Appendix C
Section 902 Calculations

1. **2013 Poplar Island Section 902 Analysis Review Certification**

2. **FY 2013 Poplar island Existing Factsheet December 2012**

3. **FY 2013 Poplar Island Expansion Factsheet December 2012**

QUALITY CONTROL REVIEW REPORT

Poplar Island, Maryland

Authorized Maximum Cost of Project,
§ 902 Analysis

U.S. Army Corps of Engineers
Baltimore District
December 2012

QUALITY CONTROL REVIEW REPORT

Poplar Island, Maryland
§ 902 Analysis for Authorized Maximum Cost of Project

In accordance with multiple memoranda and the Baltimore District, Civil Project Development Branch, Quality Management Plan (May 11, 2009), the subject document received District quality control (DQC) review as specified below. The technical review included verification of adherence to the Planning & Guidance Notebook (ER 1105-2-100) Appendix G, Amendment 1 (June 30, 2004) for determining the maximum project cost under Section 902 of the Water Resources Development Act (WRDA) of 1986.

A. Study Synopsis

Poplar Island, Maryland is an environmental restoration project for the beneficial use of dredged material. It was originally authorized under Section 537 of WRDA 1996, for a total cost of $307,000,000. The project will use dredged material to create upland and wetland habitat. A modification under Section 318 of WRDA 2000 specified details of provision of the non-Federal cost share. The project was expanded under Section 3087 of WRDA 2007 to increase the size of the island, for a total cost of $260,000,000. Construction of the originally authorized project began in 2001 and is ongoing. Design of the expansion project is expected to begin in FY13.

B. DQC Review Process

The general format of the 902 analysis was reviewed for compliance withER 1105-2-100, Appendix G. Two separate 902 analyses were conducted; one for the Existing Project and one for the Expansion Project. The newly certified 902 analysis spreadsheet tool was used in both cases. Indexes used to update project costs were cross-referenced to EM 1110-2-1304 (31 March, 2000) with revised tables as of 31 March 2012. CPI Index was cross-referenced to Bureau of Labor Statistics. Project Cost Line Items were cross-referenced to cost data provided by Baltimore District. Excel formulas were reviewed for accuracy. Two Fact Sheets (one for the Existing project, one for the Expansion project) were prepared in accordance with guidance contained in ER 1105-2-100 Appendix G.

C. Major Issues and Resolution:

There are no major issues.

QUALITY CONTROL REVIEW REPORT

Poplar Island, Maryland
Project for the Beneficial Use of Dredged Material
§ 902 Analysis for Authorized Maximum Cost of Project

COMPLETION OF AGENCY TECHNICAL REVIEW

Certification is hereby given that DQC has been conducted at a level for the risk and complexity inherent in the project. The technical review was accomplished by:

Table 1
Technical Review Team

STUDY ELEMENT	STUDY TEAM NAME/ORGANIZATION	QUALITY CONTROL REVIEWER NAME/ORGANIZATION
Section 902 Analysis	Denise Kammerer-Cody CENAE-EP-VC	Edmund O'Leary CENAE-EP-VC

REVIEW CERTIFICATION
Poplar Island, Maryland
§ 902 Analysis for Authorized Maximum Cost of Project

1. Reference multiple memoranda, CECW-A, 14 April, 1995, subject: Implementation of New Technical and Policy Review Procedures.

2. I certify that the review as required by the referenced memoranda was completed and the resulting document meets all USACE regulations and requirements related to water resources planning.

Section 902 Review Team

Edmund O'Leary

Edmund O'Leary, Regional Economist
Section 902 Reviewer

12/18/2012
Date

3. I certify that the study and project review process required to be performed under my responsibility has been completed and the Economics was reviewed for quality control purposes and meets all USACE regulations, requirements, and customer expectations.

David Robbins
Construction General Program Manager

18 Dec 2012
Date

ER 1105-2-100
Exhibit G-11

Date: 13 Dec 2012

Project Cost Increase Fact Sheet
($000's)

1. Name of Project: Poplar Island, Maryland (Existing Project, Phase 1 and 2)

2. Section and Law That Authorized or Modified the Project: WRDA 1996, Section 537

3. Section 902 Limit on Project Cost:

a. Authorized project cost: (w/Price level)	$307,000 (1996 WRDA)
b. Price level increases from date of authorized cost: *	237,960
c. Current cost of modifications required by law: **	0
d. 20% of line 3a:	61,400
e. Maximum project cost limited by Section 902:	606,360

4. Current Project Cost Including
Inflation through Construction: *** 729,084

5. Computation of Percentage Increase:

a. Current estimate: (Line 4)	729,084
b. Less total of lines 3a, b, and c:	544,960
c. Subtotal:	184,124
d. Percent increase: (line 5c/3a)	60%

6. Price level increases for 1 Oct 1996 through 1 Oct 2011 were computed using the Quarterly Cost Indexes by CWBS Feature Code from EM 1110-2-1304, 31 March 2012 and the Historical Consumer Price Index for All Urban Consumers (CPI-U): US City Average.

