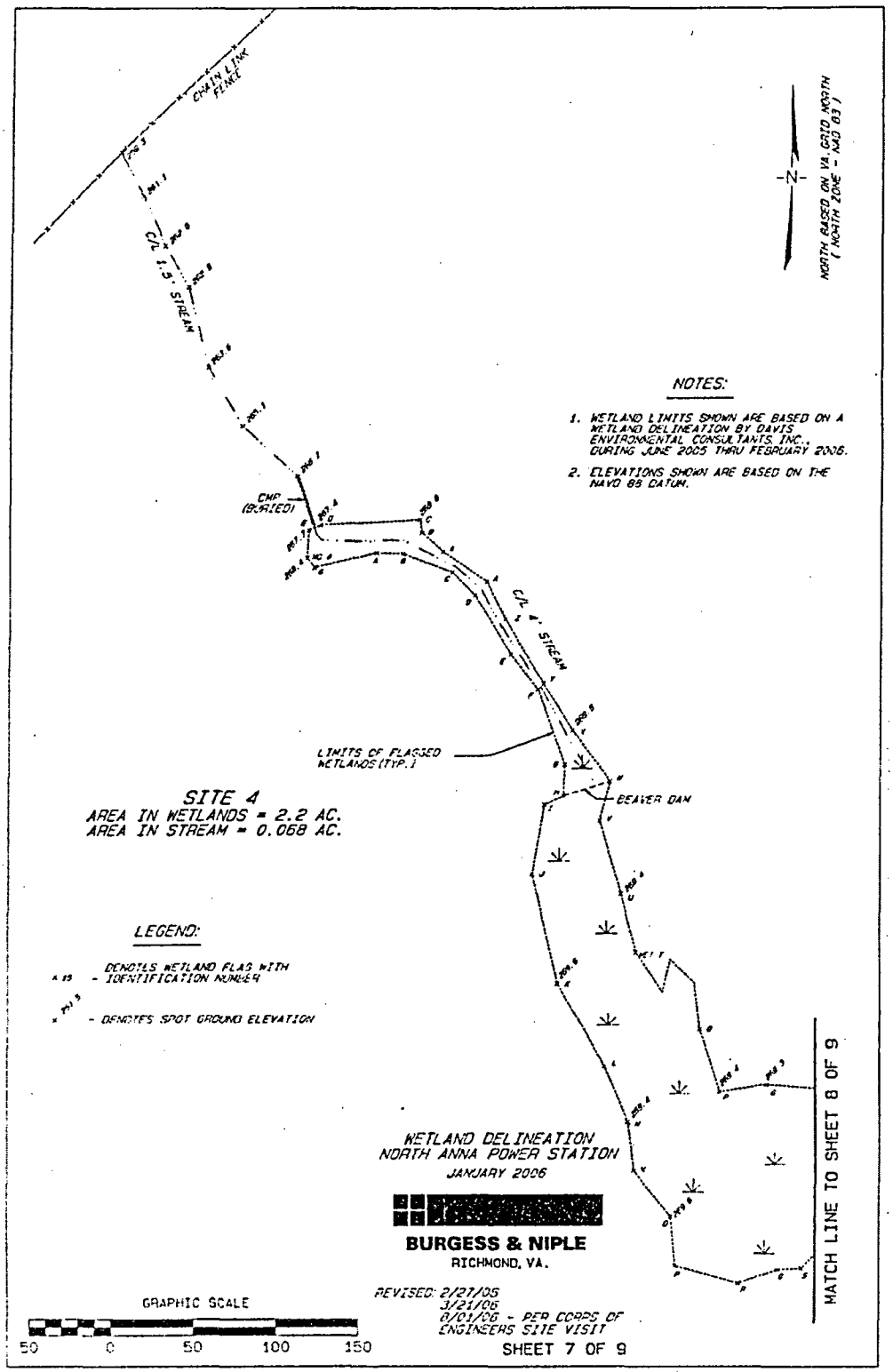
BURGESS & NIPLE
RICHMOND, VA.

