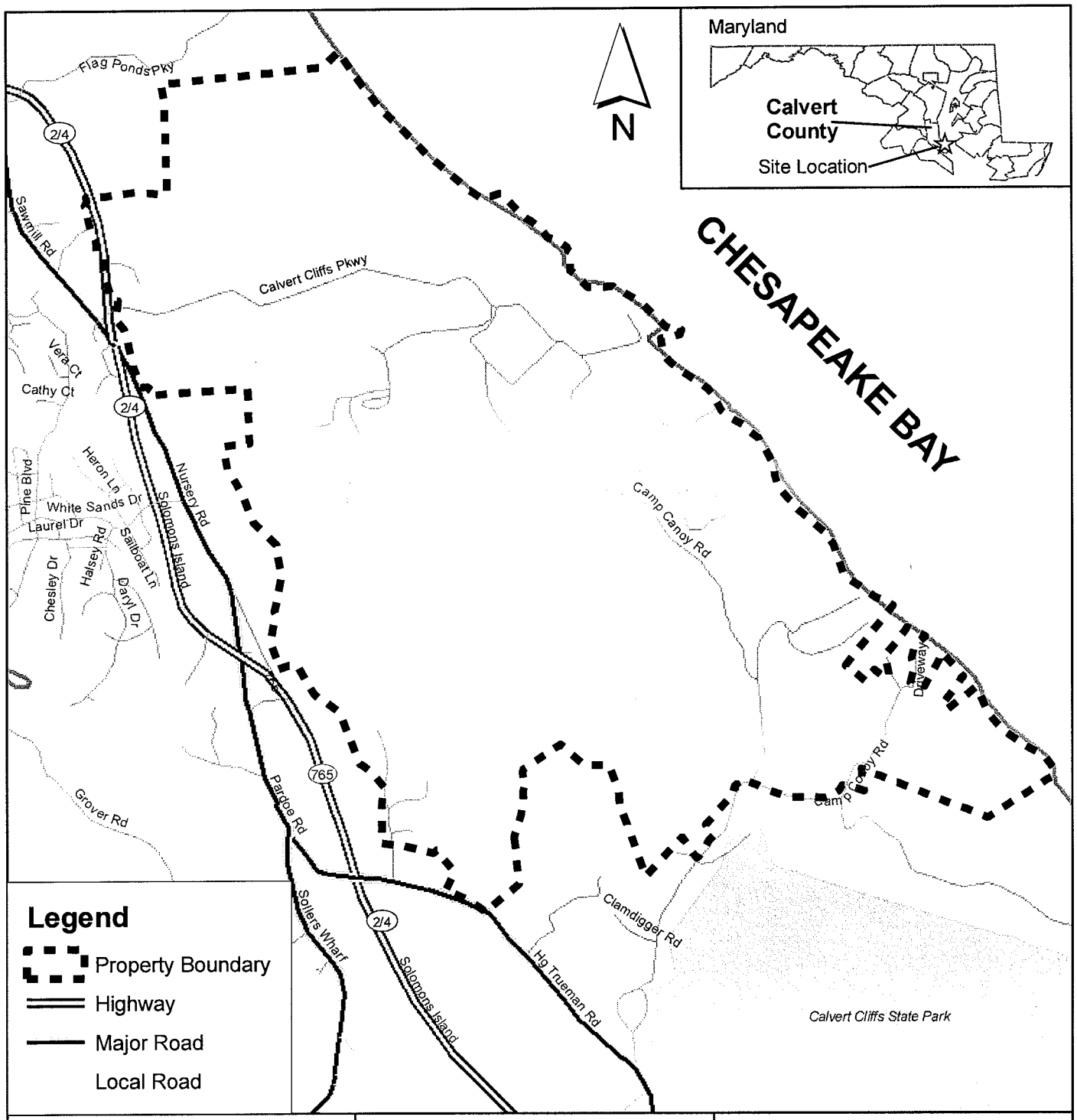
Joint Federal/State Application to the United States Army Corps of Engineers and the Maryland Department of the Environment for the Alteration of any Floodplain, Waterway, Tidal or Nontidal Wetland in Maryland

FIGURES



PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

SITE LOCATION
FIGURE 1

SCALE IN FEET

0 2,000 4,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 1 OF 29 DATE: 05/12/08

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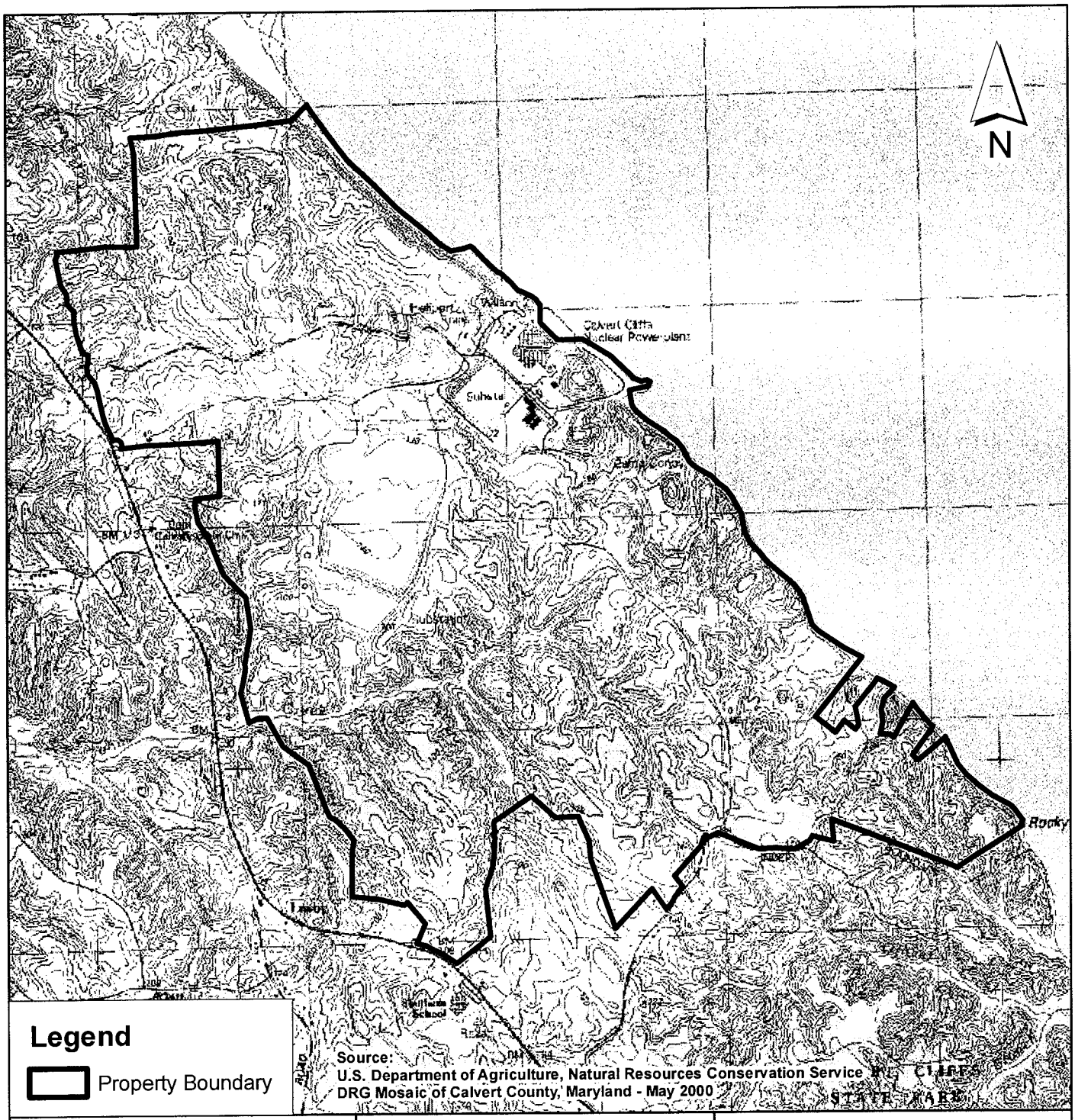

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

USGS 7.5 MINUTE TOPOGRAPHIC QUADRANGLE FIGURE 2

SCALE IN FEET

0 2,000 4,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 2 OF 29 DATE: 05/12/08

Map Document: (G:\Calvert Cliffs\frozen_5_1_08\404\mxds\fig2_USGS_Topo.mxd)
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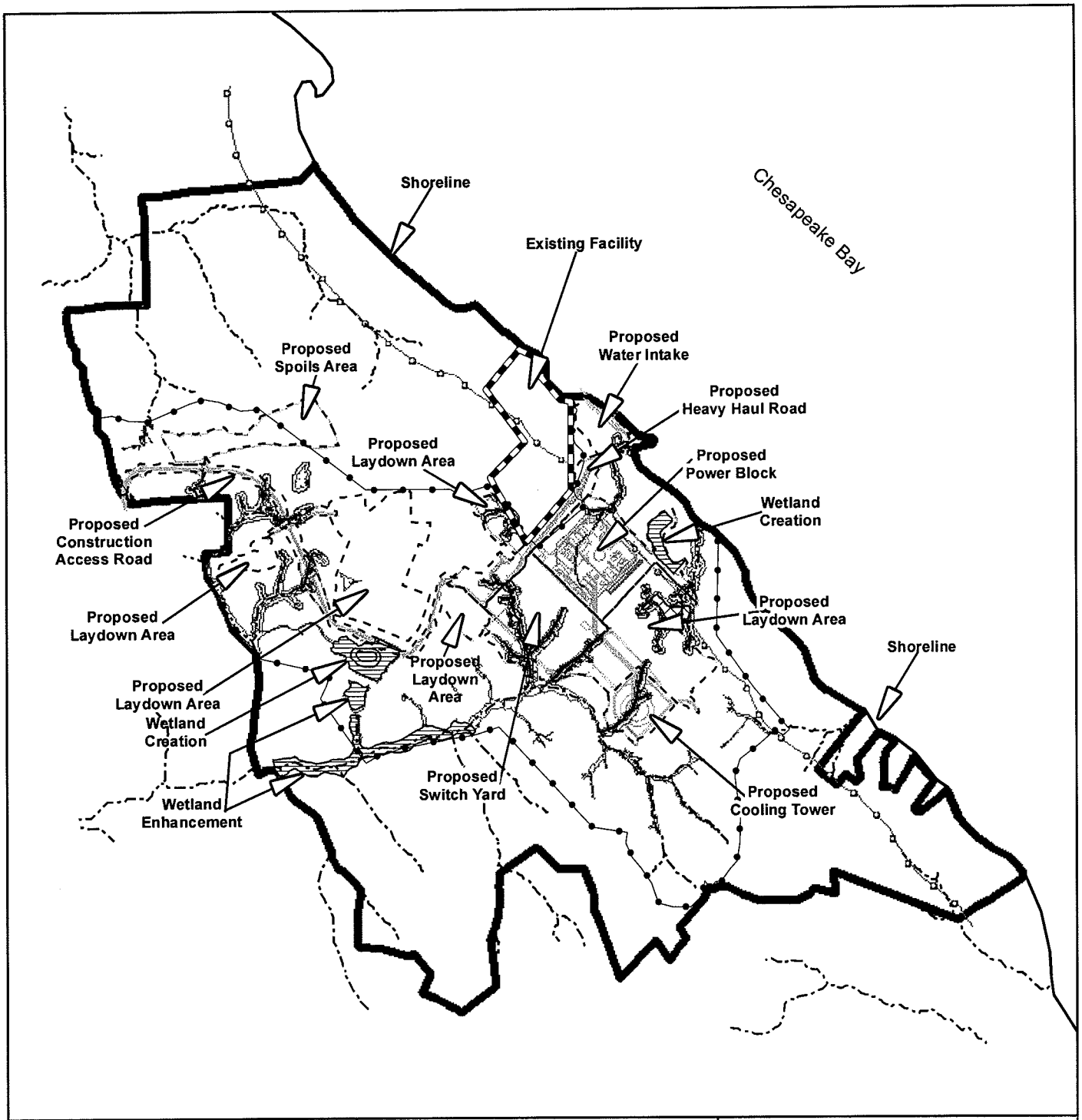

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE PLAN
FIGURE 3

SCALE IN FEET

0 2,000 4,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 3 OF 29 DATE: 5/9/08

Map Document: (G:\Calvert Cliffs\frozen_5_1_08\404\mxds\figure3__SITE_PLAN.mxd)
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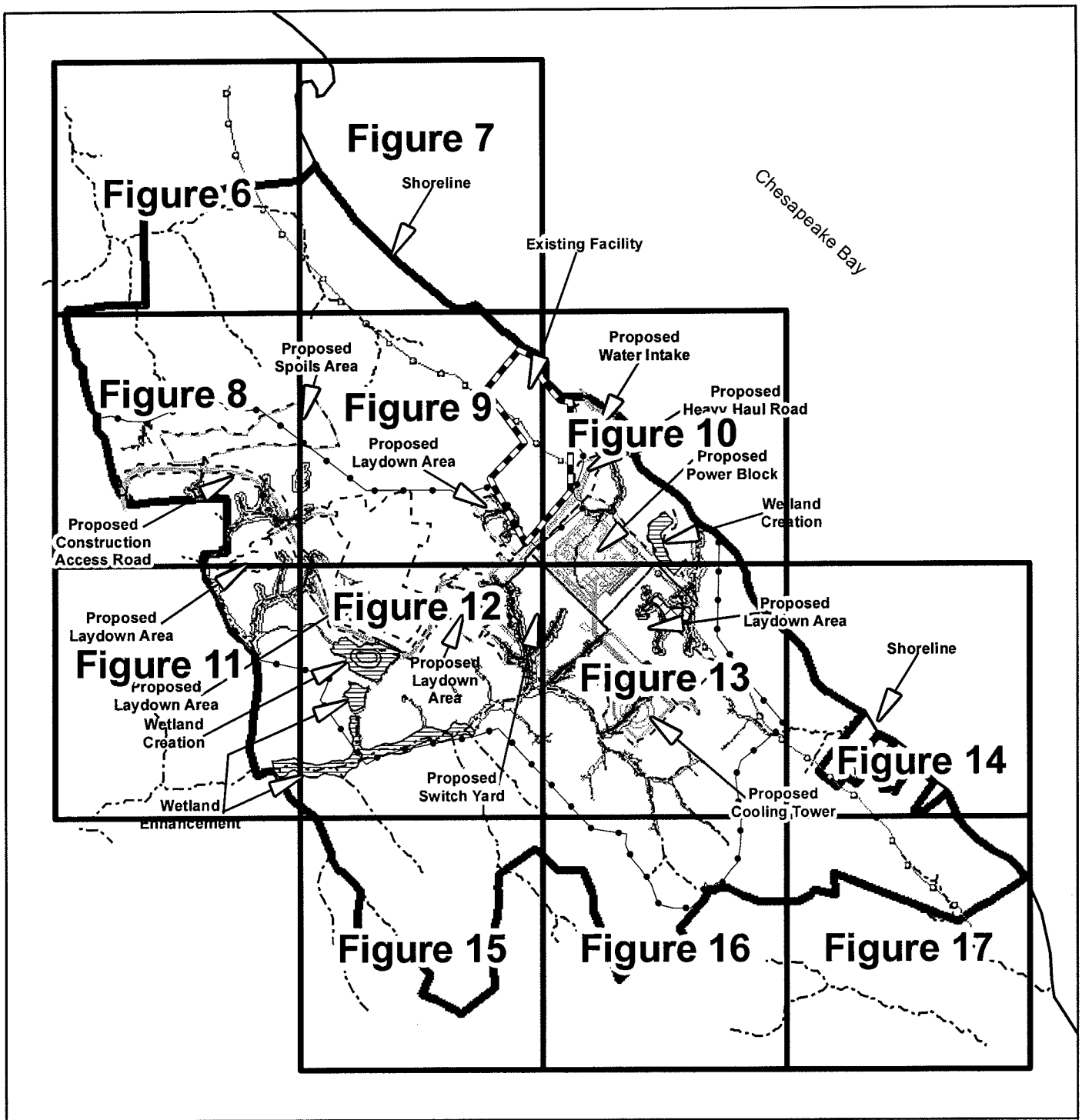

