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December 21, 2012

Ms. Amy Elliott
U.S. Army Corps of Engineers
State College Field Office
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State College, PA 16801

**BELL BEND NUCLEAR POWER PLANT
RESPONSE TO ACOE COMMENTS ON BBNPP
CWA SECTION 404 APPLICATION
BNP-2012-145 Docket No. 52-039**

Reference: 1) Letter, ACOE-2012-294, A. Elliott (ACOE) to M.J. Caverly (PPL)
"Comments on BBNPP CWA Section 404 Application", dated December 10, 2012.

The purpose of this letter is to provide the Army Corps of Engineers (ACOE) with the additional information requested (Reference 1) to complete its review of the updated Clean Water Act (CWA) Section 404 Application submitted on November 23, 2011. The application addresses water-related impacts associated with the proposed construction of the Bell Bend Nuclear Power Plant, ACOE Project No. CENAB-OP-RPA-2008-01401-P13. Responses to the comments received are included in the enclosure and provided as hardcopy. Appendix M of Comment 5 is provided on disc.

Should you have questions or need further clarification regarding this matter, please contact Gary Petrewski of my staff (gpetrewski@pplweb.com or 610-774-5996).

Respectfully,

Michael J. Caverly

MJC/kw

Enclosure: Response to ACOE-2012-294 (Appendix M of Comment 5 provided on disc)

cc: (w/ Enclosure provided on disc)

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Comment 1. Please update Enclosures D1 (BBNPP Wetland & Watercourse Impact Location Map) and D3 (Table D3 – BBNPP Wetland and Watercourse Impacts and Mitigation) located in Binder 1B. As previously discussed in email correspondence from June 2012, clarification is needed on the classification of temporary impacts vs. permanent impacts vs. indirect impacts. Because not all impacts associated with this project are regulated by the Corps, the column labeled 'ACOE – indirect impacts' should be updated and better referenced as 'permanent PFO wetland conversion'. This should not change your previously submitted mitigation plan.

Response: Attached are the revised ACOE wetlands and watercourse impact location map, D1, and ACOE wetlands and watercourse impact table, D3. Per your request, we have clarified the temporary and permanent forested wetland conversion impacts on both D1 and D3. We have also characterized Impact L from the construction dewatering for the ESWEMS pond as a temporary impact resulting from the temporary reduction in groundwater elevation in the adjacent PFO wetlands. It was clarified during the June 2012 discussions that the construction dewatering associated with Impact L is a temporary PFO impact as there is no tree clearing and as such is not a Corps-regulated impact. This impact has been removed from D1 and D3 but has been retained on the PADEP documents as described in the JPA submission.

Comment 2. Clarification is needed for the amount of wetland impact associated with Impact L (construction de-watering for the ESWEMS pond). The project description (pg. 9) under Binder 1 (Sections A-R) references 6.0 acres of impact, while Enclosure D (pg. 13) under Binder 1B (Section J – Environmental Assessment) references 5.56 acres of impact. Please clarify.

Response: Section H of Binder 1 is the general project description section of the JPA. In the discussion of ESWEMS Pond, Cooling Towers, and Power Block Dewatering on page 9 it is stated, “Groundwater flow models have indicated the potential for temporary groundwater drawdown in Wetlands 11 and 12 as a result of construction dewatering associated with the ESWEMS pond (Impact L). No other impacts are anticipated as a result of construction dewatering. Dewatering will cause about 6 ac of temporary wetland impacts. A plan to minimize these impacts and maintain existing hydrologic conditions during construction has been developed and is presented in Section R of this JPA.”

Enclosure D of Binder 1B is the more detailed project description meant to meet the requirements of the Environmental Assessment portion of this application. Under the detailed discussion of Impact L it is stated,

“A bentonite slurry wall flow barrier will be constructed to minimize the extent of groundwater drawdown resulting from ESWEMS pond construction. The slurry wall will slow ground water movement into the excavation area, thereby reducing the extent of drawdown surrounding the ESWEMS pond construction site. With the slurry wall in place, modeling indicates drawdowns of approximately 5 ft extending no further than approximately 400 ft west of the ESWEMS pond. Based on groundwater modeling, dewatering will result in temporary impacts to approximately 5.56 ac of Wetlands 11 and 12 and 1,396 LF (0.30 ac) of Tributary 1 and Tributary 2. Absent additional mitigation, this level of drawdown is likely to have a negative impact on wetland vegetation, habitat, hydrology, overall wetland biochemistry, and would reduce the functions and values of the affected wetlands over the period of impact.”