REVISED: 2/27/06
3/21/06
8/01/06 - PER CORPS OF ENGINEERS SITE VISIT

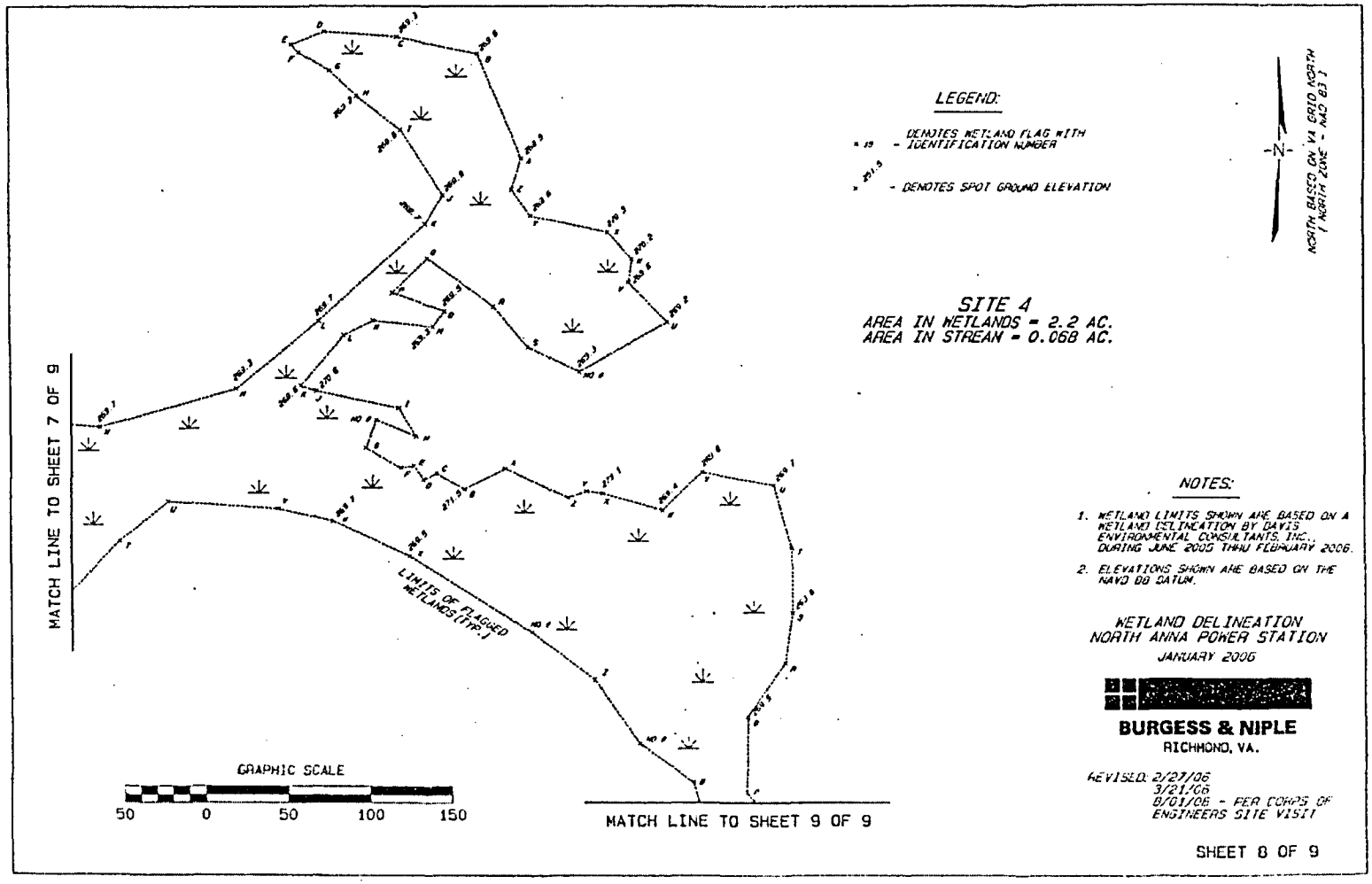
SHEET 4 OF 9


"BEAVER POND"
SITE 1
AREA IN WETLANDS= 1.2 AC.
AREA IN STREAM = 0.11 AC.
C/L 3.5' STREAM
LEGEND:
DENOTES WETLAND FLAG WITH IDENTIFICATION NUMBER
- DENOTES SPOT GROUND ELEVATION
LIMITS OF FLAGGED WETLANDS (TYP.)
C/L 3' STREAM
NOTES:
1. WETLAND LIMITS SHOWN ARE BASED ON A WETLAND DELINEATION BY DAVIS ENVIRONMENTAL CONSULTANTS, INC., DURING JUNE 2005 THRU FEBRUARY 2006.
2. ELEVATIONS SHOWN ARE BASED ON THE NAVD 88 DATUM.
WETLAND DELINEATION
NORTH ANNA POWER STATION
JANUARY 2006
BURGESS & NIPLE
RICHMOND, VA.
REVISED: 2/27/06
3/21/06
6/01/06 - PER CORPS OF ENGINEERS SITE VISIT
GRAPHIC SCALE
50 0 50 100 150
MATCH LINE TO SHEET 6 OF 9
SHEET 5 OF 9
NORTH BASED ON VA. GRID NORTH (NORTH ZONE - NAD 83)
N

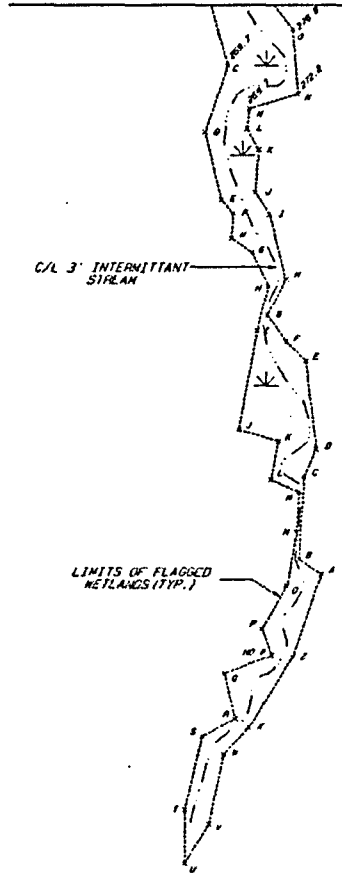

MATCH LINE TO
SHEET 5 OF 9
C/L 3' STREAM
NORTH BASED ON VA. GRID NORTH
(NORTH ZONE - NAD 83)
SITE 1
AREA IN WETLANDS= 1.2 AC.
AREA IN STREAM = 0.11 AC.
LEGEND:
- DENOTES WETLAND FLAG WITH IDENTIFICATION NUMBER
- DENOTES SPOT GROUND ELEVATION
WOODS
MOWED RIGHT-OF-WAY
LIMITS OF FLAGGED WETLANDS (TYP.)
C/L 3' DITCH
WOODS
DATA POINT
NOTES:
1. WETLAND LIMITS SHOWN ARE BASED ON A WETLAND DELINEATION BY DAVIS ENVIRONMENTAL CONSULTANTS, INC., DURING JUNE 2005 THRU FEBRUARY 2006.
2. ELEVATIONS SHOWN ARE BASED ON THE NAVD 88 DATUM.
WETLAND DELINEATION
NORTH ANNA POWER STATION
JANUARY 2006
BURGESS & NIPLE
RICHMOND, VA.
REVISED: 2/27/06
3/21/06
8/01/06 - PER CORPS OF ENGINEERS SITE VISIT
GRAPHIC SCALE
50 0 50 100 150
SHEET 6 OF 9


CHAIN LINK FENCE
C/L 1.5' STREAM
CMP (BURIED)
C/L 4' STREAM
LIMITS OF FLAGGED WETLANDS (TYP.)
BEAVER DAM
NORTH BASED ON VA. GRID NORTH (NORTH ZONE - NAD 83)
N
NOTES:
1. WETLAND LIMITS SHOWN ARE BASED ON A WETLAND DELINEATION BY DAVIS ENVIRONMENTAL CONSULTANTS, INC., DURING JUNE 2005 THRU FEBRUARY 2006.
2. ELEVATIONS SHOWN ARE BASED ON THE NAVD 88 DATUM.
SITE 4
AREA IN WETLANDS = 2.2 AC.
AREA IN STREAM = 0.068 AC.
LEGEND:
DENOTES WETLAND FLAG WITH IDENTIFICATION NUMBER
- DENOTES SPOT GROUND ELEVATION
WETLAND DELINEATION
NORTH ANNA POWER STATION
JANUARY 2006
BURGESS & NIPLE
RICHMOND, VA.
REVISED: 2/27/06
3/21/06
8/01/06 - PER CORPS OF ENGINEERS SITE VISIT
GRAPHIC SCALE
50 0 50 100 150
SHEET 7 OF 9
MATCH LINE TO SHEET 8 OF 9

Jack Cushing - 20060906 North Anna Wetland Delineation Revised Submittal.pdf



MATCH LINE TO SHEET 8 OF 9



SITE 4
AREA IN WETLANDS = 2.2 AC.
AREA IN STREAM = 0.068 AC.

LEGEND:

x 15 - DENOTES WETLAND FLAG WITH IDENTIFICATION NUMBER

x 251.5 - DENOTES SPOT GROUND ELEVATION

N

NORTH BASED ON VA. GRID NORTH (NORTH ZONE - NAD 83)

NOTES:

1. WETLAND LIMITS SHOWN ARE BASED ON A WETLAND DELINEATION BY DAVIS ENVIRONMENTAL CONSULTANTS, INC., DURING JUNE 2005 THRU FEBRUARY 2006
2. ELEVATIONS SHOWN ARE BASED ON THE NAVD 88 DATUM