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

KEY PLAN
FIGURE 4

SCALE IN FEET

0 2,000 4,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 4 OF 29 DATE: 5/9/08

Map Document: (G:\Calvert Cliffs\frozen_5_1_08\404\mxds\figure4__key.mxd)
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Legend

- 100 Year Floodplain
- Existing Pond
- Impacted Stream
- Stream to Remain
- Wetland Study Area
- Final Grading Plan
- Wetland Mitigation Area
- Impacted Wetland
- Delineated Wetlands to Remain
- 50 Foot Buffer to Remain
- Impacted 50 Foot Buffer
- Proposed Site Features
- Critical Area Boundary
- Property Boundary
- Protected Wetland
- Protected Wetland Buffer
- Stormwater Detention Basin

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

LEGEND
FIGURE 5

SCALE IN FEET

0 2,000 4,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 5 OF 29 DATE: 5/9/08

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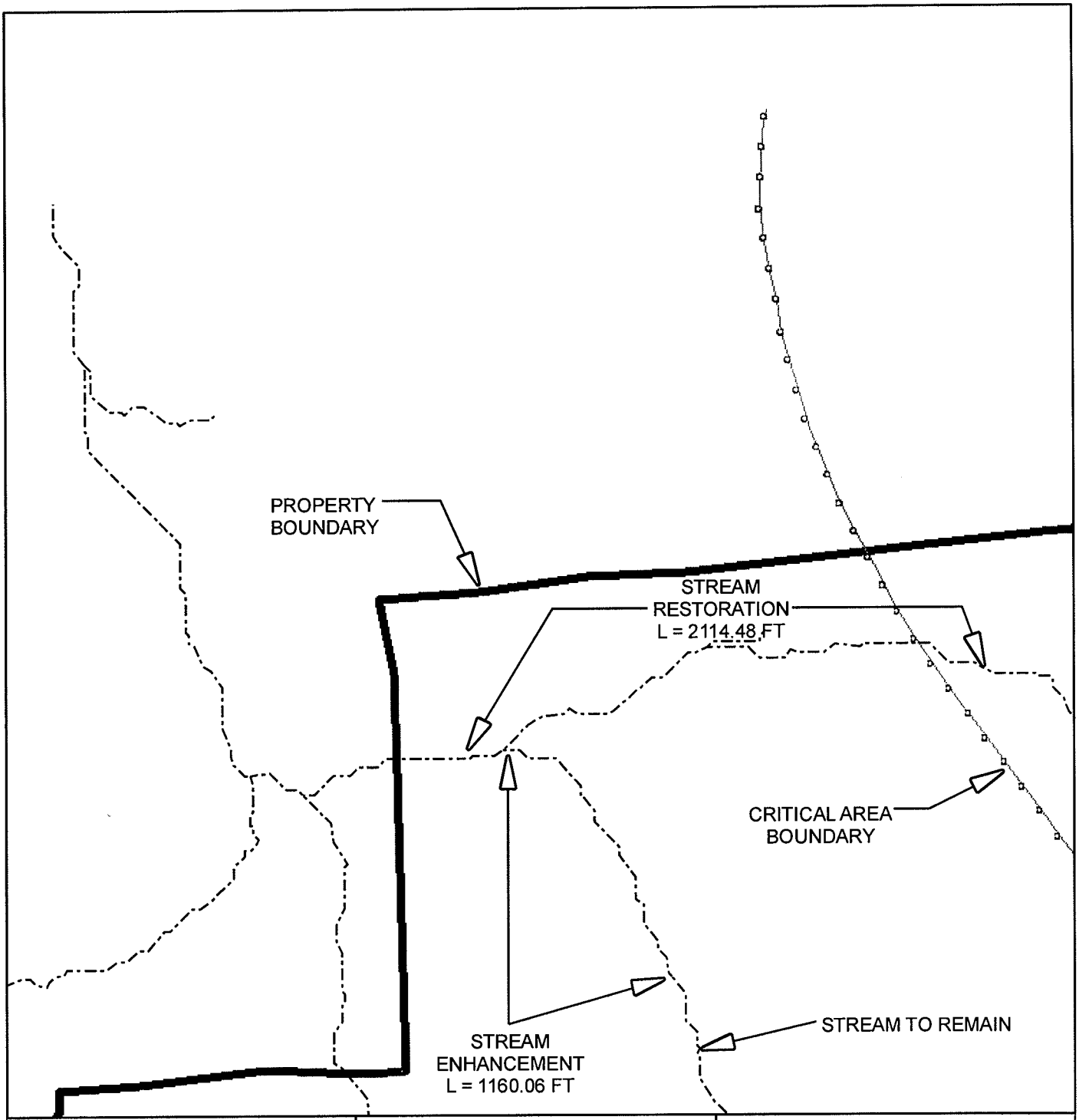

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 6

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 6 OF 29 DATE: 5/9/08

Map Document: (G:\Calvert Cliffs\frozen_5_1_08\404\mxds\figure6.mxd)
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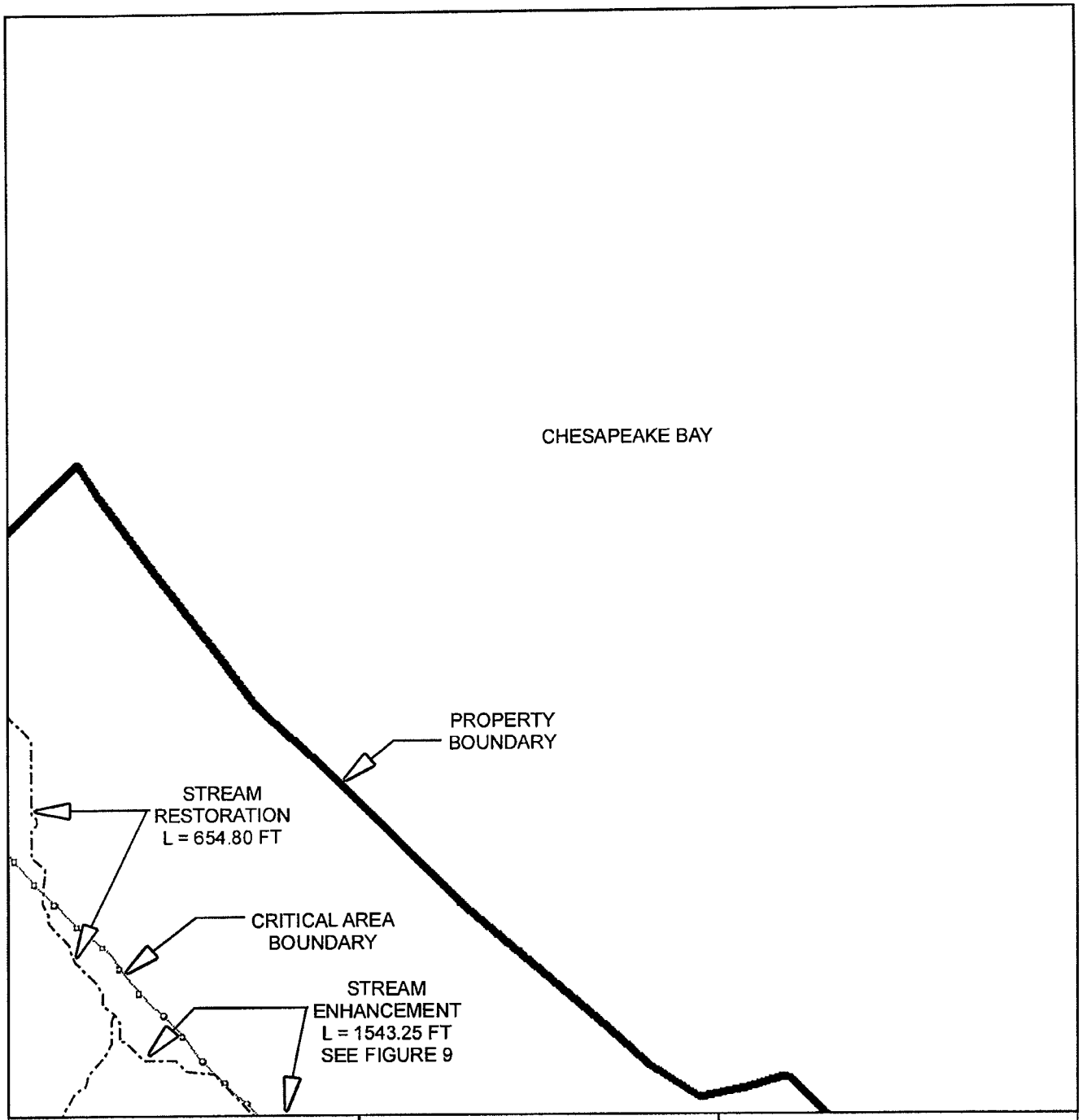

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 7

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 7 OF 29 DATE: 5/9/08

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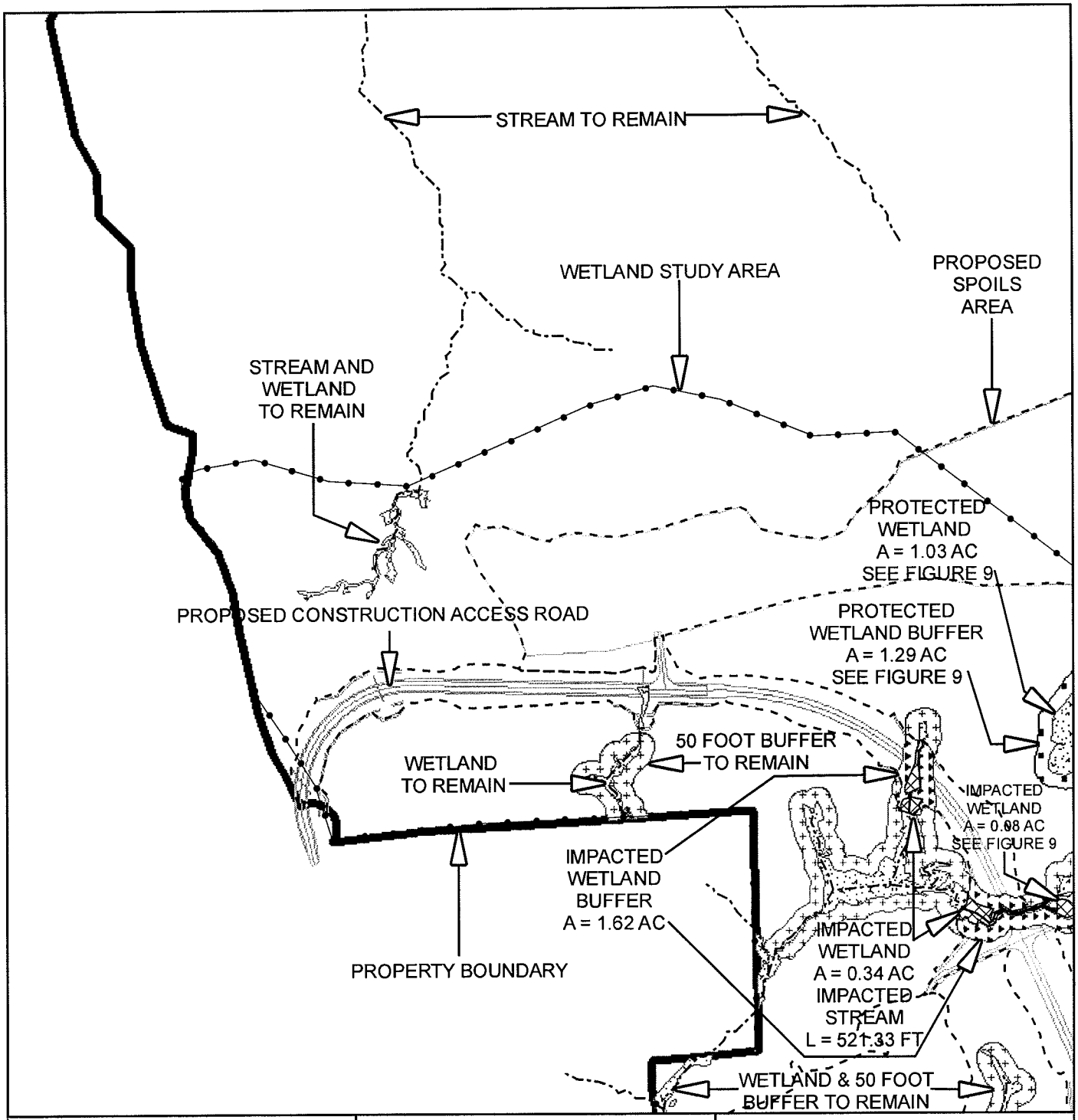

