
**Attachment 29 to PLA-6219
Ecology III, Inc. September 24, 2002.
Wetland Delineation for the South Drainage Area
at the Susquehanna Steam Electric Station**

(NRC Document Request 75)

**WETLAND DELINEATION
FOR THE
SOUTH DRAINAGE AREA
AT THE
SUSQUEHANNA STEAM ELECTRIC STATION**

Prepared by

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24 September 2002

WETLAND DELINEATION FOR SOUTH DRAINAGE AREA AT THE SUSQUEHANNA STEAM ELECTRIC STATION

A delineation of wetlands was made for the south drainage area at the Susquehanna Steam Electric Station (Susquehanna SES) on 10-11 September 2002. The area included the S-2 Pond (a stormwater retention pond) and its associated drainage and the natural drainage below. The Susquehanna SES is located in Salem Township, Luzerne County, Pennsylvania.

Wetlands occur around the S-2 Pond and in the natural drainage to the south and east. These are classified as forested palustrine, scrub-shrub palustrine, and emergent perennial palustrine wetlands according to Cowardin et al. (1979).

Forested palustrine wetlands occur east of the S-2 Pond. Vegetation consists of red maple, river birch, northern spicebush, garlic mustard, common blue violet, and clearweed. Wetland status of species and additional species used in delineation are listed in Table 1. Soils are mapped as Braceville gravelly loam and Atherton silt loam (U. S. Department of Agriculture 1981). Atherton is listed as a hydric soil by the U. S. Department of Agriculture (19887); Braceville is not listed as hydric. Soil tests indicated hydric soils, 10YR 5/2, with bright chroma mottles. Data from this community are given in Appendix 1, Plot No. 1.

Scrub-shrub wetlands occur south and east of the S-2 Pond. Vegetation consists of black willow, silky willow, brookside alder, arrowwood, silky dogwood, reed canary grass, giant goldenrod, sensitive fern, spotted touch-me-not, and riverbank grape. Soils are mapped as Atherton silt loam and Chenango gravelly loam. Atherton

is listed as a hydric soil; Chenango is not listed as hydric (U. S. Department of Agriculture 1987). Soil tests indicated hydric soil, 10YR 4/2-5/2, with bright chroma mottles. Data from this community are given in Appendix 1, Plot Nos. 2 and 3.

Emergent perennial palustrine wetland occurs around the perimeter of the S-2 Pond. Vegetation consists of black willow saplings, common cattail, flat-topped goldenrod, soft rush, reed canary grass, and small bedstraw. Soils are mapped as Chenango gravelly loam. Soil tests indicated hydric soil, 10YR 4/1, with bright chroma mottles. Data from this community are given in Appendix 1, Plot No. 4.

Several drainage ditches enter the S-2 Pond from the parking area above and drain the south side of the parking lots. These drainage ditches are clearly man-made and are not delineated as wetland for this reason. They do not have hydrophytic vegetation and are rock-lined, thus lacking hydric soil or wetland hydrology.

Wetlands were delineated in accordance with the *Corps of Engineers Wetland Delineation Manual* (Environmental Laboratory 1987). The wetland boundary was marked with red wire flags numbered as follows (see Appendix 2):

- 1-16 West boundary of forested wetland east of S-2 Pond and sides of dikes.
- 16-44 Dike facing S-2 Pond on south east and west sides.
- 45-60 South side of wetland boundary along natural drainage.

Wetlands are bounded by upland forest on the west of the forested wetland. Vegetation consists of black cherry, red maple, quaking aspen, autumn olive, northern spicebush, garlic mustard, Virginia knotweed, and summer grape. Soils are mapped as Braceville gravelly loam. Soil tests indicated non-hydric soil, 10YR 4/4, with no

mottles or other hydric soil features. Data from this community are given in Appendix 1, Plot No. 5.

The parking area and fields west and north of the wetlands are located on fill and are upland. Vegetation consists of crown vetch, Canada goldenrod, orchard grass, timothy, and smooth brome. Soils are mapped as Braceville gravelly loam; however, soil tests indicated fill material, 10YR 4/4, with no hydric soil features. Data from this community are given in Appendix 1, Plot No. 6.

The area south of the wetlands and bordering the south drainage ditch consists of open woods and fields that are upland. Vegetation consists of red maple, black cherry, Allegheny blackberry, autumn olive, Canada goldenrod, wrinkle-leaf goldenrod, garlic mustard, and poison ivy. Soils are mapped as Chenango gravelly loam. Soil tests indicated non-hydric soil, 10YR 4/4, with no mottles or other hydric soil features. Data from this community are given in Appendix 1, Plot No. 7.

Permits are required from the U. S. Army Corps of Engineers and the PA Department of Environmental Protection to disturb or encroach upon wetlands. The open water area of the S-2 Pond is not regulated as wetlands; however, permits would be required to cross wetlands and for changes to the pond. The upland areas north of the S-2 Pond could be used to increase the wetland area. This would effectively increase the water storage capacity, since the present fill contributes to the problem.

References

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of wetland and deepwater habitats of the United States. U. S. Fish and Wildlife Service, U. S. Department of the Interior.

Environmental Laboratory. 1987. Corps of Engineers wetlands delineation manual. Technical Report Y-87-1, U. S. Army Engineer Waterways Experiment Station, Vicksburg, MS.