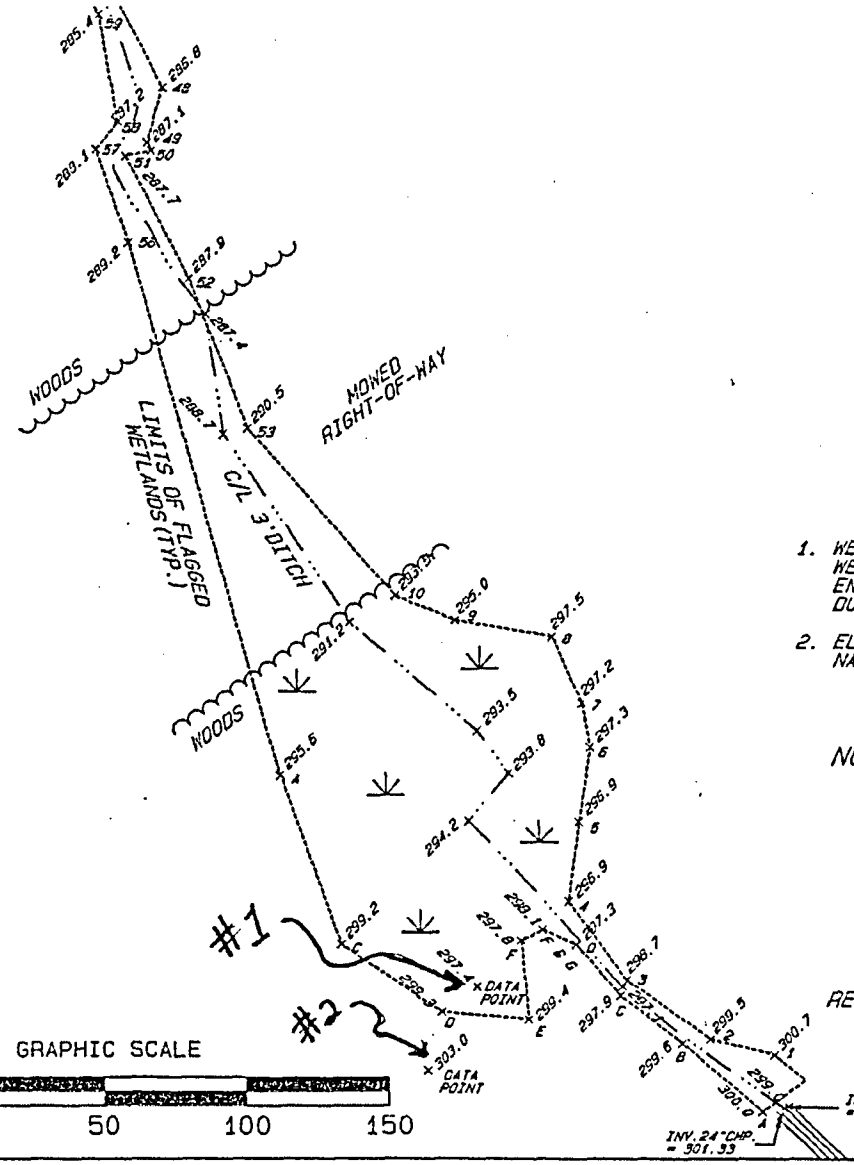
WETLAND DELINEATION
NORTH ANNA POWER STATION
JANUARY 2006

BURGESS & NIPLE
RICHMOND, VA.

REVISED: 2/27/06
3/21/06
8/01/06 - PER CORPS OF ENGINEERS SITE VISIT

GRAPHIC SCALE
50 0 50 100 150

SHEET 9 OF 9



NOTES:

1. WETLAND LIMITS SHOWN ARE BASED ON A WETLAND DELINEATION BY DAVIS ENVIRONMENTAL CONSULTANTS, INC., DURING JUNE 2005 THRU FEBRUARY 2006.
2. ELEVATIONS SHOWN ARE BASED ON THE NAVD 88 DATUM.

WETLAND DELINEATION
NORTH ANNA POWER STATION
JANUARY 2006

BURGESS & NIPLE
RICHMOND, VA.

REVISED: 2/27/06
3/21/06
8/01/06 - PER CORPS OF ENGINEERS SITE VISIT

SHEET 6 OF 9

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: NORTH ANNA POWER STATION
Date: 31 MAY 05
Applicant/Owner: DOMINION Va POWER
County: LOUISA
Investigator: D S DAVIS
State: Va

Do Normal Circumstances exist on the site? (Yes) No
Is the site significantly disturbed (Atypical Situation)? Yes (No)
Is the area a potential Problem Area? Yes (No)
(If needed, explain on reverse.)

Community ID: ____
Transect ID: ____
Plot ID: #1

VEGETATION – See other side

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 100% 9 of 9

Remarks: Meets parameter? YES

HYDROLOGY

___ Recorded Data (describe in remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
___ Water Marks
___ Drift Lines
___ Sediment Deposits
X Saturated in Upper 12 Inches
___ Drainage Patterns in Wetlands

Field Observation:
Depth of Surface Water: ____ (in.)
Depth to Free Water: ____ (in.)
Depth to Saturated Soil: 3 (in.)

Secondary Indicators:
___ Oxidized Root Channels in Upper 12 Inches
___ Water-Stained Leaves
___ Local Soil Survey Data
X FAC-Neutral Test
Other (Explain in Remarks)

Remarks: Meets parameter? YES

SOILS

Map Unit Name (Series & Phase): N/A
Drainage Class: N/A
Field Observations Confirmed Mapped Type? Yes No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
10		10YR 4/1			LOAMY SAND

Hydric Soil Indicators:
___ Histosol
___ Histic Epipedon
___ Sulfide Odor
___ Aquic Moisture Regime
___ Reducing Conditions
X Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks

Remarks: Meets parameter? YES

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is the Sampling Point Within a Wetland? (Yes) No

Remarks: Meets parameter? ____
UNDISTURBED STREAM & W SITE

31 May 05 #1

Trees & Sapplings Species	Indic.	Trees Presence	Sapplings Presence
Acer rubrum	FAC	✓	
Betula nigra	FACW		
Carpinus caroliniana	FAC		
Carya ovata	FACU-		
Celtis occidentalis	FACU		
Cornus florida	FACU-		
Diospyros virginiana	FAC-		
Fagus grandifolia	FACU		
Fraxinus pennsylvanica	FACW		
Ilex opaca	FACU+		
Liquidambar styraciflua	FAC		
Liriodendron tulipifera	FACU		
Magnolia grandiflora	FACU		
Magnolia virginiana	FACW+		
Morus rubra	FACU		
Nyssa sylvatica	FACW+	✓	
Ostrya virginiana	FACU-		
Persea borbonia	FACW		
Pinus serotina	OBL		
Pinus taeda	FAC-		
Platanus occidentalis	FACW-		
Populus heterophylla	FACW+		
Prunus serotina	FACU		
Quercus alba	FACU-		
Quercus falcata	FACU-		
Quercus michauxii	FACW		
Quercus nigra	FAC		
Quercus pagodaefolia	FACW		
Quercus phellos	FAC+		
Quercus prinus	UPL		
Quercus rubra	FACU-		
Salix nigra	FACW+		
Sassafras albidum	FACU-		
Taxodium distichum	OBL		
Ulmus rubra	FAC		

SHRUBS Species	Indic.	Presence
Alnus serrulata	OBL	
Aralia spinosa	FAC	
Arundinaria gigantea	FACW	
Asimina triloba	FACU+	
Baccharis halimifolia	FACW	
Clethra alnifolia	FAC+	
Cornus amomum	FACW	
Euonymus americanus	FAC	✓
Gaylussacia dumosa	FAC	
Hamamelis virginiana	FAC-	
Ilex glabra	FACW-	
Ilex opaca	FACU+	
Itea virginica	OBL	
Iva frutescens	FACW+	
Kalmia angustifolia	FAC	
Leucothoe axillaris	FACW+	
Leucothoe racemosa	FACW	
Ligustrum vulgare	FACU	
Lindera benzoin	FACW-	
Myrica cerifera	FAC	
Rhus copallinum	NI	
Rubus argutus	FACU	
Sambucus canadensis	FACW-	
Symplocos tinctoria	FAC+	
Vaccinium corymbosum	FACW-	
Viburnum dentatum	FAC	
Viburnum nudum	OBL	✓
RHUS VERNIX	OBL	✓