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 8

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 8 OF 29 DATE: 5/9/08

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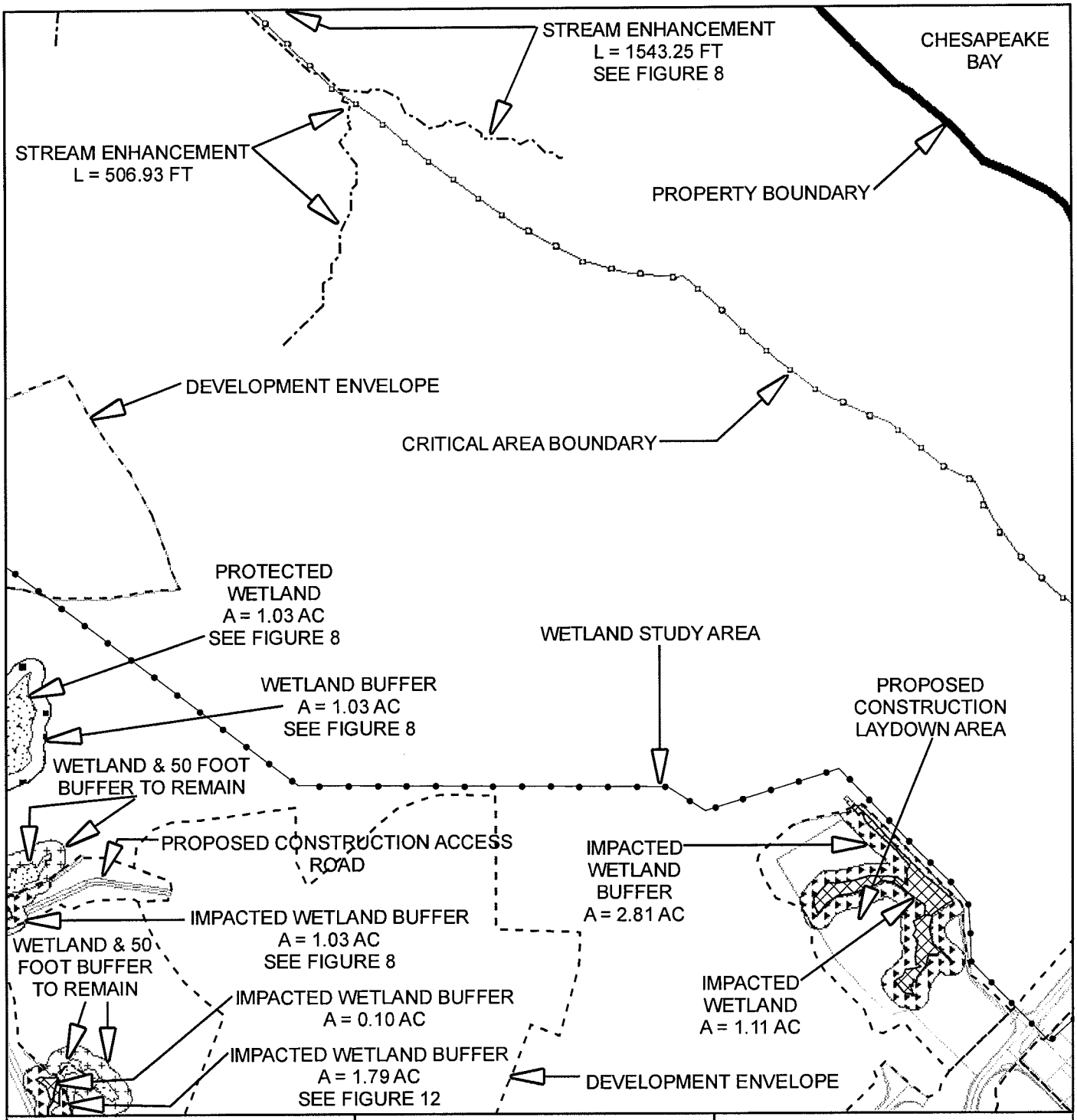

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 9

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 9 OF 29 DATE: 5/9/08

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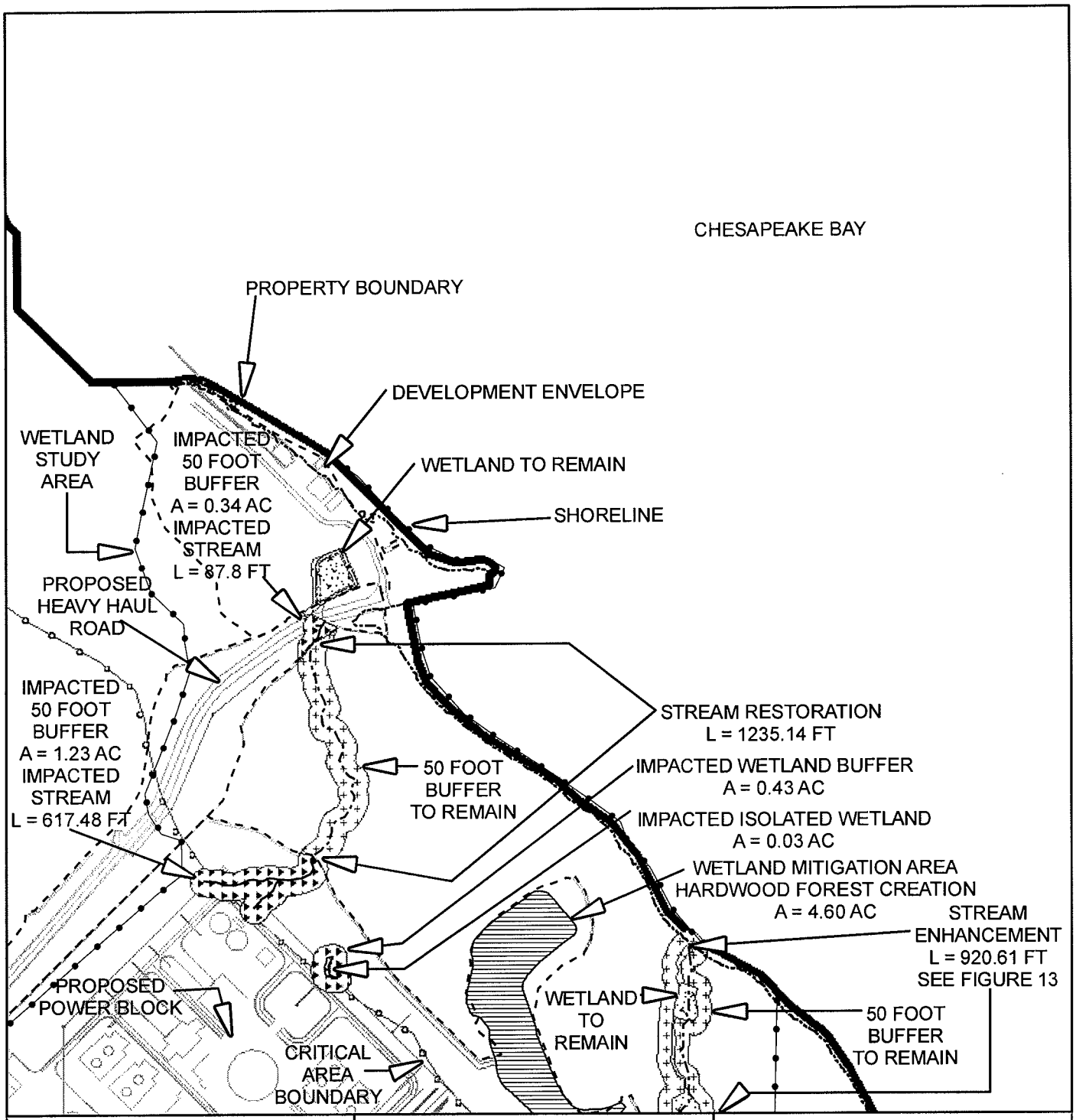

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 10

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 10 OF 29 DATE: 5/9/08

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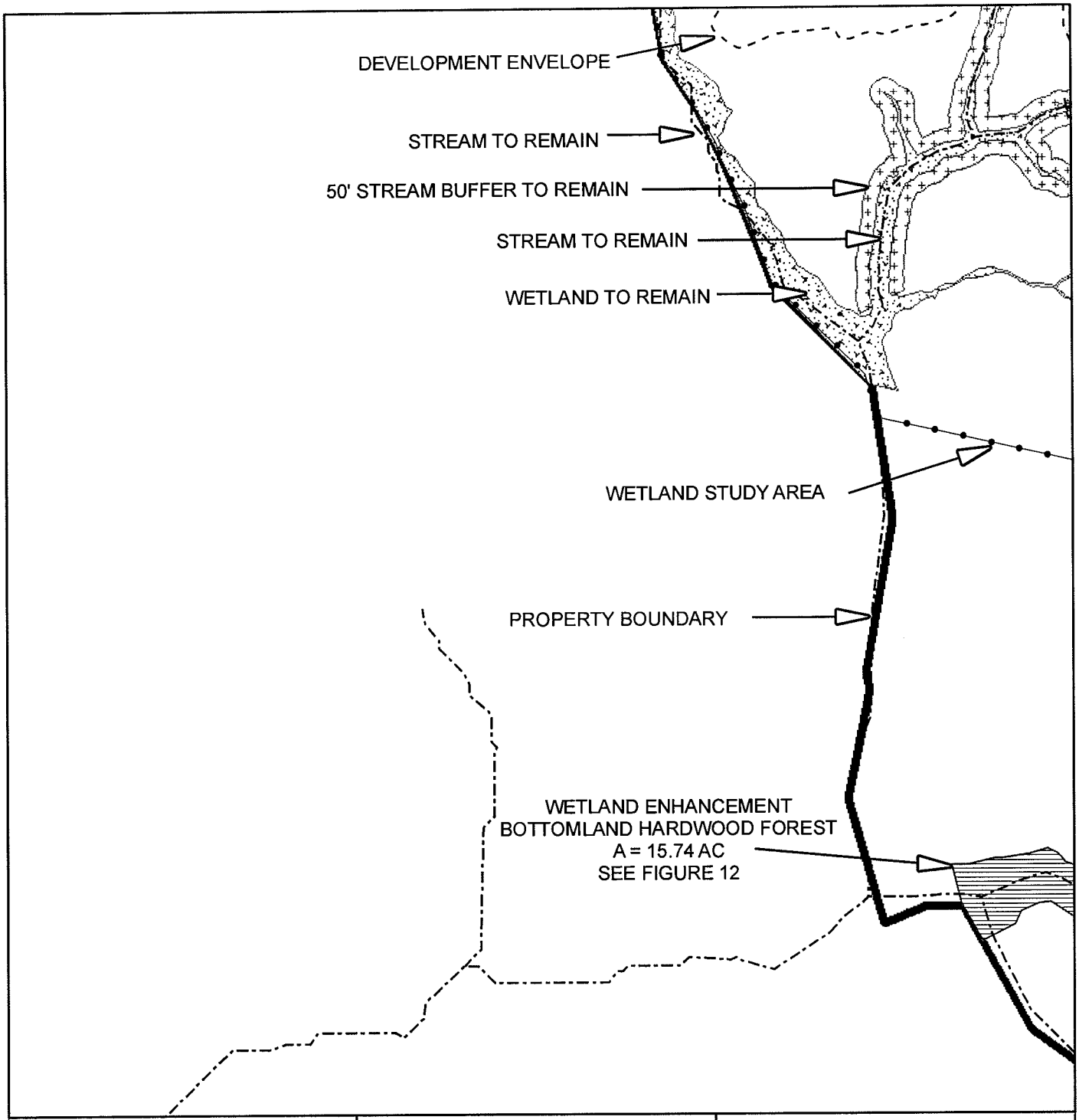

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 11

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 11 OF 29 DATE: 5/9/08

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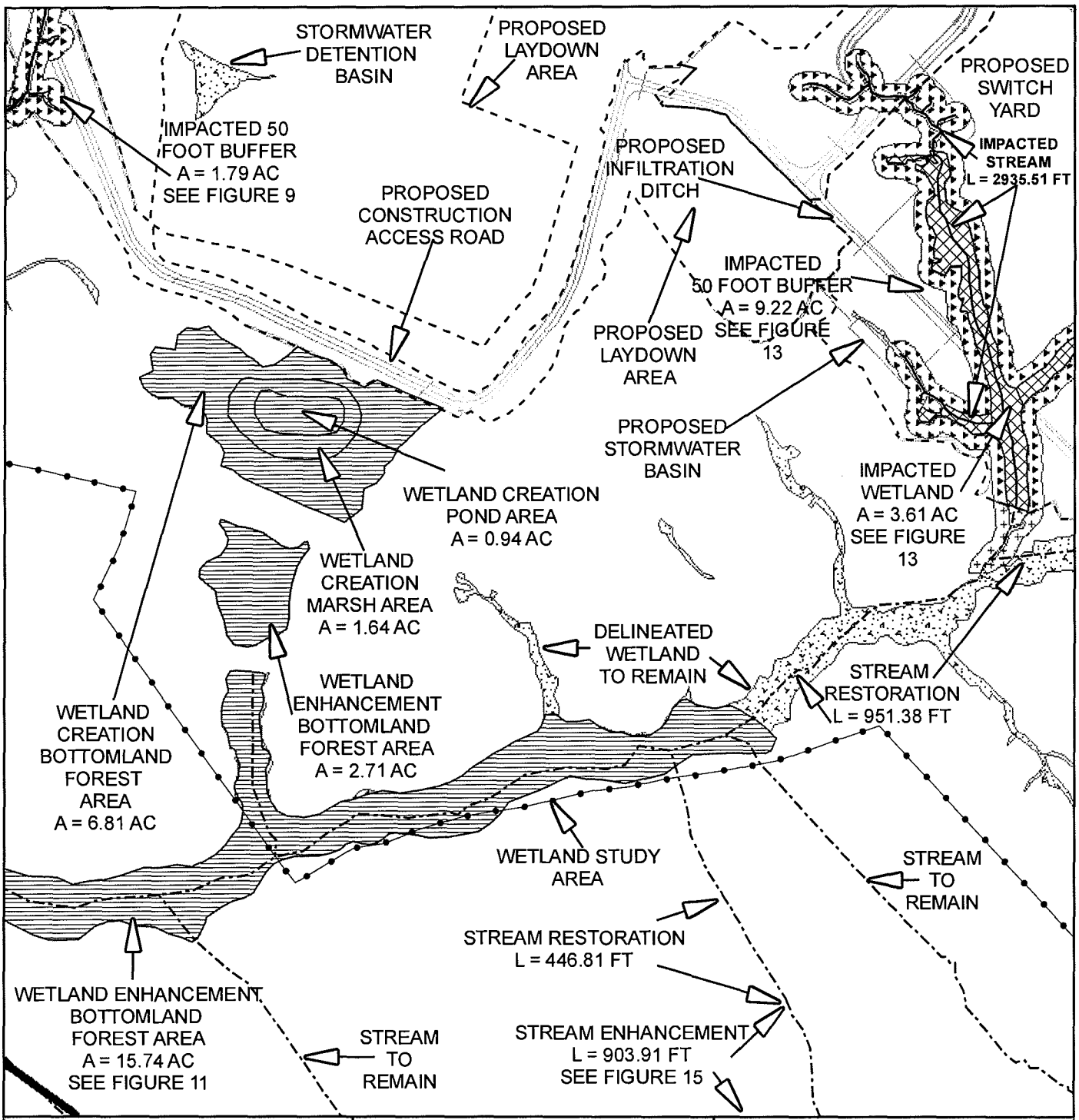