Reed, P. N. 1988. National list of plant species that occur in wetlands: Pennsylvania. National Wetlands Inventory, U. S. Fish and Wildlife Service, St. Petersburg, FL.

U. S. Department of Agriculture. 1981. Soil survey of Luzerne County, Pennsylvania. Soil Conservation Service.

U. S. Department of Agriculture. 1987. Hydric soils of the United States. Soil Conservation Service.

Table 1

Plant species (common and scientific names) used in wetland delineation for South Drainage Area at the Susquehanna Steam Electric Station, Salem Township, Pennsylvania, 10-11 September 2002.

Common Name	Scientific Name	Wetland Status*
Red maple	<i>Acer rubrum</i>	Fac
Brookside alder	<i>Alnus serrulata</i>	Obl
River birch	<i>Betula nigra</i>	Facw
False -nettle	<i>Boehmeria cylindrica</i>	Facw
White turtlehead	<i>Chelone glabra</i>	Obl
Silky dogwood	<i>Cornus amomum</i>	Facw
Flat-topped goldenrod	<i>Euthamia graminifolia</i>	Fac
Small bedstraw	<i>Galium trifidum</i>	Facw
Spotted touch-me-not	<i>Impatiens capensis</i>	Facw
Soft rush	<i>Juncus effusus</i>	Facw
Northern spicebush	<i>Lindera benzoin</i>	Facw
Sensitive fern	<i>Onoclea sensibilis</i>	Facw
Cinnamon fern	<i>Osmunda cinnamomea</i>	Facw
Reed canary grass	<i>Phalaris arundinacea</i>	Facw
Clearweed	<i>Pilea pumila</i>	Facw
Black willow	<i>Salix nigra</i>	Facw
Silky willow	<i>Salix sericea</i>	Obl
Giant goldenrod	<i>Solidago gigantea</i>	Facw
Wrinkle-leaf goldenrod	<i>Solidago rugosa</i>	Fac
Common cattail	<i>Typha latifolia</i>	Obl
Arrowwood	<i>Viburnum dentatum</i>	Fac
Common blue violet	<i>Viola papilionacea</i>	Fac
Riverbank grape	<i>Vitis riparia</i>	Facw

* Classification according to U. S. Fish and Wildlife Service (Reed 1988).

Obl = Obligate wetland species (almost always occur in wetlands)

Facw = Facultative wetland species (usually occur in wetlands)

Fac = Facultative species (equally likely to occur in wetlands or nonwetlands)

Facu = Facultative upland species (usually occur in uplands)

Upl = Upland species (not listed in wetland inventory)

APPENDIX 1

Data Sheets From

Corps of Engineers Wetland Delineation Manual
(Environmental Laboratory 1987)

For Community Types Described in This Report

DATA FORM I
WETLAND DETERMINATION

Applicant Name: PPL Susquehanna Application Number: _____ Project Name: South Drainage
 State: PA County: Luzerne Legal Description: _____ Township: Salem
 Date: 9/10/02 Plot No.: _____ Section: _____

Vegetation [list the three dominant species in each vegetation layer (5 if only 1 or 2 layers)]. Indicate species with observed morphological or known physiological adaptations with an asterisk.

<u>Species</u>	<u>Indicator Status</u>	<u>Species</u>	<u>Indicator Status</u>
<u>Trees</u>		<u>Herbs</u>	
1. <i>Acer rubrum</i>	FAC	7. <i>Alliaria petiolata</i>	FACW
2. <i>Betula nigra</i>	FACW	8. <i>Viola papilionacea</i>	FAC
3.		9. <i>Milium pumila</i>	FACW
<u>Saplings/shrubs</u>		<u>Woody vines</u>	
4. <i>Lindera benzoin</i>	FACW	10.	
5.		11.	
6.		12.	

% of species that are OBL, FACW, and/or FAC: 63. Other indicators: _____
 Hydrophytic vegetation: Yes No _____ Basis: 75% Fac spp.

Soil
 Series and phase: Braceville, gravelly loam On hydric soils list? Yes _____; No _____
 Mottled: Yes ; No _____. Mottle color: 10YR5/6; Matrix color: 10YR5/2.
 Gleyed: Yes _____ No Other indicators: _____
 Hydric soils: Yes No _____. Basis: mottled low chroma soil

Hydrology
 Inundated: Yes _____; No . Depth of standing water: _____
 Saturated soils: Yes _____; No . Depth to saturated soil: 15+
 Other indicators: _____
 Wetland hydrology: Yes ; No _____. Basis: assumed from soils
 Atypical situation: Yes ; No _____. dry conditions
 Normal Circumstances? Yes No _____
 Wetland Determination: Wetland ; Nonwetland _____

Comments:

Determined by: f. Montgomery

DATA FORM 1
WETLAND DETERMINATION

Applicant Name: PPL Susquehanna Application Number: _____ Project Name: South Drainage
State: PA County: Luzeerne Legal Description: _____ Township: Salmon
Date: 9/10/02 Plot No.: 2 Section: _____

Vegetation [list the three dominant species in each vegetation layer (5 if only 1 or 2 layers)]. Indicate species with observed morphological or known physiological adaptations with an asterisk.