The 6 acres referenced in Section H represents the rounding to the nearest acre of the more detailed 5.56 acres in Enclosure D and doesn't represent any change in the amount of wetland impacts. Since this is a temporary impact, it is not a Corps-related impact.

Comment 3. Clarification is also needed for Impact O (blowdown line river dredging). Please provide the amount of river dredging (cubic yards of material) for Impact O. Item #25 of Appendix A under Binder 2 (Appendix A – USACOE Required Information) references 17,000 - 25,000 cubic yards of dredging; this amount, however, only appears to be for Impact N (intake line river dredging).

Response: Enclosure D of Binder 1B is the more detailed project description meant to meet the requirements of the Environmental Assessment portion of this application. Under the detailed discussion of Impacts N and O it is stated,

“Impact N is the required dredging within the NBSR to create a forebay adjacent to the Intake Structure where water will be withdrawn from the river. The area within the cofferdam will be dewatered and dredged by hydraulic or mechanical methods, and the existing shoreline will be excavated to create an approximately 100-foot by 200-foot forebay¹ for the intake structure. The dredged area of 0.61 ac will affect 220 LF of the NBSR.”

“It is expected that approximately 17,000 to 25,000 cubic yards (c.y.) of in-place Susquehanna River bottom substrate will be removed to accommodate the proposed in-water structures (**including blowdown line**) *{emphasis added}* included in BBNPP design.

“Impact O is the required dredging within the NBSR to install the blowdown line and diffuser pipe. A temporary cofferdam confining an area approximately 50 feet wide by 350-foot long, extending into the river will be used during installation of the blowdown line to dewater the area and contain sediment. The area within the cofferdam will be dewatered and dredged by hydraulic or mechanical method and the NBSR bottom will be excavated to bury the blowdown line and install the diffuser pipe, concrete pad, and associated riprap. The blowdown line will extend approximately 325 feet from the shoreline on a slight downstream angle with the diffuser portion starting 203 feet from the shoreline. The pipe will be either 24 inch carbon steel, 24 inch RCP or 26 inch HDPE. The pipe will be anchored to a concrete pad set on the river bottom and covered with riprap for protection.”

In the Binder 2, Appendix A, Item 25, USACOE Required Information Response to provide “Dredge material disposal site, location, and capacity, and provide plans” it states, “It is expected that approximately 17,000 to 25,000 cubic yards (c.y.) of in-place Susquehanna River bottom substrate will be removed to accommodate **the proposed in-water structures and BBNPP Intake Structure design.** *{emphasis added}* A bulking factor of 1.4 is assumed to account for expansion of the silty gravel material following removal, producing a total estimated volume of material for disposal of 24,000 to 35,000 c.y.” The proposed in-water structures refer to the blowdown line, diffuser pipe, and concrete pad.

While the areas being dewatered for construction will temporarily impact similar amounts of surface area (0.61 acres Impact N vs. 0.46 acres Impact O), (See D3 from response to Comment 1) Impact N requires significantly more excavation as compared to Impact O. The difference in amount of excavation needed can be visualized by looking at the elevations to be obtained in the river for intake and blowdown structures and the amount of shoreline excavation needed for the Intake Structure. (See JPA Binder 1A large plan set drawings CS 3116 and CS3204 to CS3206) Much of the blowdown line will be

supported on concrete pads or riprap and anchored with steel straps. This requires a substantial coffer dam and dewatering in order to install but actual excavation of bottom sediment is expected to be minimal when compared to the intake structure bottom sediment excavation.

- ¹ The 100 ft x 100 ft value in the JPA was a typographical error. It should read 100 ft x 200 ft. This represents the coffer dam extending 100 ft from the shoreline and 200 ft parallel to the shoreline.