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 12

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 12 OF 29 DATE: 5/9/08

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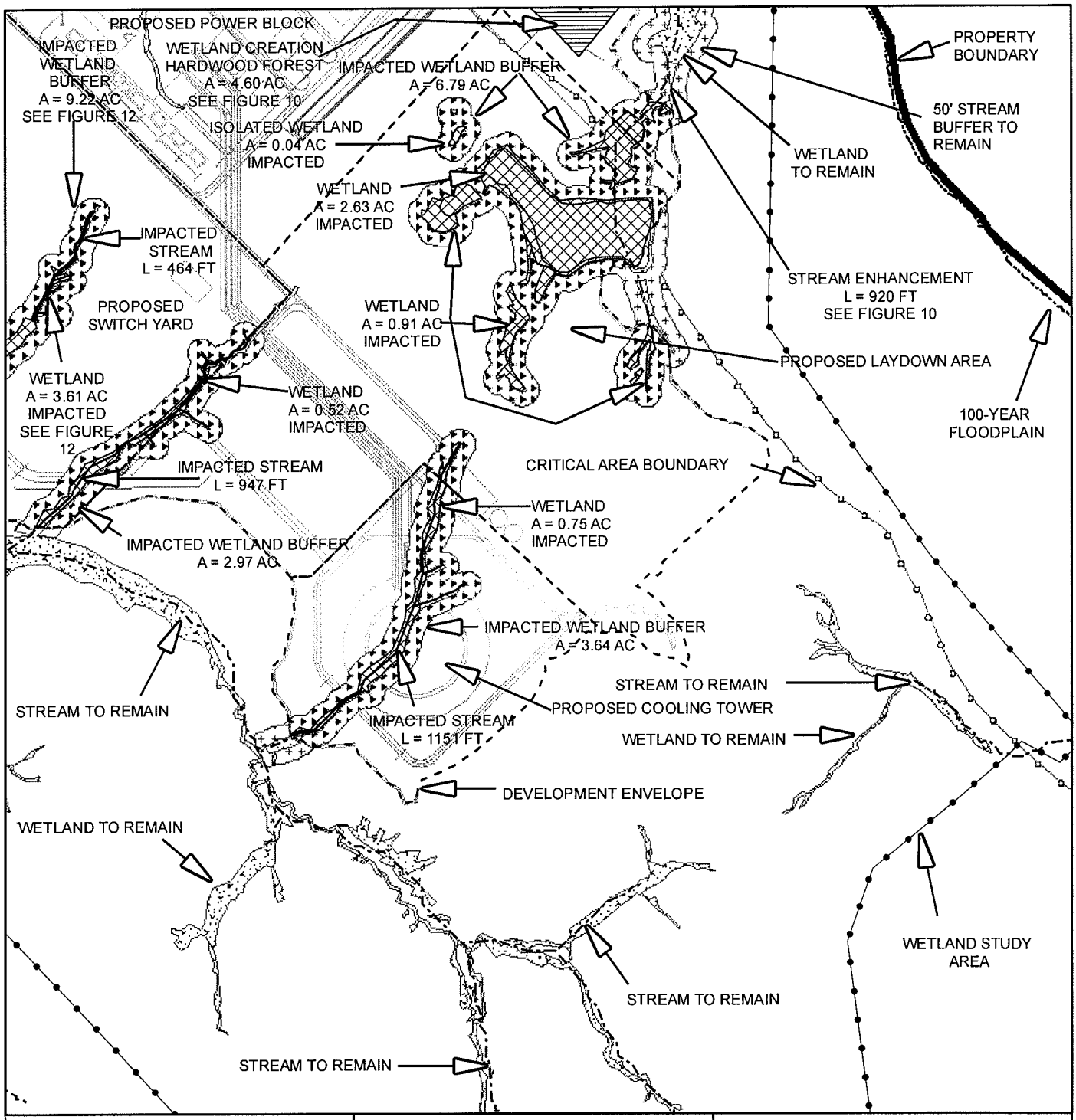

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 13

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 13 OF 29 DATE: 5/9/08

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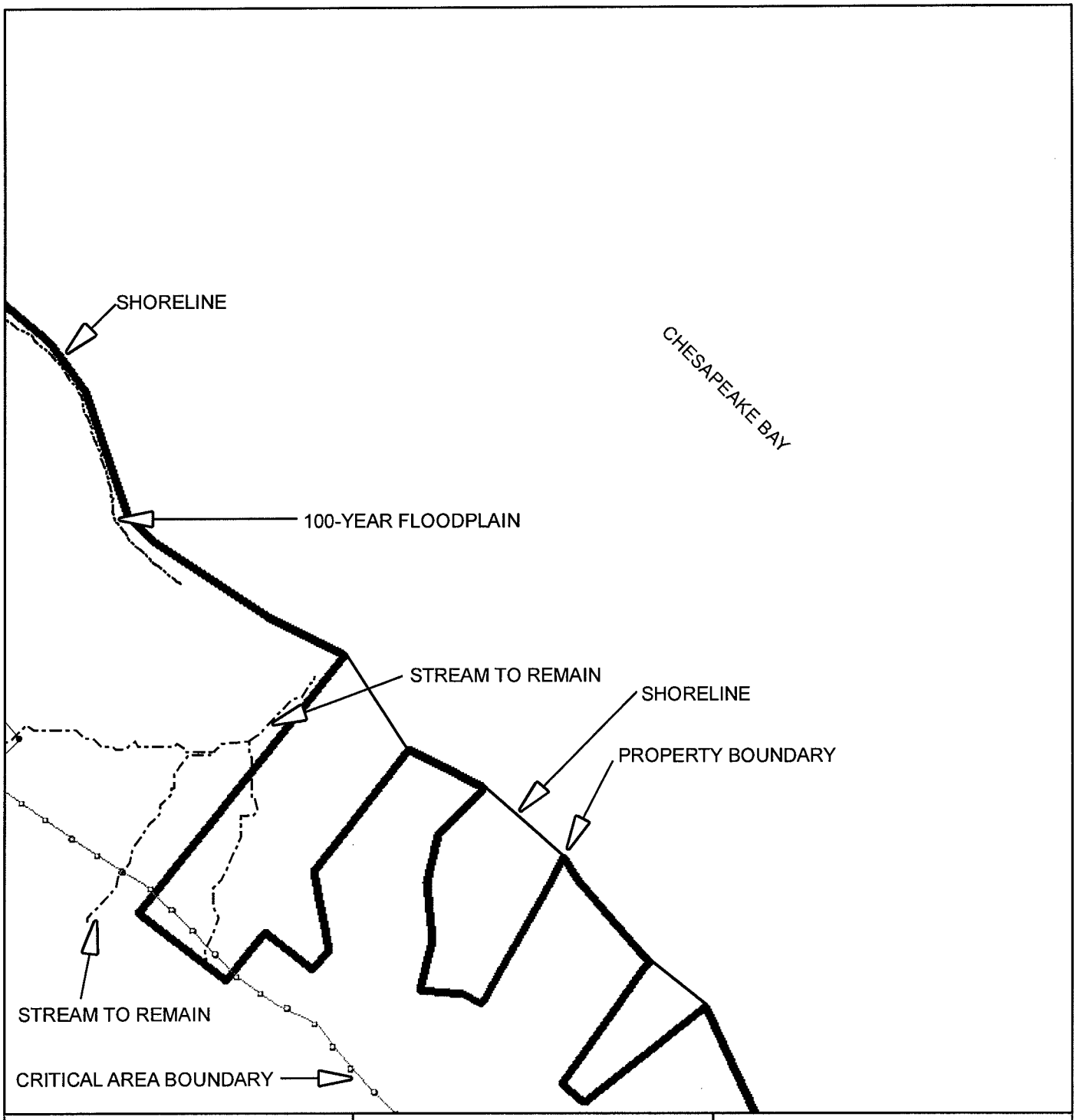

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 14

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 14 OF 29 DATE: 5/9/08

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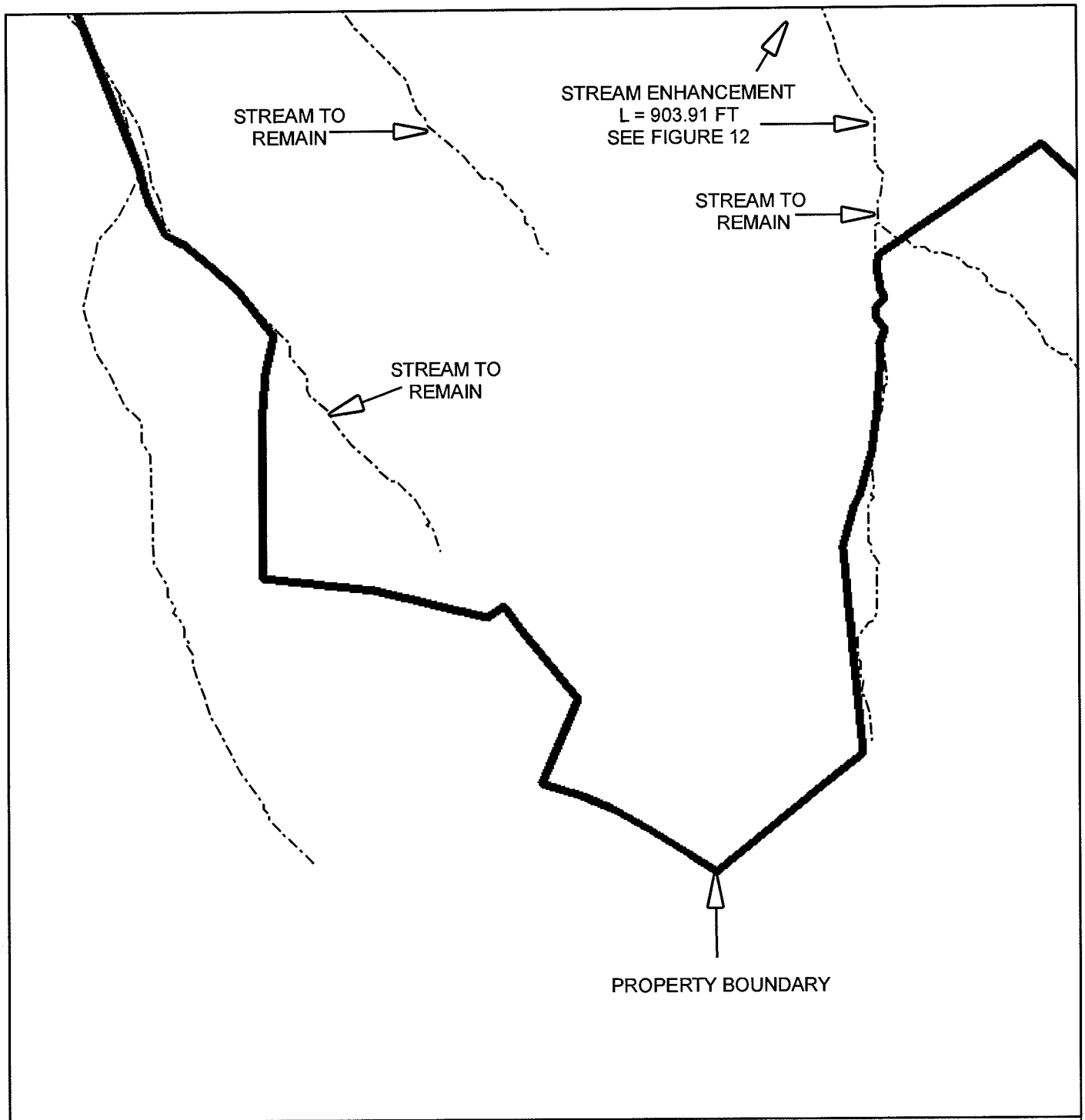

