

## Minor Modifications to the Selected Remedy Presented in the Record of Decision for Site 4 - Landfill D, St. Juliens Creek Annex, Chesapeake, Virginia

PREPARED FOR: Agnes Sullivan/NAVFAC MID LANT  
Todd Richardson/EPA  
Jim Cutler/VDEQ

PREPARED BY: Janna Staszak/CH2M HILL  
Kim Henderson/CH2M HILL

DATE: February 10, 2006

This technical memorandum provides a summary of modifications to the Selected Remedy for Site 4 - Landfill D presented in the *"Final Record of Decision, Site 4: Landfill D"* (signed September 2004). In accordance with the Environmental Protection Agency's (EPA's) Guidance *"A Guide to Preparing Superfund Proposed Plans, Records of Decision, and Other Remedy Selection Decision Documents"* (EPA, July 1999), post-Record of Decision (ROD) changes fit into one of three categories depending on the extent and scope of modification: non-significant or minor changes, significant changes, or fundamental changes. The modifications to the Site 4 remedy (soil cover) do not have a significant impact on the scope, performance, or cost of the remedy and are considered to be non-significant or minor modifications. The minor modifications include:

- Extension of the soil cover to the west
- Compensatory mitigation for permanent wetland impacts

This technical memorandum documents the modifications and will become part of the Administrative Record file for St. Juliens Creek Annex (SJCA).

### Background and Description of Selected Remedy

Site 4 covers an estimated 10 acres in the northern portion of SJCA and is bordered by Blows Creek to the south and the Southern Branch of the Elizabeth River to the east. The site was initially estimated to consist of an 8.1-acre landfill and a 1.9-acre wetland area. The Selected Remedy for Site 4 addresses human health and ecological risk associated with soil and eastern drainage ditch sediment as identified in previous investigations and comprises the final remedial action for the site. The Selected Remedy was determined based on the evaluation of site conditions, site-related risks, applicable or relevant and appropriate requirements (ARARs), and Remedial Action Objectives (RAOs).

The Selected Remedy for Site 4 includes the following major components:

- Installation of a soil cover to prevent or minimize direct contact of human and ecological receptors with landfill contents and reduce any future potential risk associated with contaminants leaching into the groundwater;
- Removal of surface debris from the ground surface and wetland area adjacent to Blows Creek and consolidation into the landfill cover;
- Removal of impacted sediment in the eastern drainage ditch to prevent direct contact of human and ecological receptors with the sediment;
- Construction of an open stormwater drainage ditch along the eastern boundary and a new drainage ditch along the western boundary to prevent overland flow entering the site (surface water run-on) and control surface run-off and erosion; and
- Land Use Controls (LUCs) implemented within the boundaries of the landfill to meet the following objectives:
  - Prohibit digging into or disturbing the soil cover or landfill contents
  - Prohibit residential use and development of the site

## Description of Minor Modifications

A Remedial Design (RD) was submitted to implement the Selected Remedy within 90 days following the execution of the ROD (JV I, November 2004). During the construction phase of the Remedial Action (RA), conducted from March through October 2005, several minor modifications to the specifications in the RD were necessary. The minor modifications include:

- Extension of the soil cover to the west
- Compensatory mitigation for permanent wetland impacts

The SJCA Installation Restoration (IR) Partnering Team; which includes representatives from NAVFAC, EPA, and Virginia Department of Environmental Quality (VDEQ); have discussed and concur with the modifications. The modifications are summarized in the following sections and in Table 1.

### Soil Cover Extension

During clearing of the site vegetation, waste outside of the anticipated limits of the landfill was identified. The waste extended approximately 25 feet west to a drainage ditch not identified on the site topographic map. To accommodate the additional waste, the soil cover was extended to the west and the existing drainage ditch was restored and stabilized with erosion control matting. The extension of the soil cover consists of an additional 0.297 acres of waste (Figure 1). The perimeter fence boundary was extended to encompass the western extension of the soil cover. The soil cover extension and restored western drainage ditch meet all of the design requirements selected during the remedial action phase. The overall final landfill area is 8.32 acres.