<u>Species</u>	<u>Indicator Status</u>	<u>Species</u>	<u>Indicator Status</u>
<u>Trees</u>		<u>Herbs</u>	
1. <i>Salix nigra</i>	Facw	7. <i>Oenothera sensibilis</i>	Facw
2.		8. <i>Impatiens capensis</i>	Facw
3.		9. <i>Solidago rugosa</i>	Fac
<u>Saplings/shrubs</u>		<u>Woody vines</u>	
4. <i>Alnus serrulata</i>	Obl	10.	-
5. <i>Viburnum dentatum</i>	Fac	11.	
6.		12.	

% of species that are OBL, FACW, and/or FAC: 100. Other indicators: _____
Hydrophytic vegetation: Yes X No ____ . Basis: 100% Fac + spp

Soil

Series and phase: Atherton silt loam On hydric soils list? Yes X ; No ____
Mottled: Yes X ; No ____ . Mottle color: 7.5YR 4/6 ; Matrix color: 10YR 4/2
Gleyed: Yes ____ No X Other indicators: _____
Hydric soils: Yes X No ____ ; Basis: mottled low chroma soil

Hydrology

Inundated: Yes ____ ; No X . Depth of standing water: _____
Saturated soils: Yes ____ ; No X . Depth to saturated soil: > 16"
Other indicators: assumed from soil - stream
Wetland hydrology: Yes X ; No ____ . Basis: assumed from soil
Atypical situation: Yes X ; No ____ . dry conditions
Normal Circumstances? Yes X No ____
Wetland Determination: Wetland X ; Nonwetland _____

Comments:

Determined by: J. Montgomery

DATA FORM I
WETLAND DETERMINATION

Applicant Name: PPL Suroguchanna Application Number: _____ Project Name: South Drainage
 State: PA County: LuZerne Legal Description: _____ Township: Salem
 Date: 9/10/02 Plot No.: 3 Section: _____

Vegetation [list the three dominant species in each vegetation layer (5 if only 1 or 2 layers)]. Indicate species with observed morphological or known physiological adaptations with an asterisk.

<u>Species</u>	<u>Indicator Status</u>	<u>Species</u>	<u>Indicator Status</u>
<u>Trees</u>		<u>Herbs</u>	
1. <i>Salix nigra</i>	Facw	7. <i>Phalaris arundinacea</i>	Facw
2.		8. <i>Solidago gigantea</i>	Facw
3.		9.	
<u>Saplings/shrubs</u>		<u>Woody vines</u>	
4. <i>Salix sericea</i>	Obl	10. <i>Vitis riparia</i>	Facw
5. <i>Cornus amomum</i>	Facw	11.	
6. <i>Salix nigra</i>	Facw	12.	

% of species that are OBL, FACW, and/or FAC: 100. Other indicators: _____
 Hydrophytic vegetation: Yes X No ____ . Basis: 100% Fac + spp

Soil

Series and phase: Chenango gravelly loam On hydric soils list? Yes ____ ; No X
 Mottled: Yes X ; No ____ . Mottle color: 10YR4/6 ; Matrix color: 10YR5/2
 Gleyed: Yes ____ No X Other indicators: _____
 Hydric soils: Yes X No ____ ; Basis: mottled low chroma soil

Hydrology

Inundated: Yes ____ ; No X . Depth of standing water: _____
 Saturated soils: Yes X ; No ____ . Depth to saturated soil: 10"
 Other indicators: mud cracks
 Wetland hydrology: Yes X ; No ____ . Basis: saturated soil
 Atypical situation: Yes X ; No ____ . dry conditions
 Normal Circumstances? Yes X No ____
 Wetland Determination: Wetland X ; Nonwetland _____

Comments:

Determined by: J. Montgomery

DATA FORM 1
WETLAND DETERMINATION

Applicant Name: PPL Susquehanna Application Number: _____ Project Name: South Drainage
 State: PA County: Lucerne Legal Description: _____ Township: Salem
 Date: 9/10/02 Plot No.: 4 Section: _____

Vegetation [list the three dominant species in each vegetation layer (5 if only 1 or 2 layers)]. Indicate species with observed morphological or known physiological adaptations with an asterisk.

<u>Species</u>	<u>Indicator Status</u>	<u>Species</u>	<u>Indicator Status</u>
<u>Trees</u>		<u>Herbs</u>	
1. —		7. <i>Typha latifolia</i>	Obl
2.		8. <i>Buthanion graminifolia</i>	Fac
3.		9. <i>Juncus effusus</i>	Facw
<u>Saplings/shrubs</u>		<u>Woody vines</u>	
4. <i>Salix nigra</i>	facw	10. <i>Galium trifidum</i>	facw
5.		11. <i>Phalaris arundinacea</i>	facw
6.		12.	

% of species that are OBL, FACW, and/or FAC: 100. Other indicators: _____
 Hydrophytic vegetation: Yes No . Basis: _____

Soil

Series and phase: Chenango gravelly loam On hydric soils list? Yes ; No
 Mottled: Yes ; No . Mottle color: 7.5YR3/1; Matrix color: 10YR7/1
 Gleyed: Yes No Other indicators: _____
 Hydric soils: Yes No ; Basis: mottled gleyed soil

Hydrology

Inundated: Yes ; No . Depth of standing water: _____
 Saturated soils: Yes ; No . Depth to saturated soil: 10"
 Other indicators: mud cracks
 Wetland hydrology: Yes ; No . Basis: saturated soil
 Atypical situation: Yes ; No
 Normal Circumstances? Yes No
 Wetland Determination: Wetland ; Nonwetland _____

Comments:

Determined by: J. Montgomery

DATA FORM 1
WETLAND DETERMINATION

Applicant Name: PPL - Surquehanna Application Number: _____ Project Name: South Drainage
 State: PA County: Lucerne Legal Description: _____ Township: Salem
 Date: 9/10/02 Plot No.: 5 Section: _____

Vegetation [list the three dominant species in each vegetation layer (5 if only 1 or 2 layers)]. Indicate species with observed morphological or known physiological adaptations with an asterisk.