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 15

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 15 OF 29 DATE: 5/9/08

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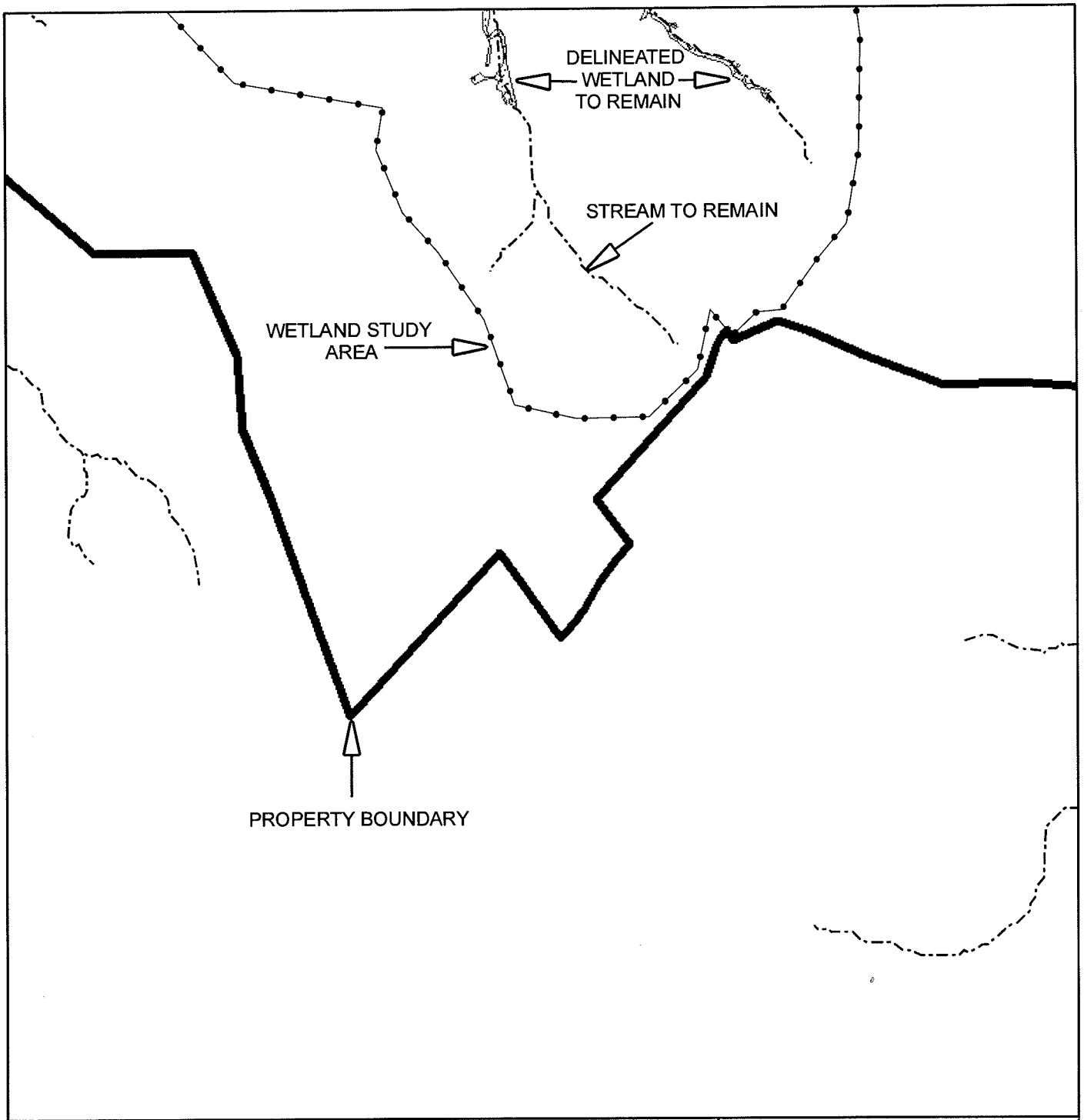

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 16

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 16 OF 29 DATE: 5/9/08

Map Document: (G:\Calvert Cliffs\frozen_5_1_08\404\mxds\figure16.mxd)
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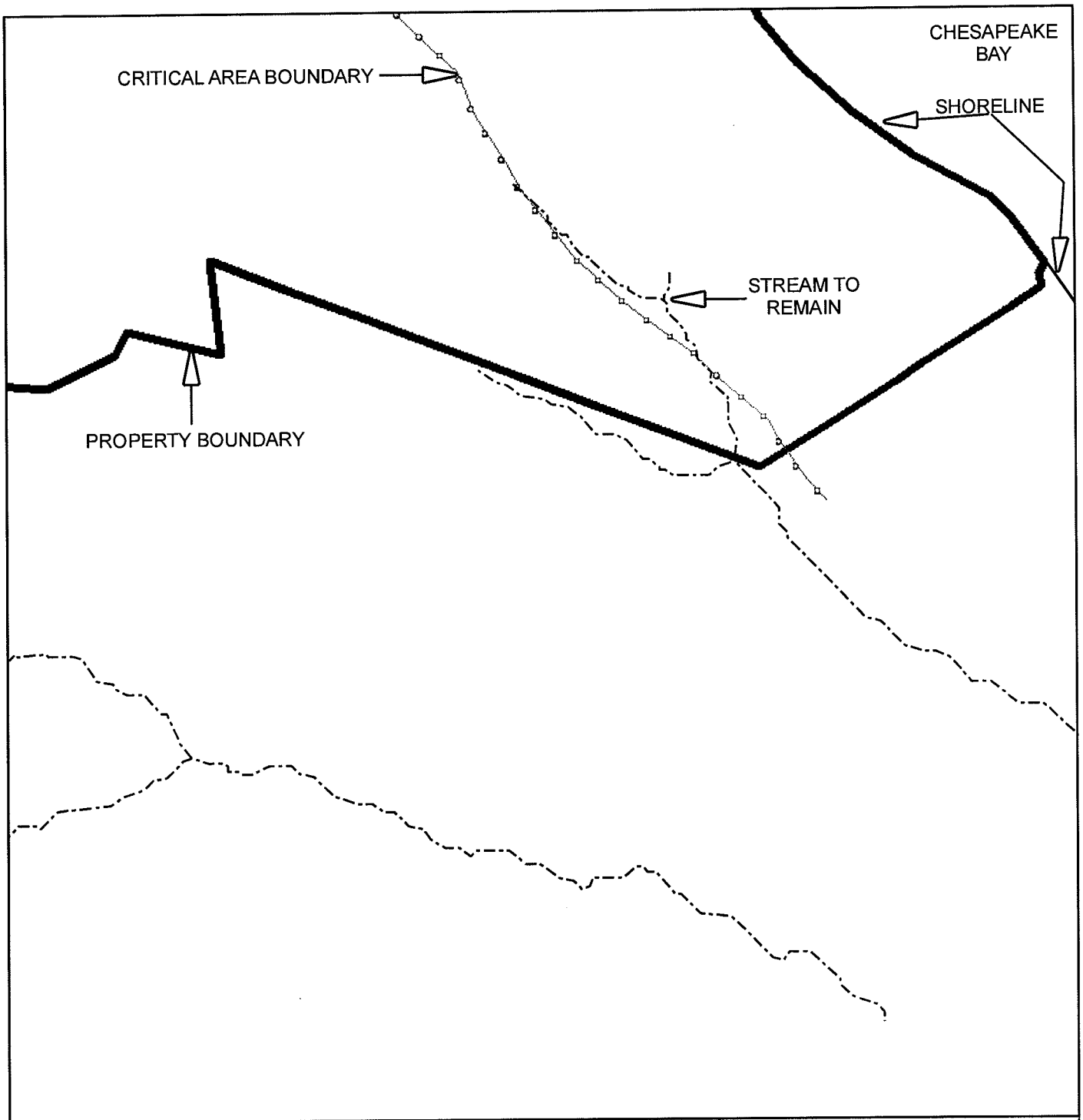

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

N

SITE LAYOUT
FIGURE 17

SCALE IN FEET

0 500 1,000 Feet

CALVERT CLIFFS NUCLEAR POWER PLANT

IN:
PATUXENT / WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 17 OF 29 DATE: 5/9/08

Map Document: (G:\Calvert Cliffs\frozen_5_1_08\404\mxds\figure17.mxd)
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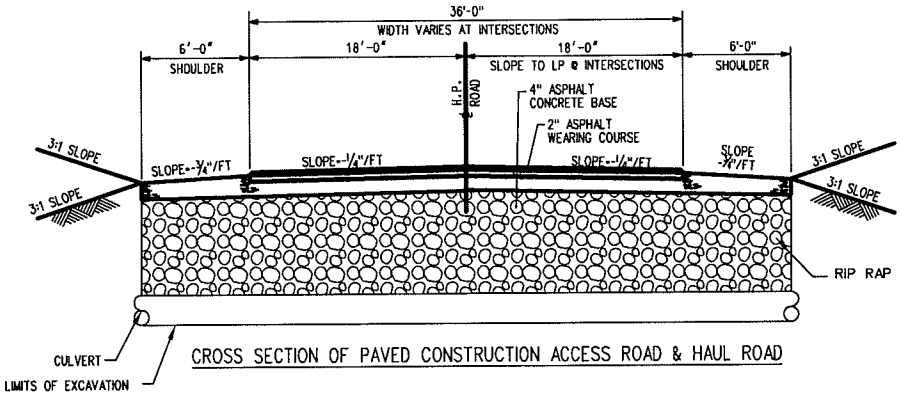
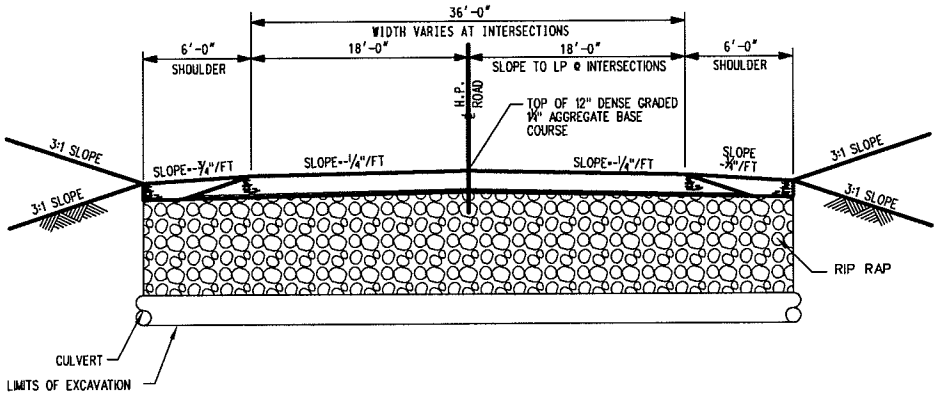
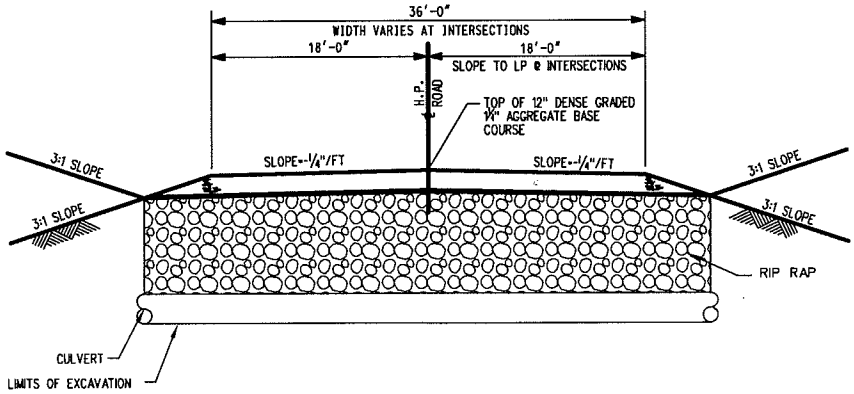


CROSS SECTION OF PAVED CONSTRUCTION ACCESS ROAD & HAUL ROAD



CROSS SECTION OF GRAVEL CONSTRUCTION ACCESS ROAD & HAUL ROAD W/SHOULDERS



CROSS SECTION OF GRAVEL CONSTRUCTION ACCESS ROAD

NOTE: EXCAVATION DEPTH IS 1 FOOT BELOW EXISTING GRADE FOR WETLANDS
EXCAVATION DEPTH IS 1 FOOT BELOW STREAM INVERT

PURPOSE: PLANT EXPANSION	**CROSS SECTIONS FIGURE 18**	**CALVERT CLIFFS NUCLEAR POWER PLANT**
DATUM: (NAVD 27)		IN: PATUXENT / WEST CHESAPEAKE BAY
PROJECT LATITUDE/LONGITUDE: 38.424133 −76.441598		COUNTY OF: CALVERT STATE: MD
		APPLICATION BY: UNISTAR NUCLEAR ENERGY
	SCALE: N.T.S.	SHEET 18 OF 29 DATE: 05/12/2008

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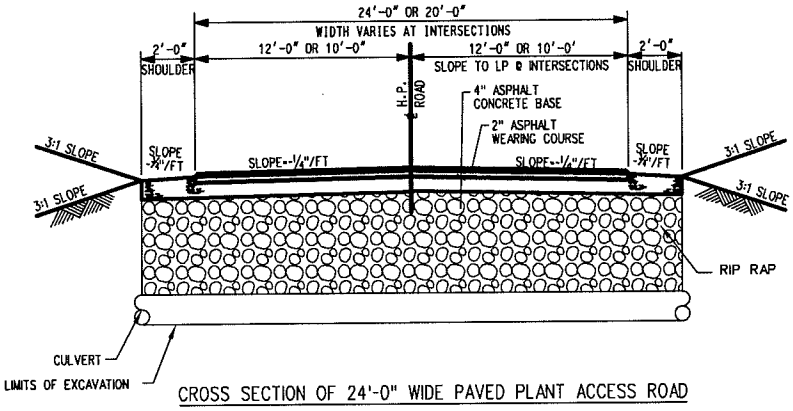
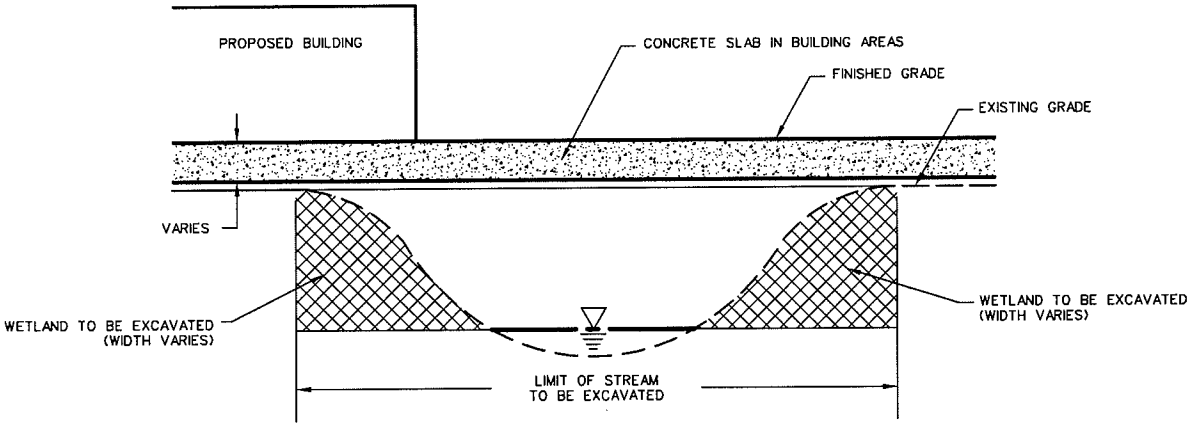
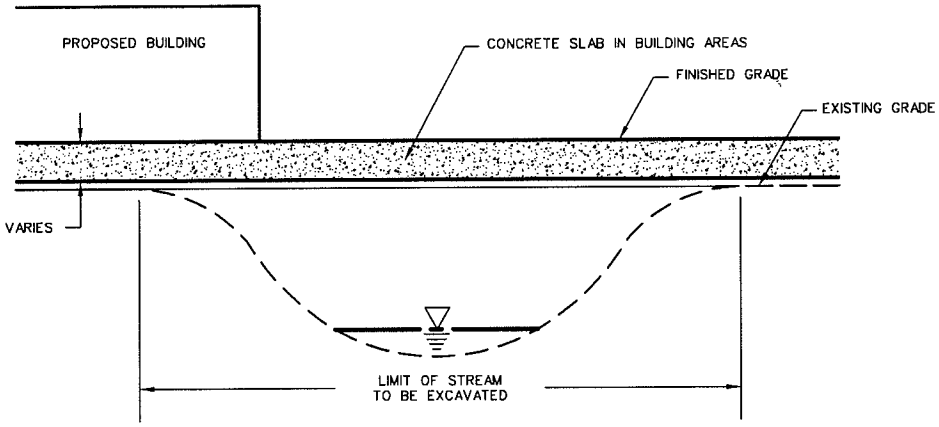