Comment 4. With any DA authorization, mitigation construction is required prior to or concurrent with the project impacts. Please provide the timing sequence for the Confers Lane wetland mitigation site. As described in Section R5 under Binder 1C (Section R – Mitigation Plan), the Confers Lane mitigation (0.04 acres of wetland creation and enhancement) will consist of removing portions of Confers Lane. However, it remains unclear as to when this will occur. If Confers Lane will remain open until the project construction is complete, it appears that the wetland mitigation at this location cannot commence until well after the project impacts have occurred. Please clarify.

Response:

Closure of Confers Lane and wetland mitigation are planned to occur early in the construction process. There is no intent to keep Confers Lane open until project construction is complete. In fact closure is expected to occur during the initial mobilization process by the EPC contractor. The closure of Confers Lane is needed to finish the heavy haul road and rail spur both which are scheduled early in the construction sequence. Wetland mitigation is planned to occur about 6 months after mobilization and take 6 months to complete. The intent is to complete the wetland mitigation projects as part of the site preparation work once required permits to begin construction are received.

Note: There is currently a conflict between the BBNPP Level II Project Schedule and the E&S Plan construction sequence. The E&S Construction Sequence Plan has the closure of Confers Lane in Phase 2 early in the process, but doesn't include the installation of Walker Run and Confers Lane wetland mitigation until Phase 10 at the end of the construction process.

Per Personal Communication with Heather Berlew, LCD on December 18, 2012 the E&S Construction Sequence Plan can be amended to move the wetland mitigation for Walker Run and Confers Lane to Phase 2 at a later date by a minor permit modification as long as it occurs prior to the start of construction.

Comment 5. To assist the Corps in the development of the draft EIS it is recommended that specific sections of the document be provided by PPL. As with the EIS for Calvert Cliffs Nuclear Power plant, the applicant provided Appendix K and Appendix M of the document (Enclosure 1). Therefore, please provide the Corps with a draft of the following:

Appendix K – PPL’s Final Mitigation Plan Summary for Stream and Wetland Impacts:

Appendix M – PPL’s Responses to Comments Received by the U.S. Army Corps of Engineers from the Public Notice.

Response: See Attachments

Enclosure D3
 BBNPP Wetland and Watercourse Impacts and Mitigation
 ACOE Impacts and Mitigation