VINES Species	Indic.	Presence
Berchemia scandens	FACW	
Bignonia capreolata	FAC+	
Campsis radicans	FAC	
Decumaria barbara	OBL	
Gelsemium sempervirens	FAC	
Lonicera japonica	FAC-	
Melothria pendula	FAC	
Mikania scandens	FACW+	
Parthenocissus quinquefolia	FACU	
Smilax bona-nox	FACU	
Smilax glauca	FACU	
Smilax laurifolia	OBL	
Smilax rotundifolia	FAC	✓
Toxicodendron radicans	FAC	✓
Vitis rotundifolia	FAC-	
Wisteria frutescens	FACW-	

HERBACEOUS Species	Indic.	Presence
Ambrosia artemisiifolia	FACU	
Asarum arifolium	FACU	
Asparagus officinalis	FACI	
Atriplex patula	FACW	
Bidens sp	OBL	
Boehmeria cylindrica	FACW+	
Chasmanthium laxum	FAC	
Chenopodium album	FACU+	
Cinna arundinacea	FACW+	
Cypripedium acaule	FACU	
Diodia virginiana	FACW	
Duchesnea indica	FACU-	
Echinochloa crusgalli	FAC	
Eleocharis obtusa	OBL	
Eupatorium capillifolium	FACU-	
Geranium maculatum	FACU	
Glyceria striata	OBL	
Impatiens capensis	FACW	
Juncus effusus	FACW+	
Leersia oryzoides	OBL	
Microstegium vimineus	FAC	
Mitchella repens	FACU	
Phytolacca americana	FACU+	
Polygonum arifolium	OBL	
Polygonum pensylvanicum	FACW	
Polygonum punctatum	OBL	
Polygonum sagittatum	OBL	
Polygonum virginianum	FAC	
Rhexia mariana	FACW+	
Rubus argutus	FACU	
Rubus hispidus	FACW	
Rumex acetosella	UPL	
Saururus cernuus	OBL	
Sorghum halepense	FACU	
Tipularia discolor	FACU	
Trifolium repens	FACU-	
Typha spp	OBL	

Ferns	Indic.	Presence
Asplenium platyneuron	FACU	
Athyrium filix-femina	FAC	✓
Onoclea sensibilis	FACW	
Osmunda cinnamomea	FACW	✓
Osmunda regalis	OBL	
Pteridium aquilinum	FACU	
Thelypteris noveboracensis	FAC	
Thelypteris thelypteroides	FACW+	
Woodwardia areolata	FACW+	
Woodwardia virginica	OBL	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: NORTH ANNA POWER STATION
Date: 31 MAY 05
Applicant/Owner: DOMINION VA POWER
County: LOUISA
Investigator: D.S. DAVIS
State: VA

Do Normal Circumstances exist on the site? (Yes) No
Is the site significantly disturbed (Atypical Situation)? Yes (No)
Is the area a potential Problem Area? Yes (No)
(If needed, explain on reverse.)

Community ID: ____
Transect ID: ____
Plot ID: #2

VEGETATION – See other side

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 27% 3 of 11

Remarks: Meets parameter? NO

HYDROLOGY

___ Recorded Data (describe in remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
X No Recorded Data Available

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Saturated in Upper 12 Inches
___ Drainage Patterns in Wetlands

Field Observation:
Depth of Surface Water: ____ (in.)
Depth to Free Water: ____ (in.)
Depth to Saturated Soil: >20 (in.)

Secondary Indicators:
___ Oxidized Root Channels in Upper 12 Inches
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Meets parameter? NO
NO INDICATORS OF WETLAND HYDROLOGY

SOILS

Map Unit Name
(Series & Phase): N/A
Drainage Class: N/A
Field Observations Confirmed Mapped Type? Yes No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
10		10YR 4/4			SANDY LOAM

Hydric Soil Indicators:
___ Histosol
___ Histic Epipedon
___ Sulfide Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks

Remarks: Meets parameter? NO
NOT A HYDRIC SOIL

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

(Circle)
Is the Sampling Point Within a Wetland? Yes (No)

Remarks: Meets parameter? ____
UNDISTURBED STREAM & VL SITE

31 May 05 #2

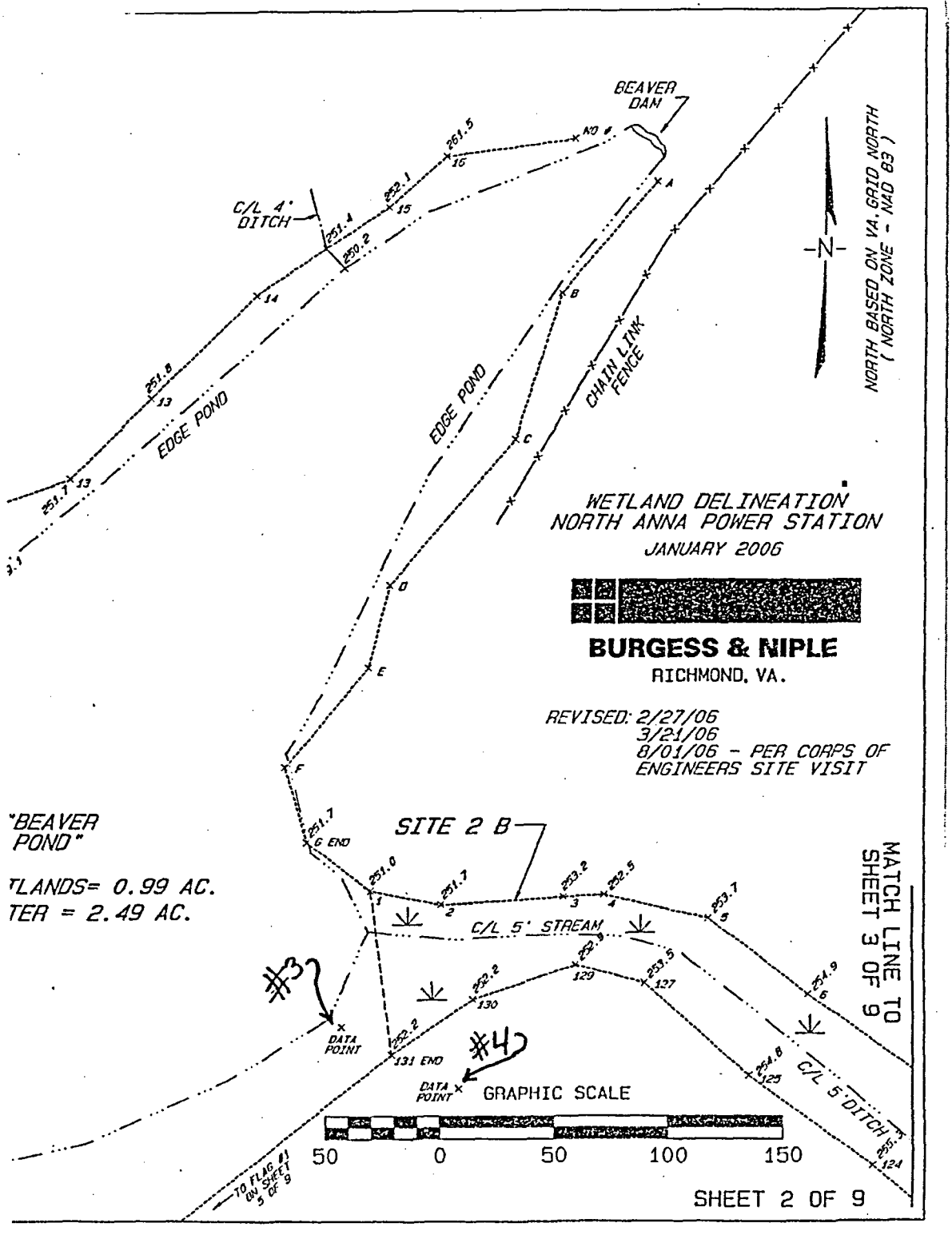
Trees & Sapplings Species	Indic.	Trees Presence	Sapplings Presence
Acer rubrum	FAC		
Betula nigra	FACW	✓	
Carpinus caroliniana	FAC		
Carya ovata	FACU-		
Celtis occidentalis	FACU		
Cornus florida	FACU-		
Diospyros virginiana	FAC-		
Fagus grandifolia	FACU		✓
Fraxinus pennsylvanica	FACW		
Ilex opaca	FACU+		
Liquidamber styraciflua	FAC		
Liriodendron tulipifera	FACU	✓	✓
Magnolia grandiflora	FACU		
Magnolia virginiana	FACW+		
Morus rubra	FACU		
Nyssa sylvatica	FACW+		
Ostrya virginiana	FACU-		
Persea borbonia	FACW		
Pinus serotina	OBL		
Pinus taeda	FAC-		
Platanus occidentalis	FACW-		
Populus heterophylla	FACW+		
Prunus serotina	FACU		
Quercus alba	FACU-	✓	
Quercus falcata	FACU-	✓	
Quercus michauxii	FACW		
Quercus nigra	FAC		
Quercus pagodaefolia	FACW		
Quercus phellos	FAC+		
Quercus prinus	UPL		
Quercus rubra	FACU-		
Salix nigra	FACW+		
Sassafras albidum	FACU-		
Taxodium distichum	OBL		
Ulmus rubra	FAC		
PINUS VIRGIN.	UPL	✓	