CROSS SECTION OF 24'-0" WIDE PAVED PLANT ACCESS ROAD



TYPICAL SECTION STREAM IN WETLAND BUILDING AREAS



TYPICAL SECTION - BUILDING AREAS

NOTE: EXCAVATION DEPTH IS 1 FOOT BELOW EXISTING GRADE FOR WETLANDS
EXCAVATION DEPTH IS 1 FOOT BELOW STREAM INVERT

PURPOSE: PLANT EXPANSION	**CROSS SECTIONS FIGURE 19**	**CALVERT CLIFFS NUCLEAR POWER PLANT**
DATUM: (NAVD 27)		IN: PATUXENT / WEST CHESAPEAKE BAY
PROJECT LATITUDE/LONGITUDE: 38.424133 −76.441598		COUNTY OF: CALVERT STATE: MD
		APPLICATION BY: UNISTAR NUCLEAR ENERGY
	SCALE: N.T.S.	SHEET 19 OF 29 DATE: 05/12/2008

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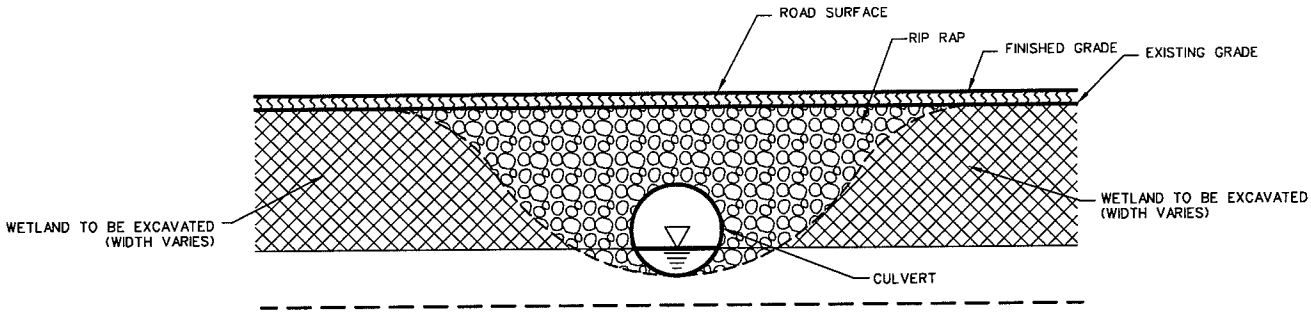
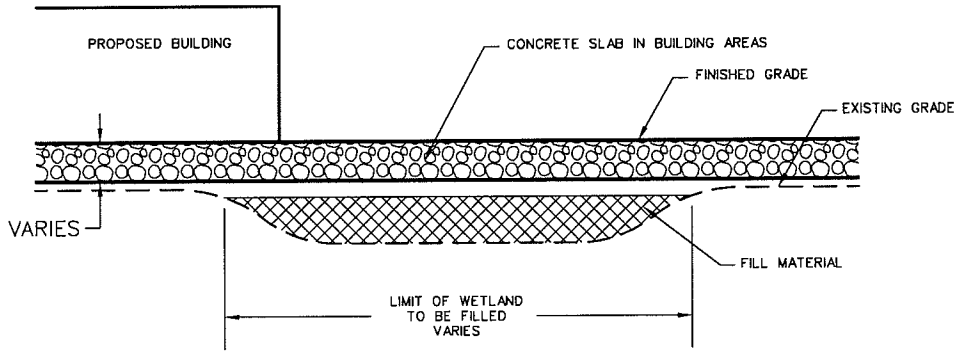
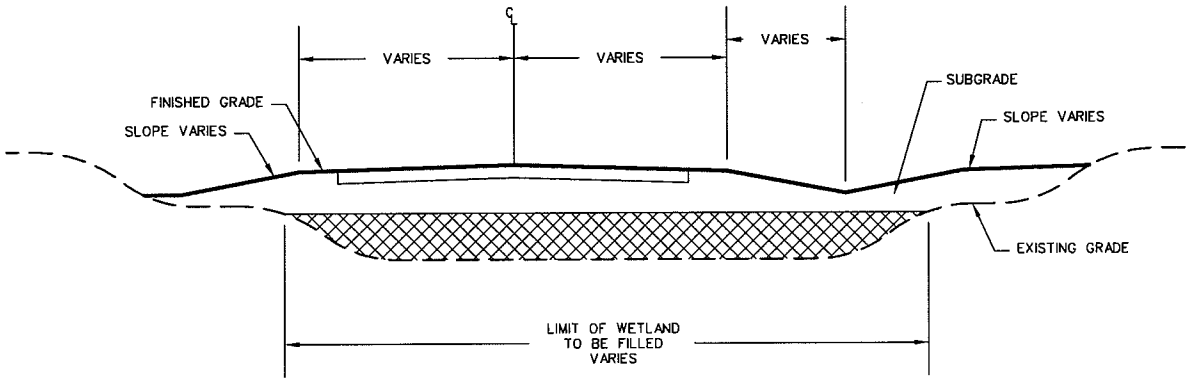


TYPICAL SECTION - STREAM CROSSING IN WETLAND CONSTRUCTION ROAD



TYPICAL SECTION - BUILDING AREAS



TYPICAL SECTION - ACCESS ROAD

NOTE: EXCAVATION DEPTH IS 1 FOOT BELOW EXISTING GRADE FOR WETLANDS

EXCAVATION DEPTH IS ONE FOOT BELOW STREAM INVERT

PURPOSE: PLANT EXPANSION	CROSS SECTIONS FIGURE 20	CALVERT CLIFFS NUCLEAR POWER PLANT
DATUM: (NAVD 27)		IN: PATUXENT / WEST CHESAPEAKE BAY
		COUNTY OF: CALVERT STATE: MD
PROJECT LATITUDE/LONGITUDE: 38.424133 −76.441598		APPLICATION BY: UNISTAR NUCLEAR ENERGY
	SCALE: N.T.S.	SHEET 20 OF 29 DATE:

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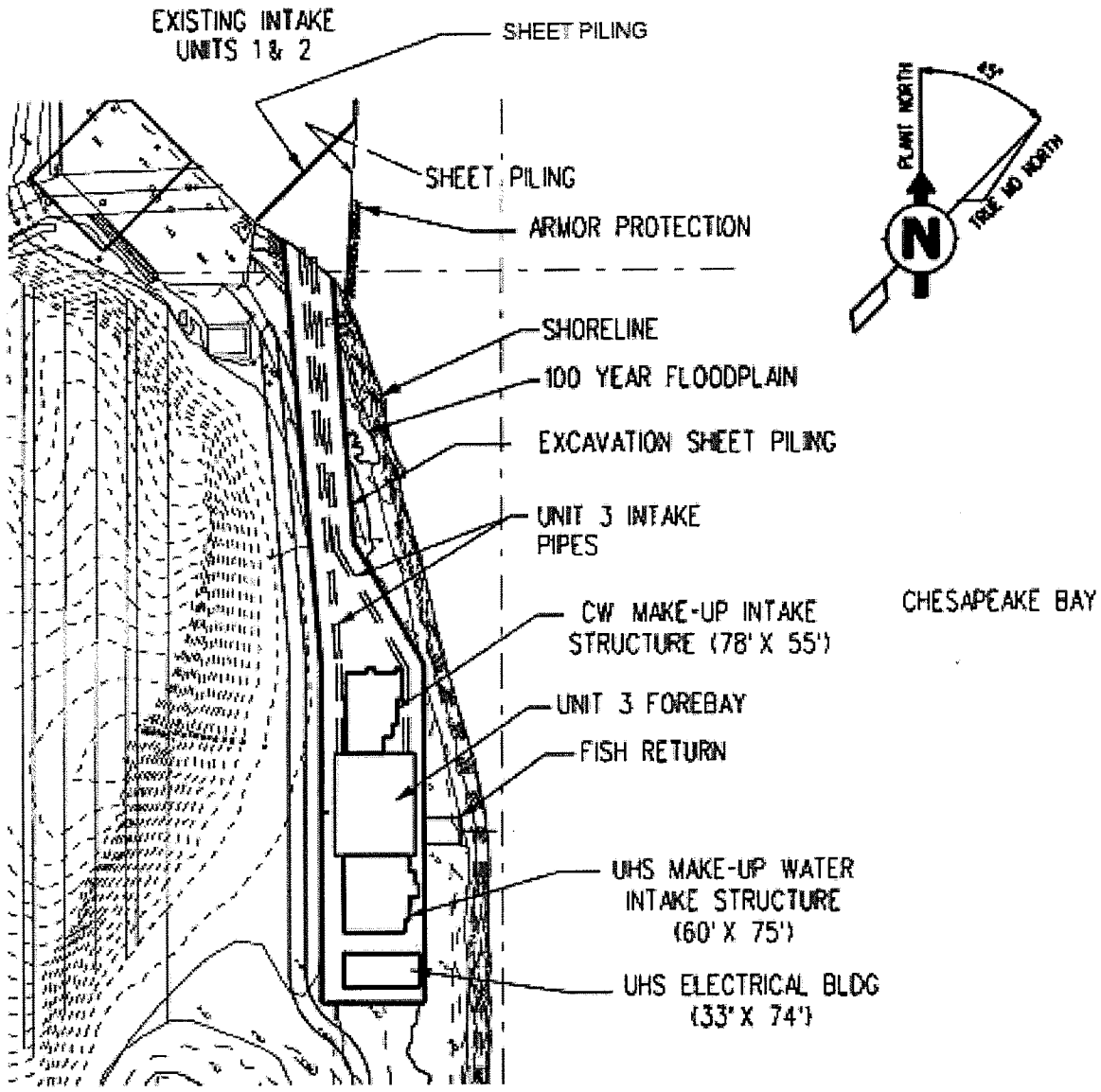


NOTES: 1. - MEAN HIGH WATERLINE: 0.57'
- MEAN LOW WATERLINE: -0.60'
- MAXIMUM SPRING WATERLINE: 1.47'

2. NAVIGATION CHANNEL (MIDDLE OF BAY) APPROX. 3 MILES FROM SHORELINE.

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441998

FIGURE 21
SITE PLAN
● INTAKE STRUCTURE

0 150 300FT

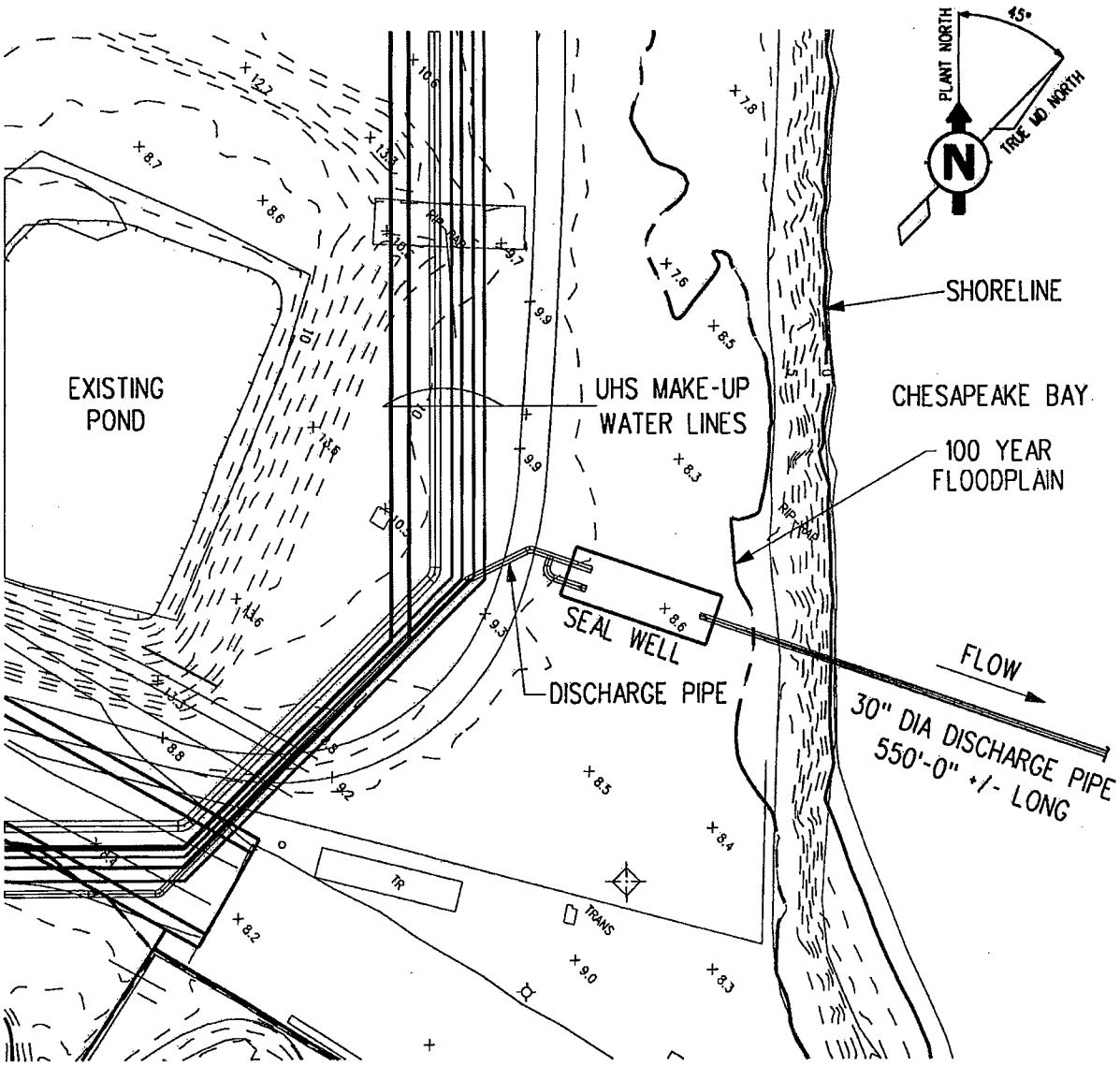
CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 3