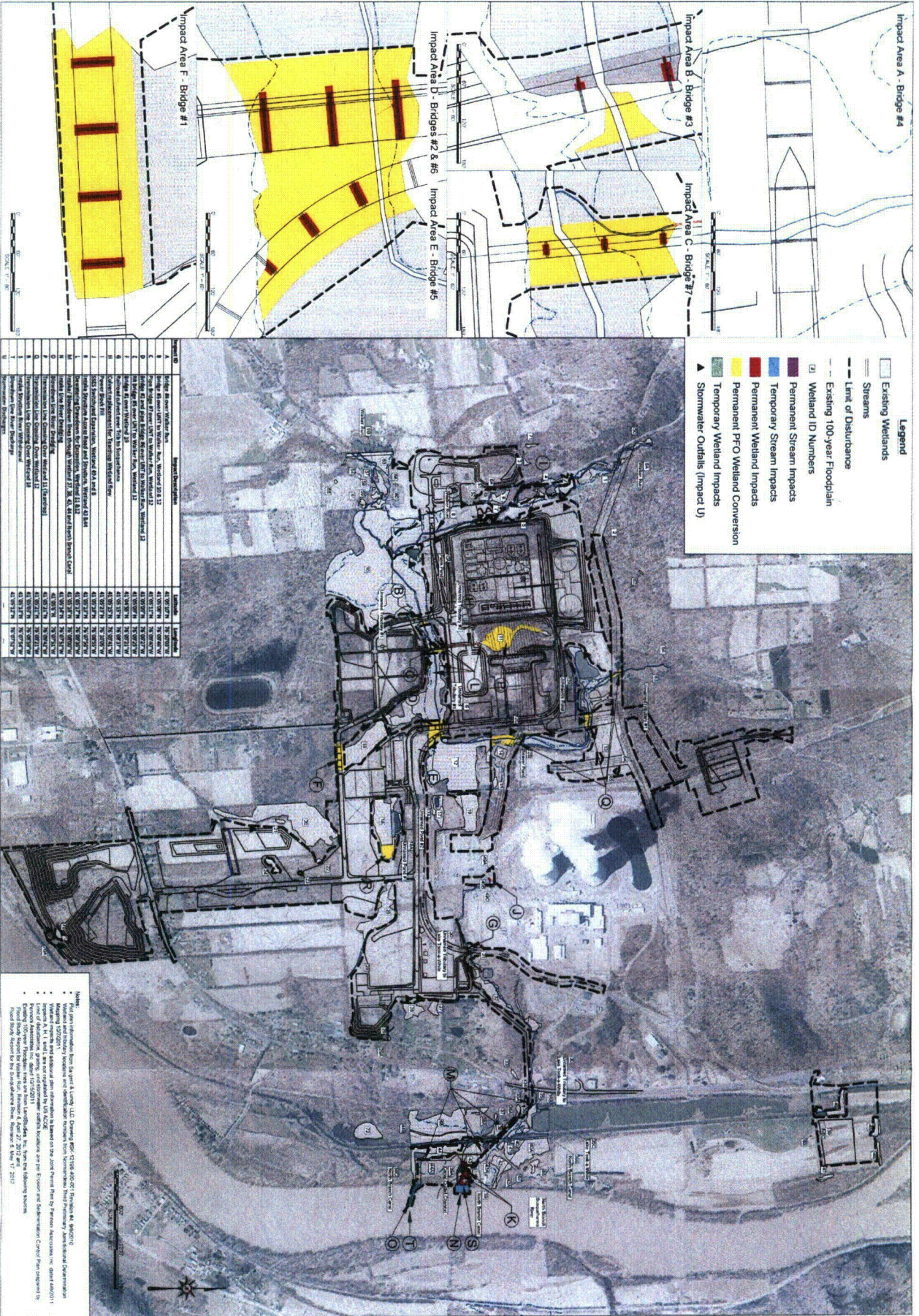
8/22/2013

Impact ID	Impact Description	Latitude	Longitude	TV Wetland?	Water Dependent?	ACOE Indirect/Method Impacts				ACOE Stream Impacts				Permanent PFO (Ac.)	Pm./Value Lost	PFO Loss (Ac.)
						Temporary (PFO) (Ac.)	Permanent (Ac.)	PFO (Ac.)	PSS (Ac.)	PFA (Ac.)	Permanent (U)	Temporary (U)	Wetland Conversion			
A	Bridge at over-Walker Run	41°05'07"N	76°10'07"W	NO	YES	...	...	...	...	...	...	...	...	None	0.09
B	Bridge at over-Walker Run, Wetland 10 & 11	41°05'07"N	76°10'07"W	YES	YES	0.19	0.02	0.01	0.01	0.02	...	...	0.09	PFO wildlife habitat	0.09
C	Pipe bridge 27 feet over Walker Run, Wetland 12	41°05'08"N	76°09'47"W	YES	YES	...	0.01	0.01	0.01	...	...	...	0.41	PFO wildlife habitat	0.42
D	Bridge at over-Walker Run, Wetland 12	41°05'08"N	76°09'47"W	YES	YES	...	0.03	0.03	0.03	...	...	...	0.63	PFO wildlife habitat	0.63
E	Bridge at over-Walker Run, Wetland 12	41°05'08"N	76°09'47"W	YES	YES	...	0.09	0.09	0.09	...	...	...	0.98	PFO wildlife habitat	1.07
F	Bridge at over-Walker Run, Wetland 12	41°05'08"N	76°09'47"W	YES	YES	...	...	...	...	...	...	...	...	None	0.00
G	Ballast culvert over T-30 Substation	41°05'15"N	76°08'21"W	NO	YES	...	...	...	...	...	...	...	...	None	0.00
H	Culvert replacement for T-30 Substation	41°05'15"N	76°08'21"W	YES	YES	...	...	...	...	...	...	...	...	None	0.00
I	Culvert replacement for T-30 Substation	41°05'15"N	76°08'21"W	YES	YES	...	...	...	...	...	...	...	...	None	0.00
J	Power line at over-Walker Run	41°05'21"N	76°10'05"W	NO	NO	...	...	...	...	...	...	...	...	None	0.00
K	Trunk structure access road and structure, Wetland 4 & 4A	41°05'18"N	76°08'48"W	NO	YES	...	0.96	0.96	0.96	0.07	...	...	...	PFO wildlife habitat, fish habitat, freshwater diadromy, all wetlands	0.96
L	Openings (Gravel) for excavation, Wetland 11 & 12	41°05'17"W	76°09'46"W	YES	YES	...	...	...	...	...	...	...	...	Temporary PFO wildlife habitat	0.07
M	Trunk structure over Walker Run, Wetland 11 & 12	41°05'18"W	76°08'07"W	NO	YES	0.71	0.71	0.71	0.71	0.71	...	...	...	PFO wildlife habitat	0.71
N	Trunk structure over Walker Run, Wetland 11 & 12	41°05'18"W	76°08'07"W	NO	YES	...	...	...	...	...	...	...	...	PFO wildlife habitat	0.71
O	Trunk structure over Walker Run, Wetland 11 & 12	41°05'18"W	76°08'07"W	NO	YES	...	...	...	...	...	...	...	...	PFO wildlife habitat	0.71
