Appendix K

404 (b)(1) Guidelines for Specification of Disposal Sites for Dredged or Fill Material Evaluation

Evaluation of the 404(b)(1) Guidelines:

a. Factual determinations (230.11):

(1) Physical substrate (230.11(a)):

The substrate present at the discharge site consist of soils from the series Hydraquents, Hydraquents saline and Tidal flats. The apparent individual effects on the characteristics of the existing substrate resulting from the proposed discharge consist of the modification of the existing elevations and contours. Since the entire wetland area will be filled with selected material, no further cumulative effects are expected. Considerations concerning the similarity in particle size, shape, and degree of compaction cannot be given since the present substrate does not posses the required engineering characteristics. To modify the existing elevations, an overload discharge (approximately 3.4 millions cubic meters) of selected filling material will be placed over the wetland area. This technique will promote the subsidence and compaction of the existing substrate. Once the required substrate reaches the desirable compaction and subsidence, the overload will be removed to a mean elevation of 2 meters over mean sea level (approximately 385, 000m^3 of recycled material will remain on site). Given that the entire wetland area will be filled, no potential changes on other wetland substrate elevations and contours are expected outside of the disposal site. The methods involving the discharge technology would be adapted to the needs of the site pursuant 40 CFR Part 230 Subpart H.

(2) Water circulation, fluctuation, and salinity (230.11(b)):

These parameters would not be affected. The proposed wetland filling area hydrology is influenced in certain extent by tidal fluctuations, ground water elevations, and intermittent local drainage elevations. Even though the wetland area is connected to the sea by a culvert, that serves mainly to drain the site, no changes over the water circulation, fluctuation, or salinity are expected since the proposed project design proposes to relocate the existing intermittent storm water drainage.

(3) Suspended particulate/turbidity (230.11(c)):

The nature and the individually and cumulative degree of effect that the proposed discharge will have, in terms of potential changes to the kind of concentrations of suspended particulate/turbidity in the vicinity of the disposal site, are expected to be minimal. The implementation of appropriate discharge technology and the integration of an appropriate erosion control plan would be adequate to minimize adverse environmental impacts.

(4) Contaminant availability (230.11(d)):

The material that would be discharged consist of previously analyzed selected material that would have the required characteristics in order to comply with federal and state regulations, and would be provided by selected approved quarries. There are no records of past or present contaminant sources or recognized environmental conditions within the discharge site. Introduction, relocation, or augmentation of contaminants is not expected as part of the proposed discharge technology.

(5) Aquatic ecosystem and organisms (230.11(e)):

Although the structure and functions of the existing wetland ecosystem and organisms is proposed to be altered by the discharge of fill material, compensatory mitigation actions would be implemented to follow the no-net-loss policy over wetland functions and values, and to minimize adverse environmental impacts. Some cumulative adverse effects are expected since a mangrove forest and salt flats of that geographical area would be eliminated. The effect that the proposed discharge will have, both individually and cumulative, depends on the organism's ability to be displaced to other areas. Most likely, the impacts over the mobile organisms will be minimal since other wetland and aquatic resources located within the vicinity are available for wildlife utilization. Even though, impacts over the sedentary organisms are unavoidable, mitigation actions should compensate for these impacts.

(6) Proposed disposal site (230.11(f)):

The proposed project envisions the disposal of approximately 5.5 million cubic meters of material in the designated ODMDS in the Caribbean Sea. The USEPA, approved on November 4, 2003 the "*Final Site Management and Monitoring Plan for the Ponce Harbor, Puerto Rico: Ocean Dredged Material Disposal Site*".

(7) Cumulative effects on the aquatic ecosystem (230.11(g)):

Even though cumulative effects resulting from the proposed discharge would be minimal, a comprehensive biological assessment (BA) procedure has been performed pursuant to Section 7 of the ESA in order to anticipate any probable effect to a reasonable and practical extent. The results of this assessment suggest that some cumulative impacts would result from the proposed discharge of fill, but it would be properly compensated.

(8) Secondary effects on the aquatic ecosystem (230.11(h)):

Most likely, there are no anticipated secondary effects on the aquatic ecosystem resulting from the discharge activities since no other wetlands or aquatic ecosystems will be altered as consequence of the proposed discharge.

b. Restrictions on discharges:

(1) Alternatives:

(a) The activity is located in a special aquatic site (wetlands, sanctuaries, and refuges, mudflats, vegetated shallows, coral reefs, riffle & pool complexes):

yes ☒ no ☐

The discharge area consist of the following main wetland types: Mangrove, salt flat, emergent (herbaceous), and forested.

(b) The activity needs to be located in a special aquatic site to fulfill its basic purpose:

yes ☒ no ☐

The land availability for the proposed project is limited, as consequence, the activity has been located in the remaining areas, a wetland to fulfill its basic purpose. The project needs to be located close to the harbor.