IN: PATUXENT/WEST CHESAPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 21 OF 29



NOTES: 1. - MEAN HIGH WATERLINE: 0.57'
- MEAN LOW WATERLINE: -0.60'
- MAXIMUM SPRING WATERLINE: 1.47'

2. NAVIGATION CHANNEL (MIDDLE OF BAY) APPROX. 3 MILES FROM SHORELINE.

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

FIGURE 22

SEAL WELL & DISCHARGE PIPING

0 60 120 FT

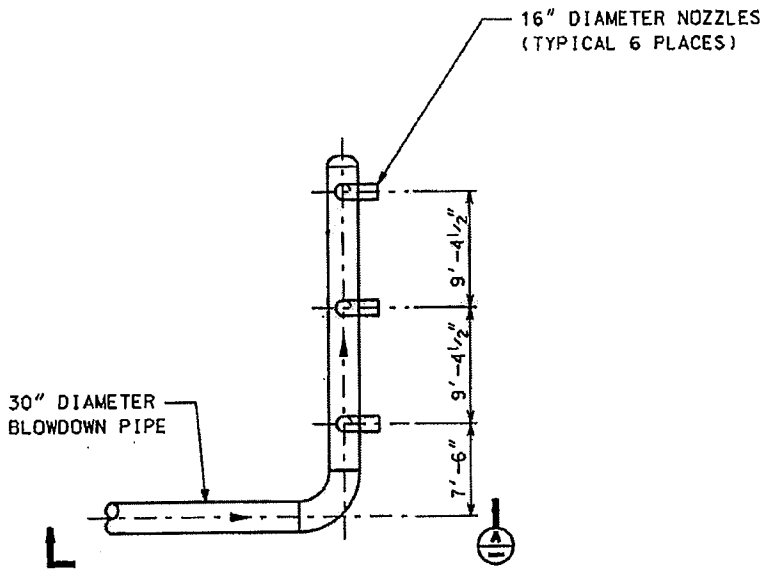
CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 3

IN: PATUXENT/WEST CHEASPEAKE BAY

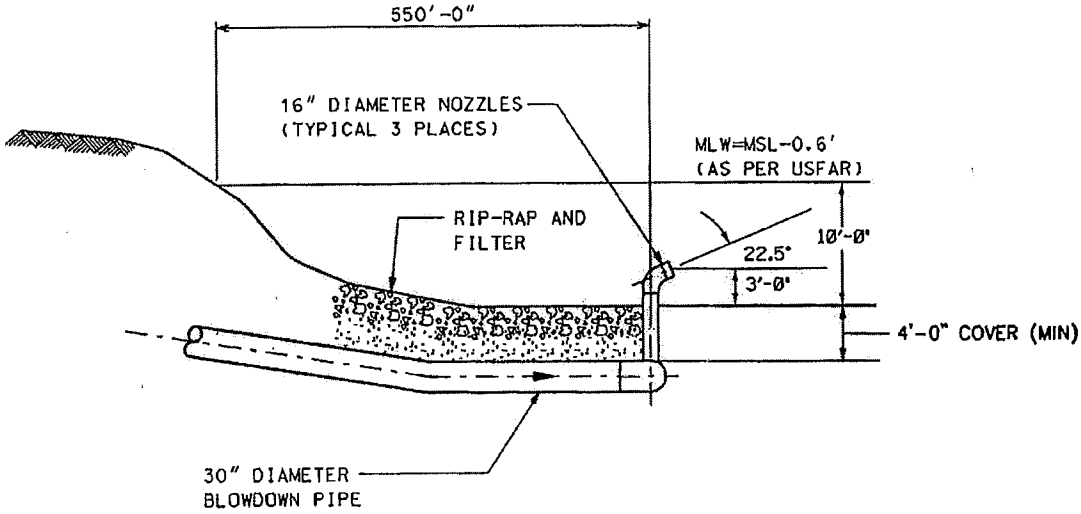
COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 22 OF 29 DATE:

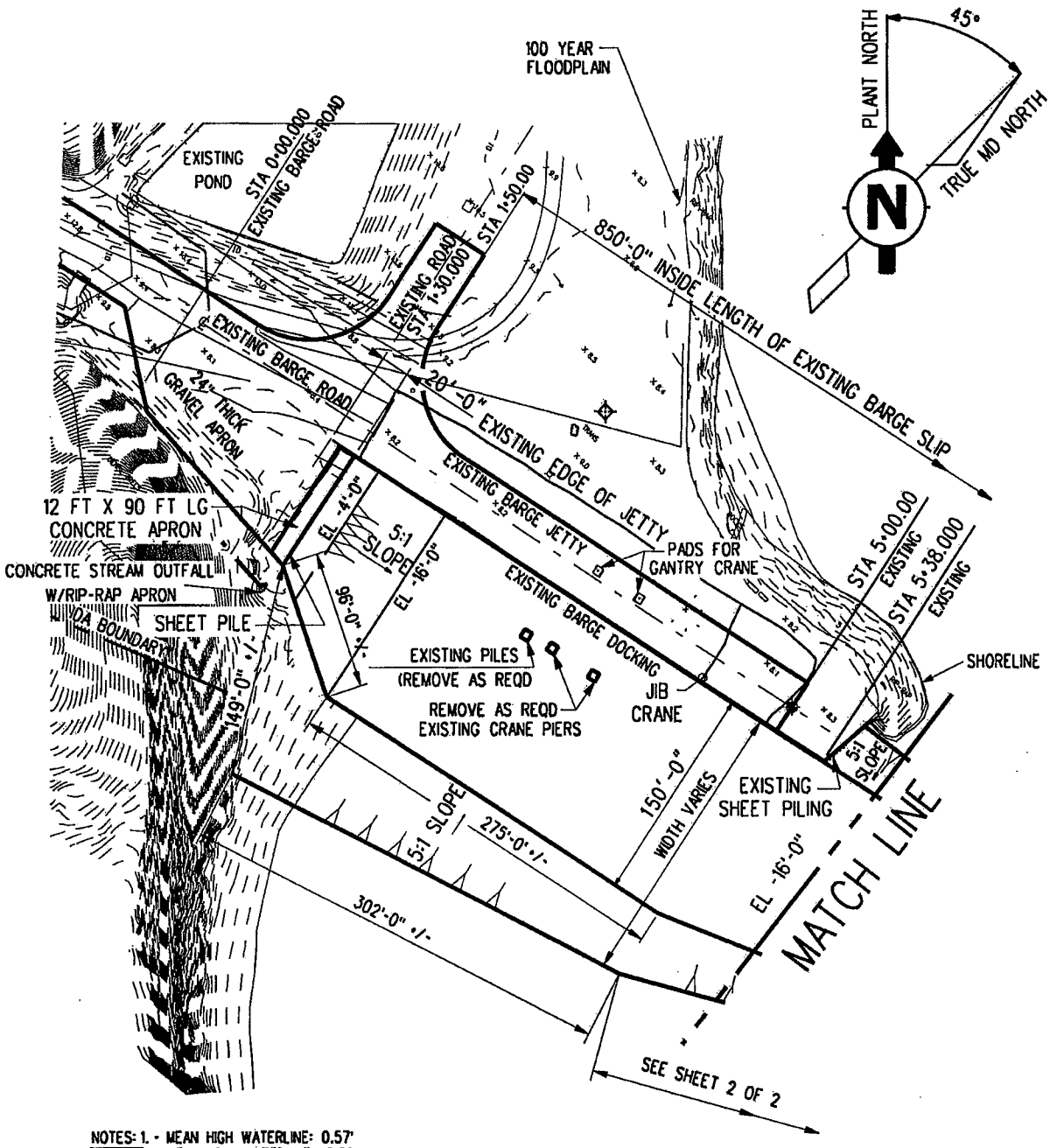


DIFFUSER PLAN VIEW



SECTION A

PURPOSE: PLANT EXPANSION DATUM: (NAVD 27) PROJECT LATITUDE/LONGITUDE: 38.424133 -76.441598	**FIGURE 23** DISCHARGE OUTFALL DETAILS NOT TO SCALE	CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 3 IN: PATUXENT/ WEST CHESAPEAKE BAY COUNTY OF: CALVERT STATE: MD APPLICATION BY: UNISTAR NUCLEAR ENERGY SHEET 23 OF 29 DATE: 4/30/08



NOTES: 1. - MEAN HIGH WATERLINE: 0.57'
- MEAN LOW WATERLINE: -0.60'
- MAXIMUM SPRING WATERLINE: 1.47'
2. NAVIGATION CHANNEL (MIDDLE OF BAY) APPROX. 3 MILES FROM SHORELINE.

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

FIGURE 24A

MODIFICATIONS @ EXISTING BARGE UNLOADING FACILITY

0 50 100 150FT

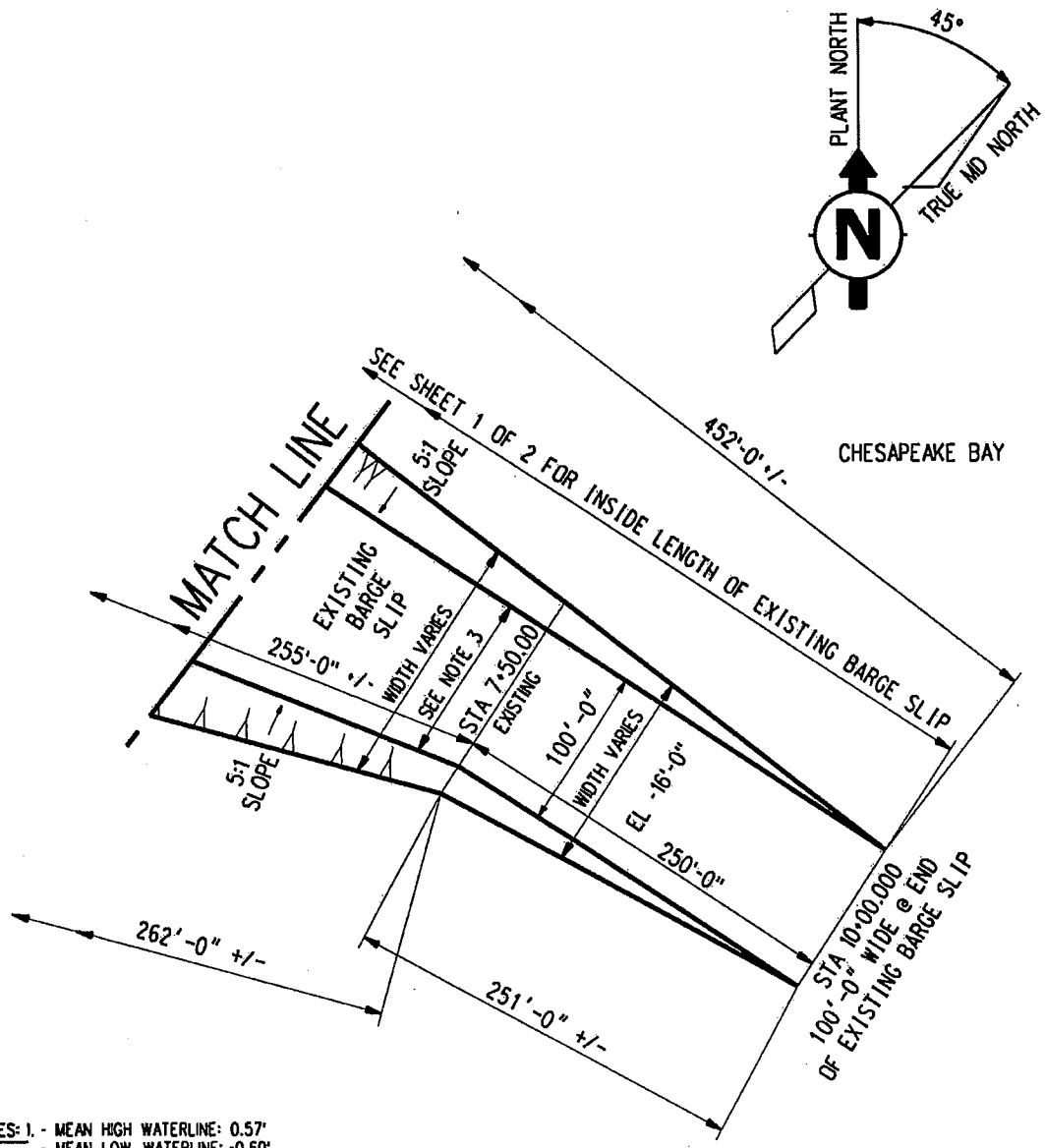
CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 3

IN: PATUXENT/WEST CHEASPEAKE BAY

COUNTY OF: CALVERT STATE: MD

APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 24 OF 29 DATE:



NOTES: 1. - MEAN HIGH WATERLINE: 0.57'
- MEAN LOW WATERLINE: -0.60'
- MAXIMUM SPRING WATERLINE: 1.47'