SHRUBS Species	Indic.	Presence
Alnus serrulata	OBL	
Aralia spinosa	FAC	
Arundinaria gigantea	FACW	
Asimina triloba	FACU+	
Baccharis halimifolia	FACW	
Clethra alnifolia	FAC+	
Cornus amomum	FACW	
Euonymus americanus	FAC	
Gaylussacia dumosa	FAC	✓
Hamamelis virginiana	FAC-	
Ilex glabra	FACW-	
Ilex opaca	FACU+	
Itea virginica	OBL	
Iva frutescens	FACW+	
Kalmia angustifolia	FAC	
Leucothoe axillaris	FACW+	
Leucothoe racemosa	FACW	
Ligustrum vulgare	FACU	
Lindera benzoin	FACW-	
Myrica cerifera	FAC	
Rhus copallinum	NI	
Rubus argutus	FACU	
Sambucus canadensis	FACW-	
Symplocos tinctoria	FAC+	
Vaccinium corymbosum	FACW-	
Viburnum dentatum	FAC	
Viburnum nudum	OBL	
SASSAFRAS albidum	FACU-	✓

VINES Species	Indic.	Presence
Berchemia scandens	FACW	
Bignonia capreolata	FAC+	
Campsis radicans	FAC	
Decumaria barbara	OBL	
Gelsemium sempervirens	FAC	
Lonicera japonica	FAC-	
Melothria pendula	FAC	
Mikania scandens	FACW+	
Parthenocissus quinquefolia	FACU	
Smilax bona-nox	FACU	
Smilax glauca	FACU	
Smilax laurifolia	OBL	
Smilax rotundifolia	FAC	✓
Toxicodendron radicans	FAC	
Vitis rotundifolia	FAC-	
Wisteria frutescens	FACW-	

HERBACEOUS Species	Indic.	Presence
Ambrosia artemisiifolia	FACU	
Asarum arifolium	FACU	
Asparagus officinalis	FACI	
Atriplex patula	FACW	
Bidens sp	OBL	
Boehmeria cylindrica	FACW+	
Chasmanthium laxum	FAC	
Chenopodium album	FACU+	
Cinna arundinacea	FACW+	
Cypripedium acaule	FACU	
Diodia virginiana	FACW	
Duchesnea indica	FACU-	
Echinochloa crusgalli	FAC	
Eleocharis obtusa	OBL	
Eupatorium capillifolium	FACU-	
Geranium maculatum	FACU	
Glyceria striata	OBL	
Impatiens capensis	FACW	
Juncus effusus	FACW+	
Leersia oryzoides	OBL	
Microstegium vimineus	FAC	
Mitchella repens	FACU	
Phytolacca americana	FACU+	
Polygonum arifolium	OBL	
Polygonum pensylvanicum	FACW	
Polygonum punctatum	OBL	
Polygonum sagittatum	OBL	
Polygonum virginianum	FAC	
Rhexia mariana	FACW+	
Rubus argutus	FACU	
Rubus hispidus	FACW	
Rumex acetosella	UPL	
Saururus cernuus	OBL	
Sorghum halepense	FACU	
Tipularia discolor	FACU	
Trifolium repens	FACU-	
Typha spp	OBL	
CHIMAPHILA MACULATA	UPL	✓

Ferns	Indic.	Presence
Asplenium platyneuron	FACU	
Athyrium filix-femina	FAC	
Onoclea sensibilis	FACW	
Osmunda cinnamomea	FACW	
Osmunda regalis	OBL	
Pteridium aquilinum	FACU	
Thelypteris noveboracensis	FAC	
Thelypteris thelypteroides	FACW+	
Woodwardia areolata	FACW+	
Woodwardia virginica	OBL	


BEAVER DAM
C/L 4' DITCH
EDGE POND
EDGE POND
CHAIN LINK FENCE
NORTH BASED ON VA. GRID NORTH (NORTH ZONE - NAD 83)
WETLAND DELINEATION
NORTH ANNA POWER STATION
JANUARY 2006
BURGESS & NIPLE
RICHMOND, VA.
REVISED: 2/27/06
3/21/06
8/01/06 - PER CORPS OF ENGINEERS SITE VISIT
"BEAVER POND"
TLANDS= 0.99 AC.
TER = 2.49 AC.
SITE 2 B
C/L 5' STREAM
C/L 5' DITCH
DATA POINT
#3
#4
GRAPHIC SCALE
50 0 50 100 150
MATCH LINE TO SHEET 3 OF 9
SHEET 2 OF 9

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: NORTH ANNA POWER STATION
Date: 4 JAN 06
Applicant/Owner: DOMINION VA POWER
County: LOUISA
Investigator: D.S. DAVIS
State: VA

Do Normal Circumstances exist on the site? (Yes) No
Is the site significantly disturbed (Atypical Situation)? Yes (No)
Is the area a potential Problem Area? Yes (No)
(If needed, explain on reverse.)

Community ID: ____
Transect ID: ____
Plot ID: #3

VEGETATION – See other side

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 80% 4 OF 5

Remarks: Meets parameter? YES

HYDROLOGY

___ Recorded Data (describe in remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
✓ No Recorded Data Available

Wetland Hydrology Indicators:
Primary Indicators:
✓ Inundated
___ Water Marks
___ Drift Lines
___ Sediment Deposits
✓ Saturated in Upper 12 Inches
___ Drainage Patterns in Wetlands

Field Observation:
Depth of Surface Water: 1 (in.)
Depth to Free Water: ____ (in.)
Depth to Saturated Soil: ____ (in.)