<u>Species</u>	<u>Indicator Status</u>	<u>Species</u>	<u>Indicator Status</u>
<u>Trees</u>		<u>Herbs</u>	
1. <i>Acer rubrum</i>	Fac	7. <i>Alliaria petiolata</i>	Facu
2. <i>Prunus serotina</i>	Facu	8. <i>Polygonum virginianum</i>	Fac
3. <i>Populus tremuloides</i>	Facu	9.	
<u>Saplings/shrubs</u>		<u>Woody vines</u>	
4. <i>Eleagnus commutata</i>	Upl Facu	10. <i>Vitis acerifolia</i>	Facu
5. <i>Lindera benzoin</i>		11.	
6.		12.	

Z of species that are OBL, FACW, and/or FAC: 37. Other indicators: none.
 Hydrophytic vegetation: Yes ___ No X. Basis: <50% fac + etc

Soil
 Series and phase: Braceville gravelly loam On hydric soils list? Yes ___; No X.
 Mottled: Yes ___; No X. Mottle color: -; Matrix color: 10YR/7/4.
 Gleyed: Yes ___ No X Other indicators: none.
 Hydric soils: Yes ___ No X; Basis: no indicators.

Hydrology
 Inundated: Yes ___; No X. Depth of standing water: -.
 Saturated soils: Yes ___; No X. Depth to saturated soil: > 18".
 Other indicators: none.
 Wetland hydrology: Yes ___; No X. Basis: no.
 Atypical situation: Yes ___; No X.
 Normal Circumstances? Yes X No ___.
 Wetland Determination: Wetland _____; Nonwetland X.

Comments:

Determined by: J. Montgomery

DATA FORM 1
WETLAND DETERMINATION

Applicant Name: PPL Susquehanna Application Number: _____ Project Name: South Drainage
 State: PA County: Luzeeme Legal Description: _____ Township: Salem
 Date: 9/11/02 Plot No.: 6 Section: _____

Vegetation [list the three dominant species in each vegetation layer (5 if only 1 or 2 layers)]. Indicate species with observed morphological or known physiological adaptations with an asterisk.

<u>Species</u>	<u>Indicator Status</u>	<u>Species</u>	<u>Indicator Status</u>
<u>Trees</u>		<u>Herbs</u>	
1. <i>Fraxinus americana</i>	Facu	7. <i>Coronilla varia</i>	Upl
2.		8. <i>Dactylis glomerata</i>	Facu
3.		9. <i>Phleum pratense</i>	Facu
<u>Saplings/shrubs</u>		<u>Woody vines</u>	
4. -		10. <i>Bromus inermis</i>	Upl
5.		11.	
6.		12.	

% of species that are OBL, FACW, and/or FAC: 0. Other indicators: _____
 Hydrophytic vegetation: Yes _____ No X. Basis: no Fac + spp

Soil

Series and phase: Braceville gravelly loam On hydric soils list? Yes _____; No X.
 Mottled: Yes _____; No X. Mottle color: _____; Matrix color: 10YR4/4.
 Gleyed: Yes _____ No X Other indicators: none.
 Hydric soils: Yes _____ No X; Basis: no indicators

Hydrology

Inundated: Yes _____; No X. Depth of standing water: _____
 Saturated soils: Yes _____; No X. Depth to saturated soil: > 18".
 Other indicators: none.
 Wetland hydrology: Yes _____; No X. Basis: no indicators.
 Atypical situation: Yes _____; No X.
 Normal Circumstances? Yes X No _____
 Wetland Determination: Wetland _____; Nonwetland X

Comments:

Determined by: J. Montgomery

DATA FORM 1
WETLAND DETERMINATION

Applicant Name: PLZ Susquehanna Application Number: _____ Project Name: South Drainage
 State: VA County: Lucerne Legal Description: _____ Township: Salem
 Date: 9/11/02 Plot No.: 7 Section: _____

Vegetation [list the three dominant species in each vegetation layer (5 if only 1 or 2 layers)]. Indicate species with observed morphological or known physiological adaptations with an asterisk.

<u>Species</u>	<u>Indicator Status</u>	<u>Species</u>	<u>Indicator Status</u>
<u>Trees</u>		<u>Herbs</u>	
1. <i>Acer rubrum</i>	Fac	7. <i>Solidago canadensis</i>	Facu
2. <i>Prunus serotina</i>	Facu	8. <i>Solidago rugosa</i>	Fac
3.		9. <i>Alliaria petiolata</i>	Facu
<u>Saplings/shrubs</u>		<u>Woody vines</u>	
4. <i>Rubus alleghaniensis</i>	Facu	10. <i>Toxicodendron radicans</i>	fac
5. <i>Elaeagnus commutata</i>	Upl	11.	
6.		12.	