7. The project was modified by WRDA 2000, Section 318. This modification specified how the non-Federal share of the cost could be provided, and the timing of credits to the non-Federal share, but did not affect the authorized cost.

8. The current cost estimate has been revised from past estimates based on actual construction costs that have been observed during the more than ten years that this project has been under construction. Assumptions made during the original project cost estimate have been revised based on observed experience. The actual costs of the site and habitat development have been significantly higher than expected. In addition, in the past five years there has been a significant spike in the cost of transporting the dredged material and offloading that material onto the island. These cost increases are due to a rise in the price of fuel and the bidding climate of the contractors. Increased costs for crust management, wetland cell development (tidal inlets, planting) and daily operations have also been observed and are the basis for the current projections in the revised cost estimate.

9. This project was constructed as an environmental restoration project resulting primarily from dredging the Baltimore Harbor. Environmental benefits have not been recalculated since there is no benefit-cost ratio requirement that must be met for environmental restoration projects.

10. Construction of the Phase 1 and Phase 2 dikes for Poplar Island was completed in 2001, and inflow of dredged material began in April 2001. The island is currently 1,140 acres, with 50 percent to be created as upland habitat and 50 percent to be created as wetland habitat. To date over 21.5 million cubic yards of dredged material has been placed on the island, and over 100 acres of wetlands have been created, with the rest of the upland and wetland cells in various stages of development. By the end of FY 2012/2013 inflow season, there will be over 24.7 million cubic yards of dredged material placed on Poplar Island.

*Line 1e from Table G-4, less the authorized cost
**Includes cost of external credit under Section 104 of WRDA 198 (none for Poplar Island)
***line 1b from Table G-4

ER 1105-2-100
Exhibit G-11

Date: 12 Dec 2012

Project Cost Increase Fact Sheet
($000's)

1. Name of Project: Poplar Island Expansion, Maryland (Phase 3)

2. Section and Law That Authorized or Modified the Project: WRDA 2007, Section 3087

3. Section 902 Limit on Project Cost:

a. Authorized project cost: (w/Price level)	$260,000 (2007 WRDA)
b. Price level increases from date of authorized cost: *	120,800
c. Current cost of modifications required by law: **	0
d. 20% of line 3a:	52,000
e. Maximum project cost limited by Section 902:	432,800

4. Current Project Cost Including
Inflation through Construction: *** 701,123

5. Computation of Percentage Increase:

a. Current estimate: (Line 4)	701,123
b. Less total of lines 3a, b, and c:	380,800
c. Subtotal:	320,323
d. Percent increase: (line 5c/3a)	123%

6. Price level increases for 1 Oct 2007 through 1 Oct 2012 were computed using the yearly composite index for construction from EM 1110-2-1304, 31 March 2012 (Tables Revised as of 30 September 2012), and the national average annual CPI index for the Rent of Primary Residences in US cities.

7. There has been no legislation for modification of the Expansion portion of the project.

8. The current cost estimate has been revised from past estimates based on actual construction costs that have been observed during the more than ten years that the Phase 1 and 2 (Existing) Poplar Island project has been under construction. Assumptions made during the original project cost estimate have been revised based on observed experience. The actual costs of the site and habitat development have been significantly higher than expected. In the past five years there has also been a significant spike in the cost of transporting and offloading the dredged material onto the island. These cost increases are due to a rise in the price of fuel and the bidding climate of the contractors. Increased costs for crust management, wetland cell development (tidal inlets, planting) and daily operations have also been observed and are the basis for the current projections in the revised cost estimate.

9. This project is an environmental restoration project. Environmental benefits have not been recalculated since there is no benefit-cost ratio requirement that must be met for environmental restoration projects.

10. The construction of the expansion (Phase 3) of Poplar Island was authorized in WRDA 2007. The expansion will consist of a 575 foot lateral expansion and a 5 foot vertical expansion of the existing

upland cells. The expansion will provide an additional 28 million cubic yards of capacity. Design of the expansion is anticipated to begin in FY 12 and take up to two years to complete.

*Line 1e from Table G-4, less the authorized cost
**Includes cost of external credit under Section 104 of WRDA 198 (none for Poplar Island)
***line 1b from Table G-4