Secondary Indicators:
___ Oxidized Root Channels in Upper 12 Inches
✓ Water-Stained Leaves
___ Local Soil Survey Data
✓ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Meets parameter? YES

SOILS

Map Unit Name (Series & Phase): N/A
Drainage Class: N/A
Field Observations Confirmed Mapped Type? Yes No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
10		10YR5/1			SANDY ALUVIUM

Hydric Soil Indicators:
___ Histosol
___ Histic Epipedon
___ Sulfide Odor
___ Aquic Moisture Regime
✓ Reducing Conditions
✓ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks

Remarks: Meets parameter? YES

WETLAND DETERMINATION

Hydrophytic Vegetation Present? (Yes) No (Circle)
Wetland Hydrology Present? (Yes) No
Hydric Soils Present? (Yes) No

(Circle)
Is the Sampling Point Within a Wetland? (Yes) No

Remarks: Meets parameter? ____

EDGE OF BEAVER POND

4 Jan 06 #3

Trees & Sapplings Species	Indic.	Trees Presence	Sapplings Presence
Acer rubrum	FAC		
Betula nigra	FACW	✓	
Carpinus caroliniana	FAC		
Carya ovata	FACU-		
Celtis occidentalis	FACU		
Cornus florida	FACU-		
Diospyros virginiana	FAC-		
Fagus grandifolia	FACU		
Fraxinus pennsylvanica	FACW		
Ilex opaca	FACU+		
Liquidambar styraciflua	FAC		
Liriodendron tulipifera	FACU		
Magnolia grandiflora	FACU		
Magnolia virginiana	FACW+		
Morus rubra	FACU		
Nyssa sylvatica	FACW+		
Ostrya virginiana	FACU-		
Persea borbonia	FACW		
Pinus serotina	OBL		
Pinus taeda	FAC-		
Platanus occidentalis	FACW-		
Populus heterophylla	FACW+		
Prunus serotina	FACU		
Quercus alba	FACU-		
Quercus falcata	FACU-		
Quercus michauxii	FACW		
Quercus nigra	FAC		
Quercus pagodaefolia	FACW		
Quercus phellos	FAC+		
Quercus prinus	UPL		
Quercus rubra	FACU-		
Salix nigra	FACW+		
Sassafras albidum	FACU-		
Taxodium distichum	OBL		
Ulmus rubra	FAC		

SHRUBS Species	Indic.	Presence
Alnus serrulata	OBL	✓
Aralia spinosa	FAC	
Arundinaria gigantea	FACW	
Asimina triloba	FACU+	
Baccharis halimifolia	FACW	
Clethra alnifolia	FAC+	
Cornus amomum	FACW	
Euonymus americanus	FAC	
Gaylussacia dumosa	FAC	
Hamamelis virginiana	FAC-	
Ilex glabra	FACW-	
Ilex opaca	FACU+	
Itea virginica	OBL	
Iva frutescens	FACW+	
Kalmia angustifolia	FAC	
Leucothoe axillaris	FACW+	
Leucothoe racemosa	FACW	
Ligustrum vulgare	FACU	
Lindera benzoin	FACW-	
Myrica cerifera	FAC	
Rhus copallinum	NI	
Rubus argutus	FACU	
Sambucus canadensis	FACW-	
Symplocos tinctoria	FAC+	
Vaccinium corymbosum	FACW-	
Viburnum dentatum	FAC	
Viburnum nudum	OBL	

VINES Species	Indic.	Presence
Berchemia scandens	FACW	
Bignonia capreolata	FAC+	
Campsis radicans	FAC	
Decumaria barbara	OBL	
Gelsemium sempervirens	FAC	
Lonicera japonica	FAC-	
Melothria pendula	FAC	
Mikania scandens	FACW+	
Parthenocissus quinquefolia	FACU	
Smilax bona-nox	FACU	
Smilax glauca	FACU	
Smilax laurifolia	OBL	
Smilax rotundifolia	FAC	
Toxicodendron radicans	FAC	
Vitis rotundifolia	FAC-	
Wisteria frutescens	FACW-	

HERBACEOUS Species	Indic.	Presence
Ambrosia artemisiifolia	FACU	
Asarum arifolium	FACU	
Asparagus officinalis	FACI	
Atriplex patula	FACW	
Bidens sp	OBL	
Boehmeria cylindrica	FACW+	✓
Chasmanthium laxum	FAC	
Chenopodium album	FACU+	
Cinna arundinacea	FACW+	
Cypripedium acaule	FACU	
Diodia virginiana	FACW	
Duchesnea indica	FACU-	
Echinochloa crusgalli	FAC	
Eleocharis obtusa	OBL	
Eupatorium capillifolium	FACU-	
Geranium maculatum	FACU	
Glyceria striata	OBL	
Impatiens capensis	FACW	
Juncus effusus	FACW+	
Leersia oryzoides	OBL	
Microstegium vimineus	FAC	
Mitchella repens	FACU	
Phytolacca americana	FACU+	
Polygonum arifolium	OBL	
Polygonum pensylvanicum	FACW	
Polygonum punctatum	OBL	
Polygonum sagittatum	OBL	
Polygonum virginianum	FAC	
Rhexia mariana	FACW+	
Rubus argutus	FACU	
Rubus hispidus	FACW	
Rumex acetosella	UPL	
Saururus cernuus	OBL	
Sorghum halepense	FACU	
Tipularia discolor	FACU	
Trifolium repens	FACU-	
Typha spp	OBL	
SCIRPUS CYP.	FACW+	✓
SPHAGNUM	NI	✓

Ferns	Indic.	Presence
Asplenium platyneuron	FACU	
Athyrium filix-femina	FAC	
Onoclea sensibilis	FACW	
Osmunda cinnamomea	FACW	
Osmunda regalis	OBL	
Pteridium aquilinum	FACU	
Thelypteris noveboracensis	FAC	
Thelypteris thelypteroides	FACW+	
Woodwardia areolata	FACW+	
Woodwardia virginica	OBL	

DATA FORM
ROUTINE WETLAND DETERMINATION
(1987 COE Wetlands Delineation Manual)

Project/Site: NORTH ANNA POWER STATION
Date: 4 JAN 06
Applicant/Owner: DOMINION VA POWER
County: LOUISA
Investigator: D. S. DAVIS
State: VA

Do Normal Circumstances exist on the site? (Yes) No
Community ID:
Is the site significantly disturbed (Atypical Situation)? Yes (No)
Transect ID:
Is the area a potential Problem Area? Yes (No)
(If needed, explain on reverse.)
Plot ID: #4

VEGETATION – See other side

Percent of Dominant Species that are OBL, FACW or FAC (excluding FAC-) 20% 1 OF 5

Remarks: Meets parameter? NO

HYDROLOGY

___ Recorded Data (describe in remarks):
___ Stream, Lake, or Tide Gauge
___ Aerial Photographs
___ Other
✓ No Recorded Data Available

Wetland Hydrology Indicators:
Primary Indicators:
___ Inundated
___ Water Marks
___ Drift Lines
___ Sediment Deposits
___ Saturated in Upper 12 Inches
___ Drainage Patterns in Wetlands

Field Observation:
Depth of Surface Water: ___ (in.)
Depth to Free Water: ___ (in.)
Depth to Saturated Soil: >20 (in.)