P	Trunk structure over Walker Run, Wetland 11 & 12	41°05'18"W	76°08'07"W	NO	YES	...	...	...	...	...	...	...	...	PFO wildlife habitat	0.71
Q	Trunk structure over Walker Run, Wetland 11 & 12	41°05'18"W	76°08'07"W	NO	YES	...	...	...	...	...	...	...	...	PFO wildlife habitat	0.71
R	Trunk structure over Walker Run, Wetland 11 & 12	41°05'18"W	76°08'07"W	NO	YES	...	...	...	...	...	...	...	...	PFO wildlife habitat	0.71
S	Trunk structure over Walker Run, Wetland 11 & 12	41°05'18"W	76°08'07"W	NO	YES	...	...	...	...	...	...	...	...	PFO wildlife habitat	0.71
T	Trunk structure over Walker Run, Wetland 11 & 12	41°05'18"W	76°08'07"W	NO	YES	...	...	...	...	...	...	...	...	PFO wildlife habitat	0.71
U	Trunk structure over Walker Run, Wetland 11 & 12	41°05'18"W	76°08'07"W	NO	YES	...	...	...	...	...	...	...	...	PFO wildlife habitat	0.71
Minimum Wetland Replacement Acreage						0.90	1.25	0.51	0.00	0.74	742	0.14	317	1.11	831	
ACOE (24 PFO, 154 PSS, 11 PFA)						0.19	0.14	0.12	0.00	0.02	762.90	0.14	0	0.00	7.20	
Total Impact Mitigation						0.90	1.25	0.51	0.00	0.74	742.90	0.14	0	0.00	831	

Mitigation Sites	Total	Wetland Creation				Total	Wetland Enhancement				Total	Stream Restoration		Description of Primary Function and Values Created/Enhanced	PFO Created/Conserved (Ac.)
		PFO (Ac.)	PSS (Ac.)	PFA (Ac.)	Other (Ac.)		PFO (Ac.)	PSS (Ac.)	PFA (Ac.)	Other (Ac.)		Creation (U)	Enhancement (U)		
Wetland Site A and B	4.92	4.92	0.00	0.00	0.00	4.92	0.00	0.00	0.00	4.92	0.00	0.00	PFO wildlife habitat, fish habitat, freshwater diadromy, groundwater recharge, sediment reduction, flood flow attenuation, PFO wildlife habitat	4.92	
Wetland Site C and D	8.14	8.14	0.00	0.00	0.00	8.14	0.00	0.00	0.00	8.14	0.00	0.00	PFO wildlife habitat, fish habitat, freshwater diadromy, groundwater recharge, sediment reduction, flood flow attenuation, PFO wildlife habitat	8.14	
Wetland Site E and F	0.36	0.36	0.00	0.00	0.00	0.36	0.00	0.00	0.00	0.36	0.00	0.00	PFO wildlife habitat, fish habitat, freshwater diadromy, groundwater recharge, sediment reduction, flood flow attenuation, PFO wildlife habitat	0.36	
Total Mitigation Sites	8.23	8.23	0.00	0.00	0.00	8.23	0.00	0.00	0.00	8.23	0.00	0.00	PFO wildlife habitat	14.60	