% of species that are OBL, FACW, and/or FAC: 37. Other indicators: _____
 Hydrophytic vegetation: Yes _____ No X. Basis: <50% Fac + spp

Soil

Series and phase: Chenango gravelly loam On hydric soils list? Yes _____; No X
 Mottled: Yes _____; No X. Mottle color: _____; Matrix color: 10YR4/4
 Gleyed: Yes _____ No X Other indicators: none
 Hydric soils: Yes _____ No X; Basis: no indicators

Hydrology

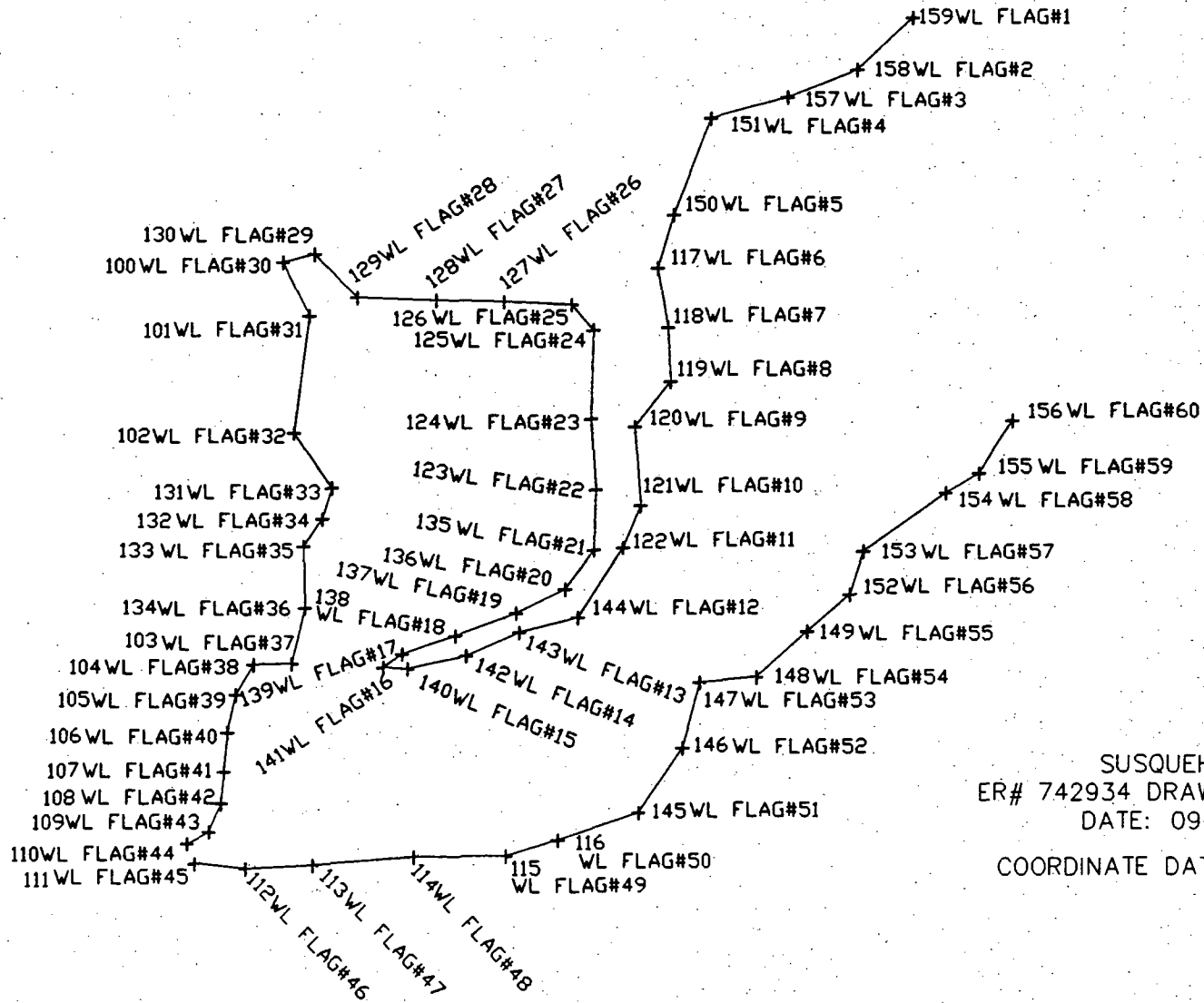
Inundated: Yes _____; No X. Depth of standing water: _____
 Saturated soils: Yes _____; No X. Depth to saturated soil: >16"
 Other indicators: none
 Wetland hydrology: Yes _____; No X. Basis: no indicators
 Atypical situation: Yes _____; No X
 Normal Circumstances? Yes X No _____
 Wetland Determination: Wetland _____; Nonwetland X

Comments:

Determined by: J. Montgomery

APPENDIX 2

Wetlands Flag Location



SUSQUEHANNA SES WETLANDS LOCATION
 ER# 742934 DRAWING: SUSQWET.DWG COORDINATE: SUSQ.CRD
 DATE: 09-19-02 SCALE: 1" = 50'
 COORDINATE DATUM BASED UPON PA NORTH ZONE NAD83