Secondary Indicators:
___ Oxidized Root Channels in Upper 12 Inches
___ Water-Stained Leaves
___ Local Soil Survey Data
___ FAC-Neutral Test
___ Other (Explain in Remarks)

Remarks: Meets parameter? NO

SOILS

Map Unit Name (Series & Phase): N/A
Drainage Class: N/A
Field Observations Confirmed Mapped Type? Yes No

Profile Description:

Depth (Inches)	Horizon	Matrix Color (Munsell Moist)	Mottle Colors (Munsell Moist)	Mottle Abundance/Contrast	Texture, Concretions Structure, etc.
10		10YR5/4			COARSE SANDY LOAM

Hydric Soil Indicators:
___ Histosol
___ Histic Epipedon
___ Sulfide Odor
___ Aquic Moisture Regime
___ Reducing Conditions
___ Gleyed or Low-Chroma Colors
___ Concretions
___ High Organic Content in Surface Layer in Sandy Soils
___ Organic Streaking in Sandy Soils
___ Listed on Local Hydric Soils List
___ Listed on National Hydric Soils List
___ Other (Explain in Remarks)

Remarks: Meets parameter? NO

WETLAND DETERMINATION

Hydrophytic Vegetation Present? Yes (No) (Circle)
Wetland Hydrology Present? Yes (No)
Hydric Soils Present? Yes (No)

(Circle)
Is the Sampling Point Within a Wetland? Yes (No)

Remarks: Meets parameter? ___

SITE IS ON HILLSIDE NEXT TO BEAVER POND

4 Jan 06 #4

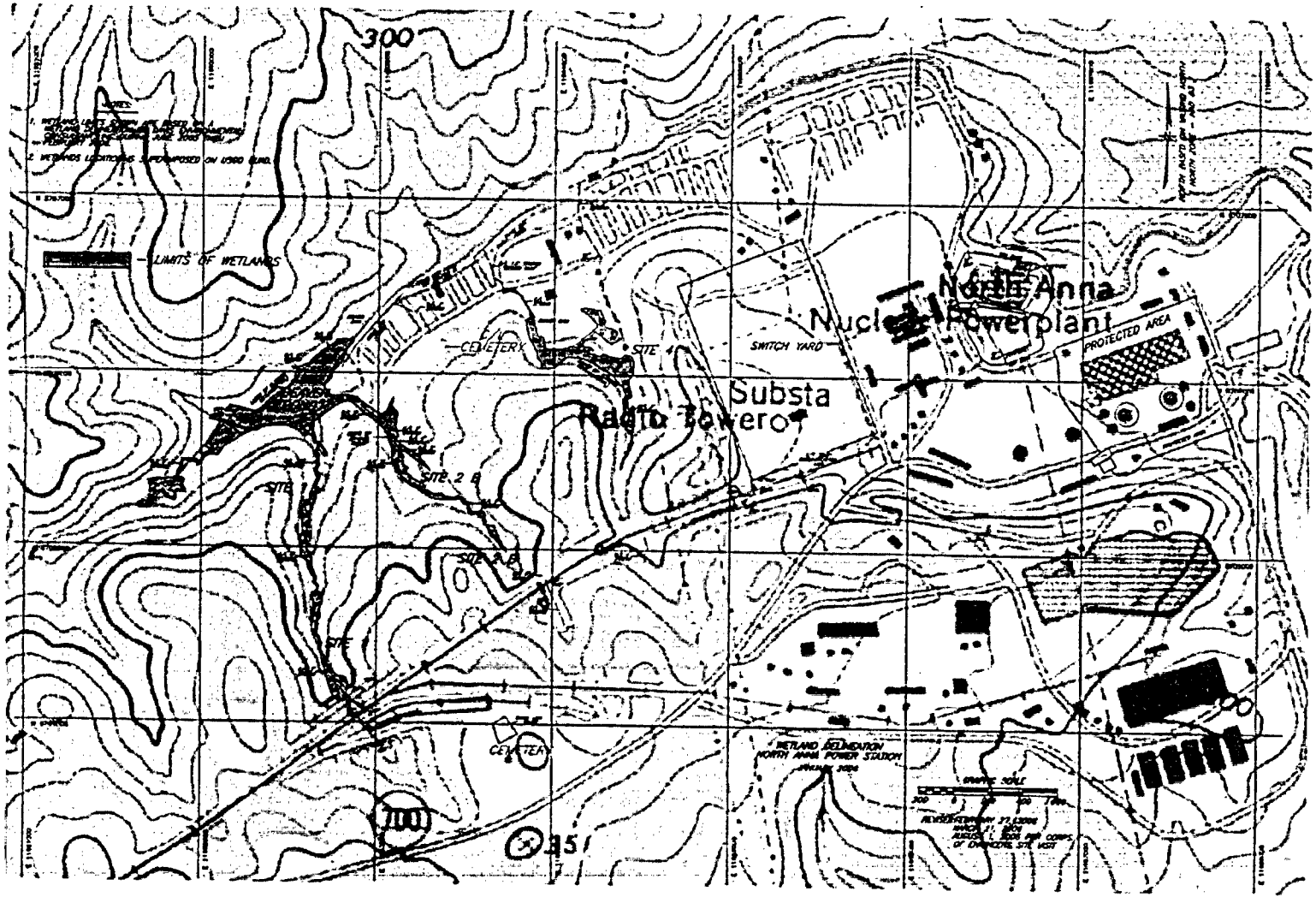
Trees & Sapplings Species	Indic.	Trees Presence	Sapplings Presence
Acer rubrum	FAC		
Betula nigra	FACW		
Carpinus caroliniana	FAC		
Carya ovata	FACU-		✓
Celtis occidentalis	FACU		
Cornus florida	FACU-		
Diospyros virginiana	FAC-		
Fagus grandifolia	FACU	✓	
Fraxinus pennsylvanica	FACW		
Ilex opaca	FACU+		
Liquidamber styraciflua	FAC		✓
Liriodondron tulipifera	FACU		
Magnolia grandiflora	FACU		
Magnolia virginiana	FACW+		
Morus rubra	FACU		
Nyssa sylvatica	FACW+		
Ostrya virginiana	FACU-		
Persea borbonia	FACW		
Pinus serotina	OBL		
Pinus taeda	FAC-		
Platanus occidentalis	FACW-		
Populus heterophylla	FACW+		
Prunus serotina	FACU		
Quercus alba	FACU-	✓	
Quercus falcata	FACU-		
Quercus micheauxii	FACW		
Quercus nigra	FAC		
Quercus pagodaefolia	FACW		
Quercus phellos	FAC+		
Quercus prinus	UPL		
Quercus rubra	FACU-		
Salix nigra	FACW+		
Sassafras albidum	FACU-		
Taxodium distichum	OBL		
Ulmus rubra	FAC		

SHRUBS Species	Indic.	Presence
Alnus serrulata	OBL	
Aralia spinosa	FAC	
Arundinaria gigantea	FACW	
Asimina triloba	FACU+	
Baccharis halimifolia	FACW	
Clethra alnifolia	FAC+	
Cornus amomum	FACW	
Euonymus americanus	FAC	
Gaylussacia dumosa	FAC	
Hamamelis virginiana	FAC-	
Ilex glabra	FACW-	
Ilex opaca	FACU+	
Itea virginicia	OBL	
Iva frutescens	FACW+	
Kalmia angustifolia	FAC	
Leucothoe axillaris	FACW+	
Leucothoe racemosa	FACW	
Ligustrum vulgare	FACU	
Lindera benzoin	FACW-	
Myrica cerifera	FAC	
Rhus copallinum	NI	
Rubus argutus	FACU	
Sambucus canadensis	FACW-	
Symplocos tinctoria	FAC+	
Vaccinium corymbosum	FACW-	
Viburnum dentatum	FAC	
Viburnum nudum	OBL	