## Compensatory Wetland Mitigation

Under Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act the United States Army Corps of Engineers (USACE) Nationwide Permit (NWP) 38 allows for activities in wetlands to contain, stabilize, or remove hazardous or toxic materials and requires preconstruction notification (PCN), including a wetland delineation. The wetland adjacent to Site 4 and Blows Creek was delineated in May 2004 (CH2M HILL, June 2004) and notification of the Comprehensive Environmental Response, Compensation, and Liability Act of 1980 (CERCLA) action and wetlands impacted at Site 4 were provided to the USACE Norfolk District and the Virginia Marine Resources Commission (VMRC).

The NWP General Condition 19 outlines the factors for consideration for appropriate and practicable mitigation necessary to offset adverse effects on the aquatic environment that are more than minimal. General Condition 19(c) states that compensatory mitigation at a minimum one-for-one ratio is required for all wetlands impacts requiring a PCN, unless a project-specific waiver is granted. This condition is the basis for the compensatory mitigation plan completed for Site 4 (JV I, July 2005).

The Site 4 soil cover extends into approximately 0.023 acres of the wetland area adjacent to Blows Creek (Figure 1). To satisfy the compensatory mitigation requirements, approximately 1.11 acres of wetland grasses will be planted at nearby Norfolk Naval Shipyard (NNSY) Site 9, a former waste lagoon located within the Southern Branch of the Elizabeth River watershed. The compensatory wetland mitigation plan results in a net benefit of approximately 1.09 acres.

**Table 1**  
**Summary of Minor Modifications**

Modification	Remedial Design	Modification and Net Change	Impact on Selected Remedy	Impact on Statutory Determination	Post-ROD Change
Western Extension of Soil Cover	Area: 8.2 acres Fill volume: 41,450 cubic yards Cost: \$1,116,477	Area: net change +0.297 acres Fill volume: net change +2,130 cubic yards Cost: net change +\$130,751	None	None	Non-significant/minor
Compensatory Wetland Mitigation	Not included	Area: 0.023 acres Cost: \$+1,000*	None	None	Non-significant/minor
* Cost only includes the 0.023 acres used for compensatory mitigation of Site 4. The cost of the additional 1.09 acres is not included.					

## Conclusions

The RA for the Selected Remedy was completed as a design/build project in October 2005 in accordance with the RD and minor modifications described in this technical memorandum. The Selected Remedy as presented in the ROD and the minor modifications presented

herein remain protective of human health and the environment, comply with Federal and State regulations that are applicable or relevant and appropriate to the remedial action, are cost-effective, and utilize permanent solutions and alternative treatment (or resource recovery) technologies to the maximum extent practicable. Because this remedy will result in pollutants or contaminants remaining on-site above levels that allow for unlimited use and unrestricted exposure (UU/UE), a statutory review will be conducted within 5 years after initiation of the RA to ensure that the remedy is protective of human health and the environment.

The Construction Closeout Report (JV I, December 2005) has been prepared to summarize the construction activities and the variations from the original scope of work and engineering specifications. Additionally, an Interim Remedial Action Completion Report (IRACR) will be prepared in accordance with the EPA's Guidance "Close Out Procedures for National Priorities List Sites" (EPA, January 2000) to document the completion of the RA, the Remedy in Place (RIP), and that the remedy is operational and functional in accordance with CERCLA.

## References

- CH2M HILL, September 2004. *Final Record of Decision, Site 4: Landfill D*. St. Juliens Creek Annex, Chesapeake, Virginia.
- CH2M HILL, June 2004. *Wetland Delineation Report, Site 4 – Landfill D*. St. Juliens Creek Annex, Chesapeake, Virginia.
- EPA, January 2000. *Close Out Procedures for National Priorities List Sites*. OSWER 9320.2-09A-P.
- EPA, July 1999. *A Guide to Preparing Superfund Proposed Plans, Records of Decisions, and Other Remedy Selection Decision Documents*. USEPA 540-R-98-031, OSWER 9200.1-23P, PB98-963241.
- JV I (AGVIQ-CH2M HILL Joint Venture I), July 2005. *Compensatory Mitigation for Site 4 Wetlands*. St. Juliens Creek Annex, Chesapeake, Virginia.
- JV I, December 2005. *Final Construction Closeout Report, Site 4 – Landfill D Soil Cover (Design/Build)*. St. Juliens Creek Annex, Chesapeake, Virginia.
- JV I, November 2004. *Final Design Package, Site 4 – Landfill D*. St. Juliens Creek Annex, Chesapeake, Virginia.