List Points Report

09/19/2002

File> j:\enr\surveybloom\misc\susq.crd

Job Description>

Job Number> 0.000 Job Date> 09/19/2002

PointNo.	Northing(Y)	Easting(X)	Elev(Z)	Description
HV122	339924.37	2411037.73	666.59	MAG NAIL FND
1	339300.03	2410071.35	686.23	NAIL FND
2	340031.96	2411085.95	667.78	MAG NAIL SET
3	340060.14	2411357.30	618.29	NAIL SET
4	340025.50	2411503.56	616.02	NAIL SET
5	340186.23	2411588.19	610.21	NAIL SET
6	339934.75	2411625.93	606.98	NAIL SET
100	340065.78	2411313.38	620.32	WL FLAG#30
101	340033.30	2411329.20	618.20	WL FLAG#31
102	339962.94	2411320.01	618.75	WL FLAG#32
103	339822.44	2411318.18	618.30	WL FLAG#37
104	339821.92	2411294.49	616.70	WL FLAG#38
105	339803.74	2411283.81	617.30	WL FLAG#39
106	339781.11	2411278.42	618.59	WL FLAG#40
107	339757.56	2411276.38	618.88	WL FLAG#41
108	339738.70	2411274.93	619.22	WL FLAG#42
109	339721.67	2411267.12	619.77	WL FLAG#43
110	339714.79	2411253.40	620.61	WL FLAG#44
111	339702.82	2411258.16	620.90	WL FLAG#45
112	339699.52	2411289.07	620.24	WL FLAG#46
113	339701.46	2411330.40	618.60	WL FLAG#47
114	339706.10	2411392.24	617.57	WL FLAG#48
115	339706.56	2411447.11	616.03	WL FLAG#49
116	339716.30	2411478.93	613.98	WL FLAG#50
117	340062.11	2411540.25	607.59	WL FLAG#6
118	340026.01	2411546.20	606.80	WL FLAG#7
119	339993.52	2411547.79	606.26	WL FLAG#8
120	339966.30	2411526.13	605.33	WL FLAG#9
121	339918.24	2411529.49	607.74	WL FLAG#10
122	339892.40	2411518.77	611.15	WL FLAG#11
123	339927.83	2411502.06	615.77	WL FLAG#22
124	339971.35	2411499.42	615.61	WL FLAG#23
125	340024.19	2411500.79	615.81	WL FLAG#24
126	340039.99	2411487.41	616.04	WL FLAG#25
127	340041.46	2411446.68	615.86	WL FLAG#26
128	340042.55	2411406.26	616.07	WL FLAG#27
129	340044.31	2411358.17	617.05	WL FLAG#28
130	340071.02	2411332.66	619.85	WL FLAG#29
131	339929.22	2411342.61	613.86	WL FLAG#33
132	339910.69	2411336.76	614.43	WL FLAG#34
133	339893.73	2411325.45	615.74	WL FLAG#35
134	339856.72	2411326.07	618.77	WL FLAG#36
135	339891.07	2411501.38	615.67	WL FLAG#21
136	339867.48	2411483.52	613.83	WL FLAG#20
137	339852.79	2411453.94	614.63	WL FLAG#19
138	339839.09	2411417.57	615.50	WL FLAG#18
139	339828.17	2411385.59	615.12	WL FLAG#17

140	339819.31	2411388.80	614.09	WL FLAG#15
141	339819.99	2411374.03	614.78	WL FLAG#16
142	339827.00	2411423.78	613.74	WL FLAG#14
143	339841.16	2411455.98	614.13	WL FLAG#13
144	339850.13	2411491.37	611.53	WL FLAG#12
145	339732.37	2411528.27	613.81	WL FLAG#51
146	339771.34	2411554.81	612.72	WL FLAG#52
147	339810.54	2411565.67	611.95	WL FLAG#53
148	339813.55	2411600.34	611.42	WL FLAG#54
149	339841.51	2411630.75	610.85	WL FLAG#55
150	340094.26	2411549.86	607.87	WL FLAG#5
151	340152.26	2411572.50	608.66	WL FLAG#4
152	339864.18	2411656.55	609.83	WL FLAG#56
153	339890.12	2411665.05	608.22	WL FLAG#57
154	339926.07	2411714.51	606.58	WL FLAG#58
155	339938.22	2411735.02	606.86	WL FLAG#59
156	339970.27	2411755.89	605.44	WL FLAG#60
157	340164.84	2411619.14	608.09	WL FLAG#3
158	340181.56	2411661.18	606.98	WL FLAG#2
159	340212.95	2411694.84	606.95	WL FLAG#1

Number of points listed> 67

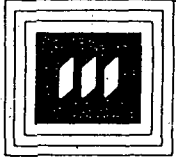
**Attachment 30 to PLA-6219
Ecology III, Inc. April 29, 1996.
Temporary Water Make-up Pipeline**

(NRC Document Request 76)



Ecology III, Inc.

SUSQUEHANNA SES ENVIRONMENTAL LABORATORY



R R 1, Box 1795 • Berwick, PA 18603

Phone (717) 542-2191 • FAX (717) 542-1625

29 April 1996

Jerome S. Fields (A9-3)
Pennsylvania Power & Light Company

SUSQUEHANNA STEAM ELECTRIC STATION
CCN-741326 File R9-3
EIPL-928
TEMPORARY WATER MAKE-UP PIPELINE

The route for the proposed temporary water make-up pipeline was walked on 13 February 1996 (see EIPL-921). At that time, it was agreed that a concern for wetlands existed where the proposed pipeline runs along the S-2 Pond Access Road, and that the wetland boundary should be flagged in this area. Since the temporary pipeline will be placed on the surface and will be removed at the completion of the project, there will be little or no excavation associated with this project and environmental disturbance will be minimal.