2. NAVIGATION CHANNEL (MIDDLE OF BAY) APPROX. 3 MILES FROM SHORELINE.

3. INSIDE WIDTH OF EXISTING BARGE SLIP VARIES FROM STATION 5+00.00 TO STATION 7+50.00 (LENGTH = 250'-0")

PURPOSE: PLANT EXPANSION

DATUM: (NAVD 27)

PROJECT LATITUDE/LONGITUDE:
38.424133
-76.441598

FIGURE 24B

MODIFICATIONS @ EXISTING BARGE UNLOADING FACILITY

0 50 100 150FT

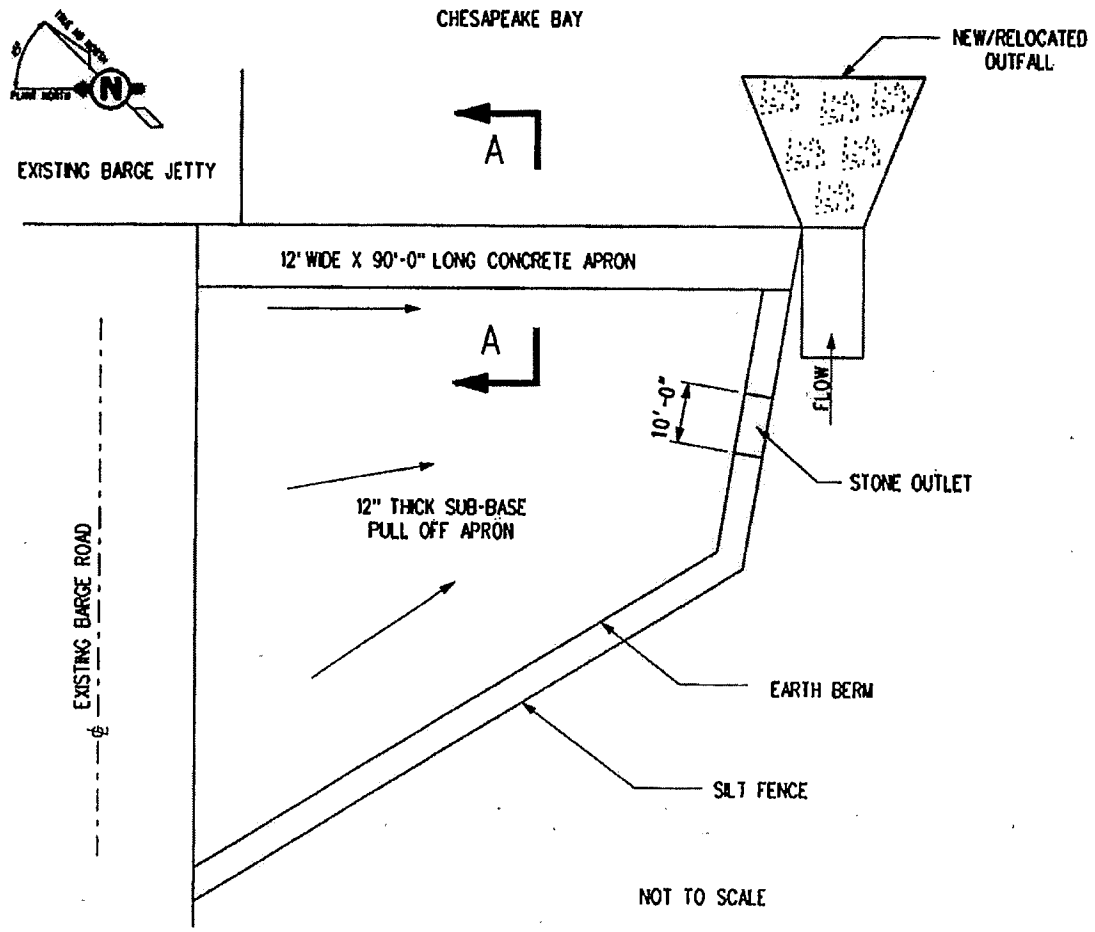
CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 3

IN: PATUXENT/WEST CHEASPEAKE BAY

COUNTY OF: CALVERT STATE: MD

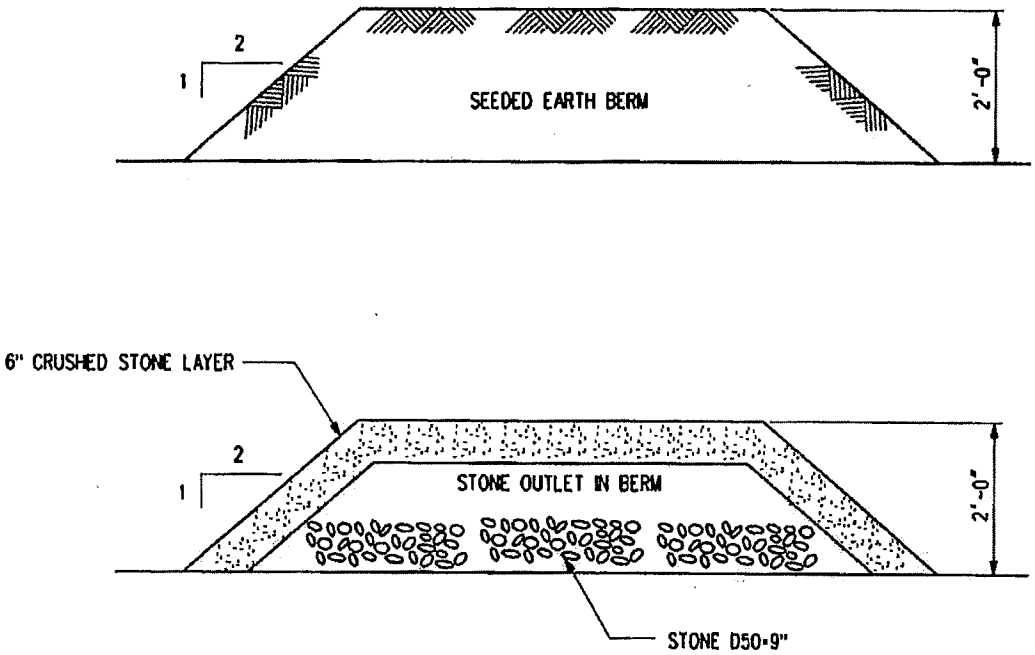
APPLICATION BY:
UNISTAR NUCLEAR ENERGY

SHEET 25 OF 29 DATE:



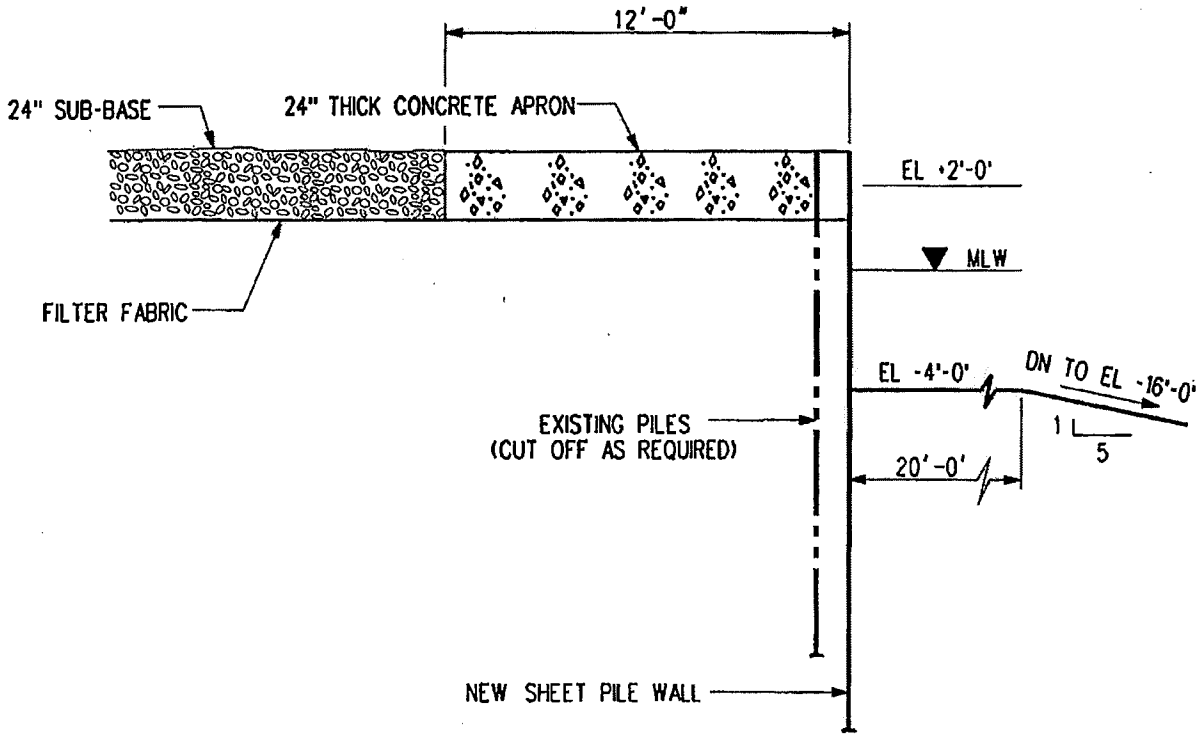
PLANE EARTH BERM & STONE OUTLET

PURPOSE: PLANT EXPANSION DATUM: (NAVD 27) PROJECT LATITUDE/LONGITUDE: 38.424133 -76.441598	**FIGURE 25** MODIFICATIONS TO NEW BULKHEAD & APRON NOT TO SCALE	CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 3 IN: PATUXENT/ WEST CHESAPEAKE BAY COUNTY OF: CALVERT STATE: MD APPLICATION BY: UNISTAR NUCLEAR ENERGY SHEET 26 OF 29 DATE: 4/30/08



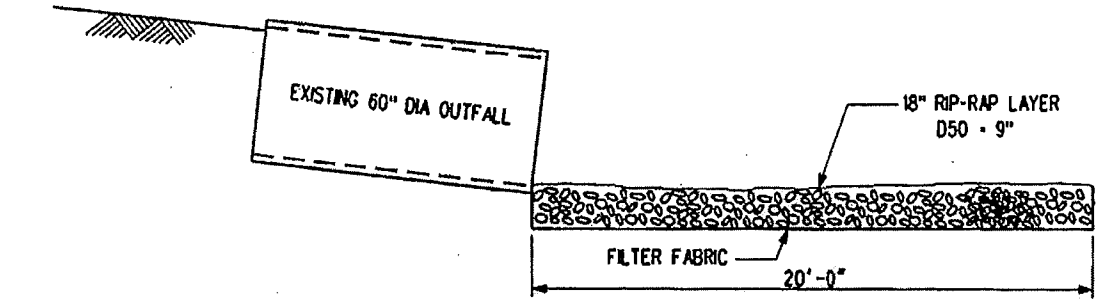
EARTH BERM & STONE OUTLET DETAILS

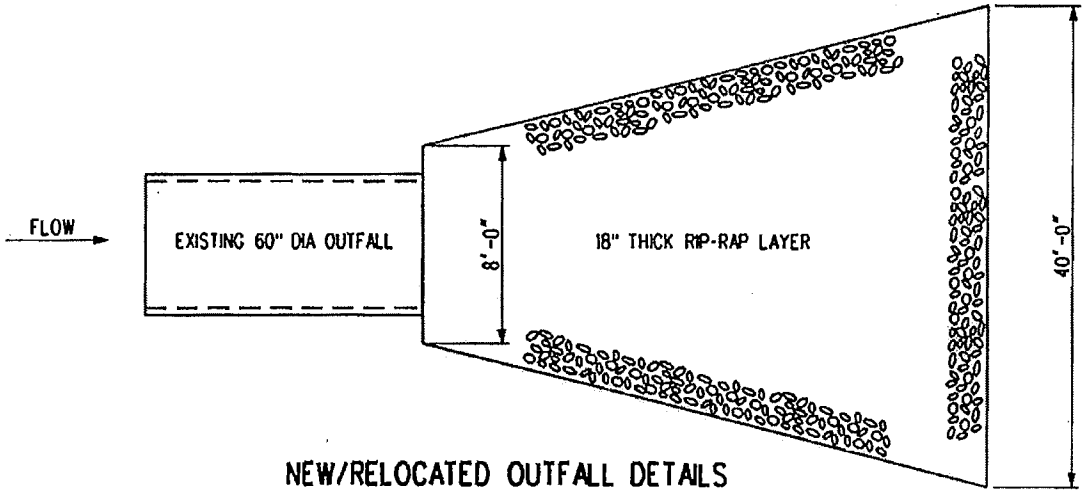
PURPOSE: PLANT EXPANSION DATUM: (NAVD 27) PROJECT LATITUDE/LONGITUDE: 38.424133 -76.441598	**FIGURE 26** STONE OUTLET & EARTH BERM DETAILS NOT TO SCALE	CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 3 IN: PATUXENT/ WEST CHESAPEAKE BAY COUNTY OF: CALVERT STATE: MD APPLICATION BY: UNISTAR NUCLEAR ENERGY SHEET 27 OF 29 DATE: 4/30/08



SECTION A-A

PURPOSE: PLANT EXPANSION DATUM: (NAVD 27) PROJECT LATITUDE/LONGITUDE: 38.424133 -76.441598	**FIGURE 27** SECTION A-A THRU CONCRETE APRON NOT TO SCALE	CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 3 IN: PATUXENT/ WEST CHESAPEAKE BAY COUNTY OF: CALVERT STATE: MD APPLICATION BY: UNISTAR NUCLEAR ENERGY SHEET 28 OF 29 DATE: 4/30/08





NEW/RELOCATED OUTFALL DETAILS

NOT TO SCALE

PURPOSE: PLANT EXPANSION DATUM: (NAVD 27) PROJECT LATITUDE/LONGITUDE: 38.424133 -76.441598	**FIGURE 28** STREAM OUTFALL DETAILS NOT TO SCALE	CALVERT CLIFFS NUCLEAR POWER PLANT UNIT 3 IN: PATUXENT/ WEST CHESAPEAKE BAY COUNTY OF: CALVERT STATE: MD APPLICATION BY: UNISTAR NUCLEAR ENERGY SHEET 29 OF 29 DATE: 4/30/08