VINES Species	Indic.	Presence
Berchemia scandens	FACW	
Bignonia capreolata	FAC+	
Campsis radicans	FAC	
Decumaria barbara	OBL	
Gelsemium sempervirens	FAC	
Lonicera japonica	FAC-	
Melothria pendula	FAC	
Mikania scandens	FACW+	
Parthenocissus quinquefolia	FACU	
Smilax bona-nox	FACU	
Smilax glauca	FACU	
Smilax laurifolia	OBL	
Smilax rotundifolia	FAC	
Toxicodendron radicans	FAC	
Vitis rotundifolia	FAC-	
Wisteria frutescens	FACW-	

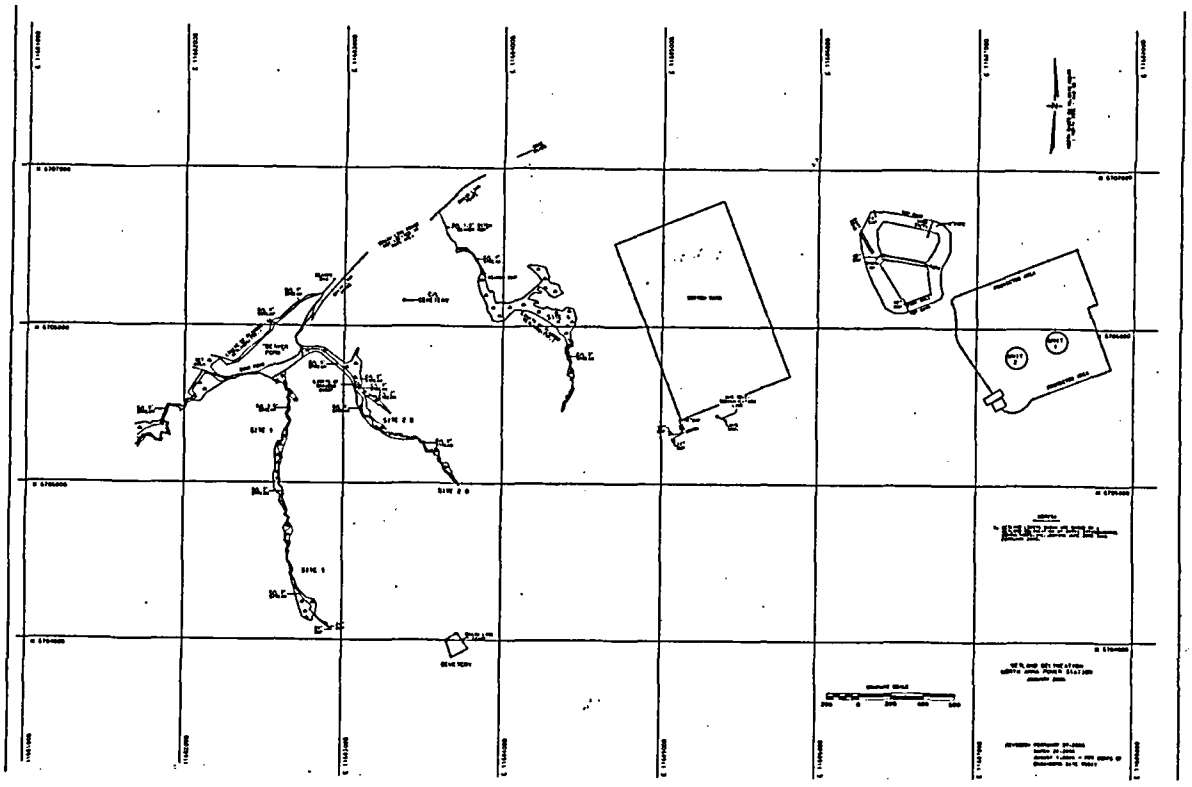
HERBACEOUS Species	Indic.	Presence
Ambrosia artemisiifolia	FACU	
Asarum arifolium	FACU	
Asparagus officinalis	FACI	
Atriplex patula	FACW	
Bidens sp	OBL	
Boehmeria cylindrica	FACW+	
Chasmanthium laxum	FAC	
Chenopodium album	FACU+	
Cinna arundinacea	FACW+	
Cypripedium acaule	FACU	
Diodia virginiana	FACW	
Duchesnea indica	FACU-	
Echinochloa crusgalli	FAC	
Eleocharis obtusa	OBL	
Eupatorium capillifolium	FACU-	
Geranium maculatum	FACU	
Glyceria striata	OBL	
Impatiens capensis	FACW	
Juncus effusus	FACW+	
Leersia oryzoides	OBL	
Microstegium vimineus	FAC	
Mitchella repens	FACU	
Phytolacca americana	FACU+	
Polygonum arifolium	OBL	
Polygonum pensylvanicum	FACW	
Polygonum punctatum	OBL	
Polygonum sagittatum	OBL	
Polygonum virginianum	FAC	
Rhexia mariana	FACW+	
Rubus argutus	FACU	
Rubus hispidus	FACW	
Rumex acetosella	UPL	
Saururus cernuus	OBL	
Sorghum halepense	FACU	
Tipularia discolor	FACU	
Trifolium repens	FACU-	
Typha spp	OBL	
CHIMAPHILA MACULATA	UPL	✓

Ferns	Indic.	Presence
Asplenium platyneuron	FACU	
Athyrium filix-femina	FAC	
Onoclea sensibilis	FACW	
Osmunda cinnamomea	FACW	
Osmunda regalis	OBL	
Pteridium aquilinum	FACU	
Thelypteris noveboracensis	FAC	
Thelypteris thelypteroides	FACW+	
Woodwardia areolata	FACW+	
Woodwardia virginica	OBL	


300
LIMITS OF WETLANDS
CEMETERY
SITE 1
SITE 2 B
SITE 2 A
SITE
Radio Tower
Substa
SWITCH YARD
North Anna
Powerplant
PROTECTED AREA
CEMETERY
WETLAND DELINEATION
NORTH ANNA POWER STATION
GRAPHIC SCALE
700
35

NORTH ANNA POWER STATION
LINEAR FOOTAGE OF STREAMS WITHIN THE DELINEATED WETLANDS

SITE DESCRIPTION	FOOTAGE OF STREAM
SW of Beaver Pond	
5' Stream - SW of Beaver pond	1082.5'
Site 1	
3.5' Stream - Site 1	442.0'
3' Stream - Site 1	1436.1'
Site 2B	
2' Ephemeral Stream - Site 2B	294.0'
2' Stream - Site 2B, East of mowed R/W	339.7'
3' Stream - Site 2B	426.0'
2' Streams - Site 2B, West of mowed R/W	244.9'
4' Stream - Site 2B	59.3'
5' Stream - Site 2B	402.4'
Site 4	
4' Stream - Site 4	252.4'
3' Intermittent Stream - Site 4	533.4'
Total Linear Footage of Streams	**5513'**

Revised per Site visit from Corps of Engineers - August 1, 2006

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