The route along the S-2 Pond Access Road was surveyed for wetlands on 25 April 1996, and the wetland boundary was marked with pink flagging on trees or shrubs. The area east of the access road is wetland as flagged, with hydrophytic vegetation (silver maple, spicebush, skunk cabbage, American false hellebore) and hydric soils (10YR 4/2, with bright chroma mottles).

The area west and north of the flagging, including the access road, is upland with upland vegetation (black cherry, white ash, garlic mustard, may-apple) and soils (10YR 4/5, with no mottles or other hydric soil features).

While the proposed temporary pipeline route in the access road is not on wetland, there is wetland at one point fairly close to the road. The wetland area should not be disturbed during construction or dismantling of the pipeline.

For Department Use Only	
PNDI Search #	<u>EAT 113</u>
Date:	<u>3-8-95</u>

SUPPLEMENT NO. 1 PENNSYLVANIA NATURAL DIVERSITY INVENTORY SEARCH FORM

- A. This Supplement No. 1 provides the site information necessary to perform a computer search for species of special concern listed under the Endangered Species Act of 1973, the Wild Resources Conservation Act, the Pennsylvania Fish and Boat Code or the Wildlife Code. Records regarding species of special concern are maintained in a computer data base called the "Pennsylvania Natural Diversity Inventory" (PNDI).
- B. Complete the information below and mail to the appropriate regional office (SEE REVERSE SIDE FOR LIST OF OFFICES AND ADDRESSES).
- C. This Supplement No. 1 will be returned to you with information relevant to your project concerning species of special concern. Include it and any correspondence from appropriate agency indicating resolution with your submission of a Chapter 105 Permit Application for a Water Obstruction and Encroachment Permit and/or a Dam Permit and/or a General Permit Registration.
- D. The absence of recorded information in the PNDI files does not necessarily imply actual conditions on the site. Future field investigations could alter this determination. The information in PNDI is routinely updated. Results of this PNDI search are valid for one year.

PROJECT LOCATION:

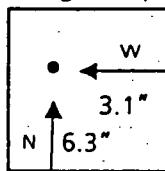
Luzerne
County
Salem Township
Township and/or Municipality

NAME: James D. Montgomery
ADDRESS: Ecology III, Inc.
RR 1, Box 1795
Berwick, PA 18603
PHONE (8:00 AM TO 4:00 PM): 717-542-2191

1) Name of the United States Geological Survey (U.S.G.S.) 7½ Minute Quadrangle Map where project is located: Berwick, PA 2) Project size (in acres) ±2 acres

3) Indicate location of approximate project center on the U.S.G.S. Quad map by measuring in inches (to nearest one-tenth) from the lower right corner of the full U.S.G.S. Quadrangle map.

- North (Up) 16 inches
- West (to the left) 2 inches



N: 6.3"
W: 3.1"
(example, not to scale)

4) Attach an 8½" x 11" photocopy (DO NOT REDUCE) of the section of the U.S.G.S. Quadrangle Map which identifies the project location and outlines the approximate boundaries of the project.

FOR DEPARTMENT USE ONLY

- EAT 3/8/95
- No known record of habitats for species of special concern has been identified in the area designated above.
 - No impact to species of special concern. (PNDI staff person _____ on _____) initials date
 - Potential impact to species of special concern. Written recommendations on measures necessary to resolve this matter will be provided by:

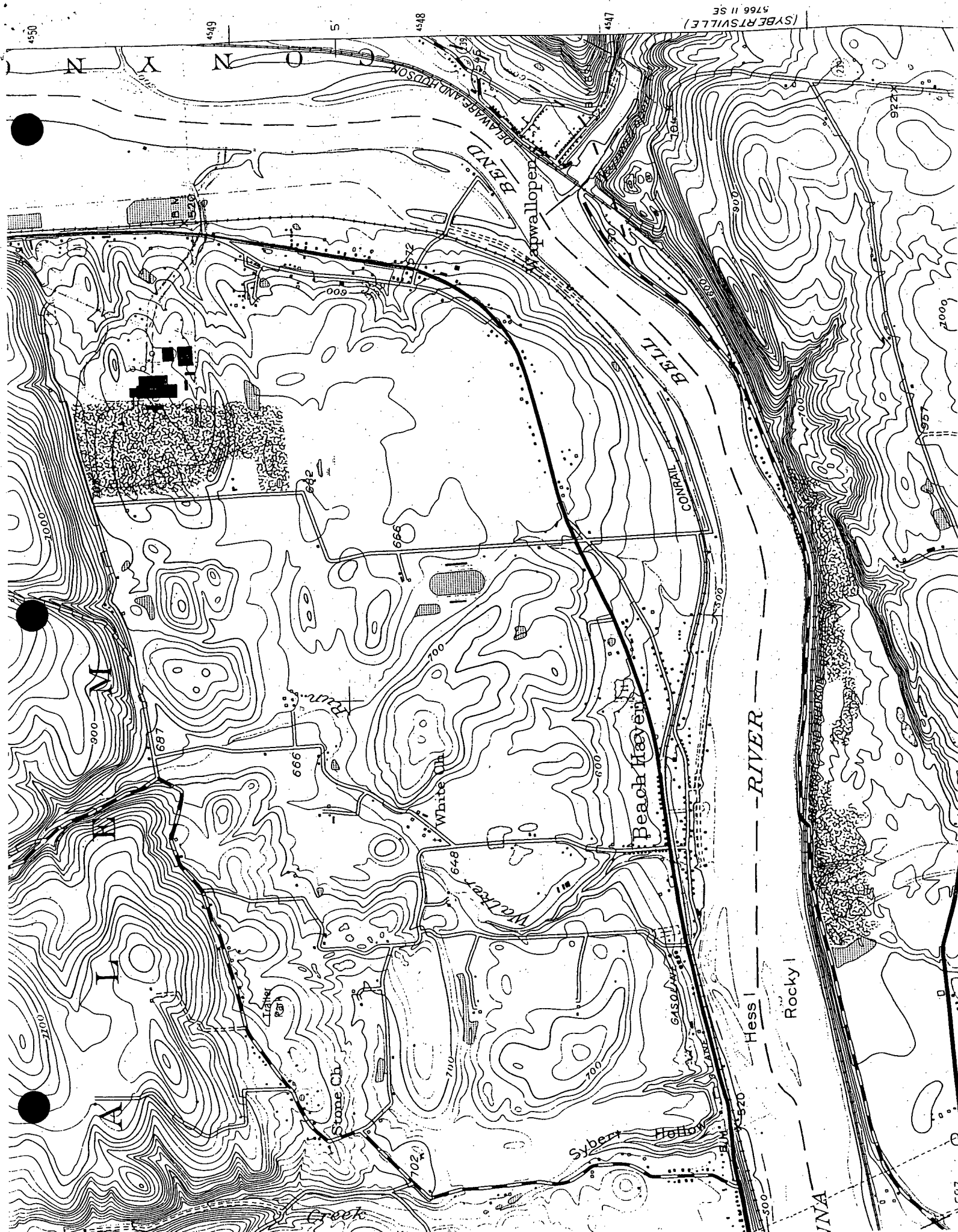
<input type="checkbox"/> Dept. of Environmental Resources Bureau of Forestry/FAS P.O. Box 8552 Harrisburg, PA 17105-8552 717-787-3444	<input type="checkbox"/> Mr. Andrew L. Shiels PA Fish & Boat Commission 450 Robinson Lane Bellefonte, PA 16823 814-359-5113	<input type="checkbox"/> Mr. Denver A. McDowell PA Game Commission 2001 Elmerton Ave. Harrisburg, PA 17110-9797 717-783-8743
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SEARCH PARAMETER VERIFICATION] [] A=ACCEPT R=REVISE

	SITE	QUAD	Q U A D N A M E	NORTH	WEST	SIZE]
1.	EAT 111	407575	PALMERTON	6.2	5.6	640
2.	EAT 112	417572	LONG EDDY	0.2	13	640
3.	EAT 113	417612	BERWICK	16	2	640
4.	EAT 114	417558	TUNKHANNOCK	15.5	7	640
5.	EAT 115	407581	PORTLAND (NJ)	7.4	14.75	640
6.	S10U032	407573	WIND GAP	5.8	3.1	640
7.						
8.						
9.						
10.						

=====	=====
ID NUMBER	S E A R C H S T A T U S
=====	=====
1. EAT 111	001 HITS] 01 GEO FEA
2. EAT 112	002 HITS] 02 PLANTS
3. EAT 113	NO ELEMENTS ENCOUNTERED.
4. EAT 114	NO ELEMENTS ENCOUNTERED.
5. EAT 115	008 HITS] 07 PLANTS 01 HABITATS
6. S10U032	NO ELEMENTS ENCOUNTERED.
7.	
8.	
9.	
10.	

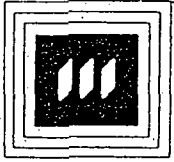
[C] C=CONTINUE (OUTPUT OPTIONS ON NEXT SCREEN





Ecology III, Inc.

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29 February 1996

Jerome S. Fields (A9-3)
Pennsylvania Power & Light Company

SUSQUEHANNA STEAM ELECTRIC STATION
CCN-741326 R9-3
EIPL-921

TEMPORARY WATER MAKE-UP PIPELINE ROUTE

The route for the proposed temporary water make-up pipeline was walked by J. D. Montgomery (Ecology III), J. S. Fields (PP&L), and John Blackwood (PP&L) on 13 February 1996, to determine if any areas of concern for wetlands are present.

Most of the proposed route is not on wetlands. Two areas of concern were found:

1. A stream crossing will be necessary for the outlet of the S2 Pond. There may be a small area of wetlands along this stream. The crossing will cause minimal disturbance since the pipeline is temporary and above ground.
2. Where the pipeline runs along the S2 Pond Access Road, it will be adjacent to wetlands bordering this road. The road and road shoulder are upland and can be utilized with no action; however, care should be taken not to encroach upon the wetland during construction or removal of the pipeline. Since the exact wetland boundary has not been determined (delineated), J. D. Montgomery agreed to flag this boundary this spring.

If you have any questions or require additional information, please contact me.

James D. Montgomery

James D. Montgomery, Ph.D.
Terrestrial Studies Director

/msh

copy: T. V. Jacobsen

NR File (A6-2)

EIPL File