Replacement Ratios Provided (Recommended Sites)		Total	PFO (Ac.)	PSS (Ac.)	PFA (Ac.)
Replacement Ratio (ACOE)		12.07	29.96	N/A	0.34

Note: Replacement Ratios based on impacts from project, including mitigation impacts.



- Legend**
- Existing Wetlands
 - Streams
 - Limit of Disturbance
 - Existing 100-year Floodplain
 - Wetland ID Numbers
 - Permanent Stream Impacts
 - Temporary Stream Impacts
 - Permanent Wetland Impacts
 - Permanent PFO Wetland Conversion
 - Temporary Wetland Conversion
 - Stormwater Outfalls (Impact U)

ID	Wetland Description	Approx. Area	Approx. Date
1	Wetland 1 (Wetland ID #1)	48,500 sq ft	7/20/07
2	Wetland 2 (Wetland ID #2)	48,500 sq ft	7/20/07
3	Wetland 3 (Wetland ID #3)	48,500 sq ft	7/20/07
4	Wetland 4 (Wetland ID #4)	48,500 sq ft	7/20/07
5	Wetland 5 (Wetland ID #5)	48,500 sq ft	7/20/07
6	Wetland 6 (Wetland ID #6)	48,500 sq ft	7/20/07
7	Wetland 7 (Wetland ID #7)	48,500 sq ft	7/20/07
8	Wetland 8 (Wetland ID #8)	48,500 sq ft	7/20/07
9	Wetland 9 (Wetland ID #9)	48,500 sq ft	7/20/07
10	Wetland 10 (Wetland ID #10)	48,500 sq ft	7/20/07
11	Wetland 11 (Wetland ID #11)	48,500 sq ft	7/20/07
12	Wetland 12 (Wetland ID #12)	48,500 sq ft	7/20/07
13	Wetland 13 (Wetland ID #13)	48,500 sq ft	7/20/07
14	Wetland 14 (Wetland ID #14)	48,500 sq ft	7/20/07
15	Wetland 15 (Wetland ID #15)	48,500 sq ft	7/20/07
16	Wetland 16 (Wetland ID #16)	48,500 sq ft	7/20/07
17	Wetland 17 (Wetland ID #17)	48,500 sq ft	7/20/07
18	Wetland 18 (Wetland ID #18)	48,500 sq ft	7/20/07
19	Wetland 19 (Wetland ID #19)	48,500 sq ft	7/20/07
20	Wetland 20 (Wetland ID #20)	48,500 sq ft	7/20/07
21	Wetland 21 (Wetland ID #21)	48,500 sq ft	7/20/07
22	Wetland 22 (Wetland ID #22)	48,500 sq ft	7/20/07
23	Wetland 23 (Wetland ID #23)	48,500 sq ft	7/20/07
24	Wetland 24 (Wetland ID #24)	48,500 sq ft	7/20/07
25	Wetland 25 (Wetland ID #25)	48,500 sq ft	7/20/07

- Notes:**
- 1. For an additional copy of the Final USACE Construction Report, please refer to the USACE Construction Report.
 - 2. The USACE Construction Report was prepared by the USACE and is available to the public through the Freedom of Information Act (FOIA) request process.
 - 3. The USACE Construction Report was prepared by the USACE and is available to the public through the Freedom of Information Act (FOIA) request process.
 - 4. The USACE Construction Report was prepared by the USACE and is available to the public through the Freedom of Information Act (FOIA) request process.

SHEET TITLE:
 ENCLOSURE D1 - BBNPP WETLAND &
 WATERCOURSE IMPACT LOCATION MAP - US ACOE
 Bell Bend Nuclear Power Plant
 Luzerne County, PA

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