(c) All practicable alternatives have been reviewed. It has been demonstrated that the alternative with the fewest impacts on the aquatic ecosystem and which could satisfy the project's basic purpose has been identified:

yes ☒ no ☐

A comprehensive alternative analysis was performed to select the Project site. Prior to the latest proposed preferred alternative, the project components involved the filling of 110 acres of aquatic environment in the Guayanilla Bay in order to develop the proposed project. Environmental studies of the former discharge site revealed that a special aquatic ecosystem for endangered species was present within the site. These findings and further environmental and cost benefit

considerations helped in the decision of changing the former proposed activities. The actual preferred alternative seems to be the best practicable one.

(d) The least damaging alternative has no other significant environmental effects:

yes ☒ no ☐

After evaluating the other alternatives using environmental criteria and feasibility the preferred alternative seems to be the least damaging one. Although, unavoidable impacts to wetland areas will occur as result of the project design requirement, compensatory mitigation actions would be implemented in order to follow the no-net-loss policy of wetland functions and values to minimize adverse environmental impacts.

(2) Other program requirements:

(a) The proposed activity violates applicable State water quality standards or Section 307 prohibitions, or effluent standards.

yes ☐ no ☒

The proposed activity will comply with all applicable Federal and State water quality standards. All applicable permit processes will be submitted in order to comply with these standards. Applicable special conditions may be required by the regulatory authority in order to comply with the standards.

(b) The proposed activity jeopardizes the continued existence of federally listed, threatened or endangered species, or affects their critical habitat.

yes ☐ no ☒

There are no state, or federally listed, threatened, or endangered species within the proposed discharge site. Consultation with the pertinent agencies and a biological assessment, including flora and fauna studies, of the project site were performed in order to confirm the absence of any endangered or threatened species.

(c) The proposed activity violates the requirements of a federally designated marine sanctuary.

yes ☐ no ☒

There are no state or federally marine sanctuaries within the discharge area.

(3) The activity will cause or contribute to the significant degradation of waters of the United States, including adverse effects on human health, life stages of aquatic organisms, ecosystem diversity, productivity and stability, and recreation, esthetic, and economic values.

yes ☐ no ☒

No significant degradation of waters of the United States will result from the proposed activity. This will rely mainly in that life stages of aquatic organisms, ecosystem diversity, productivity, and stability will be displaced to wetlands located near the project. In addition, the actual land use of the site does not provide the necessary infrastructure for recreation or economic value. There are no anticipated adverse effects on human health.

(4) Minimization of adverse effects:

(a) Appropriate and practicable steps have been taken to minimize potential adverse impacts of the discharge on the aquatic ecosystem.

yes ☒ no ☐

A comprehensive alternative analysis was performed to select the project site. The actual preferred alternative seems to be the best practicable one. The applicant has been taking in to consideration all appropriate and practicable steps to reduce any potential adverse environmental impacts.

(b) Compensatory Mitigation (Wetland establishment, re-establishment, enhancement, etc)

(1) A valuation of the damage to the wetland caused by the proposed fill.

An evaluation of the impacts to wetland areas resulting from the discharge activities would be performed in order to obtain an overview of the mitigation requirements. A wetland assessment protocol would be implemented to assess the functions and values of the impact site.

(2) A discussion of why compensatory mitigation is or is not required.

Compensatory mitigation would be required in order to comply with the section 404 of the Clean Water Act requirements. In addition, the no-net-loss policy of wetland functions and values will apply to the project.

(3) A description and valuation of the proposed works to protect, preserve, enhance, and/or construct a wetland area or areas.

Compensatory mitigation actions are proposed to compensate for wetland impacts resulting form project construction. These actions include the restoration of former wetland areas and the designation of a sizable portion of the selected parcel as a conservation easement. The wetland restoration consists of the reestablishment of soil elevations within salt flat areas in the Municipality of Ponce. The extent of the reestablishment area will be based on the wetland assessment protocol and/or in an acreage basis.

(4) A narrative that describes the feasibility of the mitigation and the basis for the assurance of success.

Based on the available information, the viability of the reestablishment actions is reasonable since the removed material can be used as filling material within the discharge site or for other components of the project. The success of this action is high since the area was previously a wetland and the adjacent areas are dominated by wetlands.

c. Findings: (Pick one of the following**)**

1. The proposed site for discharge of dredged or fill material complies with the Section 404(b)(1) guidelines.

****2. The proposed site for the discharge of dredged or fill material complies with the Section 404(b)(1) guidelines with the inclusion of the following conditions:**

(a) A Conceptual Wetland Mitigation Plan should be presented during the permit evaluation process. The wetland mitigation concept should follow the Regulatory Guidance for the Establishment and Maintenance of Compensatory Mitigation Projects (RGL 02-2 of 24 December 2002) under the USACE Regulatory Program.

(b) All applicable water quality monitoring activities should be performed in order to comply with all state and federal regulations.

(c) The applicant should comply with all other applicable state and federal environmental regulations.

3. The proposed site for the discharge of dredged or fill material fails to comply with the Section 404(b)(1) guidelines for the following reasons:

( ) There is a practicable alternative with less effect on the aquatic ecosystem.

( ) The proposed discharge will result in significant degradation of the aquatic ecosystem.

( ) The proposed discharge does not include all practicable and appropriate measures to minimize potential harm to the aquatic ecosystem.