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NS MAYPORT
5090.3a

CORRECTIVE MEASURES IMPLEMENTATION PLAN LANDFILL A SOLID WASTE
MANAGEMENT UNIT 1 (SWMU1) NS MAYPORT FL
2/20/2009
TETRA TECH

**NAVAL STATION MAYPORT
CORRECTIVE MEASURES IMPLEMENTATION PLAN
LANDFILL A
SOLID WASTE MANAGEMENT UNIT 1**

FACILITY IDENTIFICATION NUMBER FL9 170 024 260

1. OBJECTIVE

A Resource Conservation and Recovery Act (RCRA) Statement of Basis (SB) for Solid Waste Management Unit (SWMU) 1, Landfill A, completed public comment on November 12, 2008. The SB stipulated the implementation of Land Use Controls (LUCs) including Institutional Controls (ICs) and groundwater monitoring to prevent unacceptable human health risks from exposure to contaminated surface soil or groundwater at SWMU 1. The objective of this Corrective Measures Implementation Plan (CMIP) is to provide information on how the Corrective Measures selected in the SB for SWMU 1 are implemented, maintained, and monitored.

Pursuant to RCRA, as amended by the 1984 Hazardous and Solid Waste Amendments (HSWA), the Florida Department of Environmental Protection (FDEP) issued the current HSWA permit to Naval Station (NAVSTA) Mayport on August 30, 2005. The HSWA permit requires the CMIP to include identification of the LUC objectives.

The requirements set forth in this CMIP shall supersede the requirements of the LUC Memorandum of Agreement signed on September 7, 1999, by the United States Navy (Navy), the United States Environmental Protection Agency, and FDEP. The inspections and reporting requirements described herein will be effective immediately upon approval of this CMIP by the FDEP. Once put into effect, the requirements set forth in this document will remain applicable to SWMU 1 during Navy ownership as well as subsequent ownership of the SWMU unless otherwise amended by the Navy and with FDEP concurrence.

2. SWMU DESCRIPTION AND BACKGROUND

SWMU 1 is located in the northeastern part of NAVSTA Mayport. SWMU 1 (Landfill A) was used as a landfill for industrial and sanitary waste from 1942 until 1960. The landfill is reported to have covered a 4-acre area where a series of trenches approximately 15 feet wide, 400 feet long, and 8 feet deep were excavated, filled with waste materials, and covered with soil. Industrial and sanitary wastes were disposed in the landfill and included waste oils, paints, solvents, sanitary garbage, and construction rubble.

The RCRA Facility Investigation (RFI) and Corrective Measures Study (CMS) Addendum for SWMU 1 were submitted to the FDEP in December 1996 and June 2007, respectively. The RFI and CMS Addendum concluded that SWMU 1 has been impacted by polycyclic aromatic hydrocarbons in the soil and antimony, arsenic, silver, and zinc in the groundwater. Corrective measures recommended in the CMS Addendum and selected in the SB are LUCs including ICs, and groundwater monitoring. ICs are in place to prevent the site from being used for residential purposes. Groundwater monitoring is being used to track the attenuation of contaminants of concern (COCs) in groundwater. LUCs will be maintained until the concentrations of COCs in the soil and

groundwater are at such levels to allow for the unrestricted use and unlimited exposure of the SWMU 1 property as determined by the FDEP.

Groundwater at SWMU 1 was investigation and evaluated in conjunction with SWMU 23, 24, and 25. The corresponding groundwater LUC areas apply to all four of these SWMUs and cover approximately 1.61 acres (see Figures 1 and 2 in Attachment 1). The corresponding soil LUC area covers approximately 1.45 acres (see Figure 3 in Attachment 1). The Navy plans to continue to use SWMU 1 for industrial operations. A table detailing the COCs for their respective media is presented below:

SWMU 1 COCs

Media of Concern	COCs
Surface Soil	<ul style="list-style-type: none"> • Benzo(a)anthracene • Benzo(a)pyrene • Benzo(b)fluoranthene • Benzo(k)fluoranthene • Chrysene
Groundwater	<ul style="list-style-type: none"> • Antimony • Arsenic • Silver • Zinc

3. CORRECTIVE MEASURES

a. Institutional Controls: The following are the Corrective Measures for the LUC corrective action to be implemented at SWMU 1 until such time as the concentrations of COCs in the soil and groundwater are at levels to allow for unrestricted use and unlimited exposure:

1. Prevent disturbance of soil contamination unless prior written approval is obtained from the Navy and FDEP.
2. Prohibit the excavation and uncontrolled removal/disturbance of soil containing COC concentrations in excess of FDEP Direct Exposure Residential Soil Cleanup Target Levels unless prior written approval is obtained from the FDEP.
3. Prevent exposure to contaminated groundwater underlying SWMU 1 including, but not limited to, human consumption, dewatering, irrigation, heating/cooling purposes, and industrial processes, unless prior written approval is obtained from the FDEP.
4. Prohibit residential development or use of the SWMU until corrective measure(s) allow for unrestricted use and unlimited exposure; and prior written approval is obtained from the Navy and FDEP. Prohibited residential development and uses shall include, but are not limited to, any form of housing, child-care facilities, pre-schools, elementary schools, secondary schools, playgrounds, or full-time adult convalescent or nursing care facilities.
5. Maintain the integrity of any existing or future monitoring or remediation system(s).

b. Monitoring: The following monitoring of the Corrective Measures for the LUC corrective action will be implemented at SWMU 1:

1. Physical inspections of SWMU 1 will be conducted by the Navy annually to ensure that the implemented LUCs are being maintained:
2. Monitor the SWMU 1 groundwater semi-annually to assess the possible contaminant migration and attenuation of the following COCs:
 - Antimony
 - Arsenic
 - Silver
 - Zinc

Figures 1 and 2 (Attachment 1) show the impacted area of groundwater contamination.

At the conclusion of each monitoring event at the SWMU, a report will be submitted to the FDEP no later than 60 days after laboratory results have been made final. In the event two consecutive monitoring events determine that detections of antimony, arsenic, silver, and zinc in groundwater at SWMU 1 are below FDEP Groundwater Cleanup Target Levels, then groundwater monitoring may be terminated upon the approval of the FDEP.

4. CORRECTIVE ACTION IMPLEMENTATION

The following implementation actions shall be executed by the Navy to ensure that the Corrective Measures for SWMU 1 are met and maintained:

- a. CMIP Distribution:** Within 30 days of receiving FDEP approval of this CMIP, the Navy will place the CMIP in the Information Repository located at the Jacksonville Public Library – Beaches Branch, 600 3rd Street, Neptune Beach, Florida, 32266, (904) 241-1141.
- b. Implementing Corrective Actions:** Semi-annual groundwater monitoring to assess natural attenuation parameters and possible contaminant migration at SWMU 1 shall begin within 6 months of the FDEP's approval of this CMIP.
- c. SWMU Inspections:** Upon FDEP's approval of this CMIP, the Navy will conduct annual physical inspections of SWMU 1 to confirm compliance with Corrective Measures. The FDEP will be notified within 60 days of the discovery of any activities inconsistent with the LUCs. Any activity inconsistent with the Corrective Measures objectives or use restrictions, or any other action that may interfere with the effectiveness of the Corrective Measures, will be addressed by the Navy upon discovery. Continued and/or additional groundwater monitoring may be required once these inconsistent activities have been corrected.
- d. Compliance Reporting:** Upon the FDEP's approval of this CMIP, the Navy will provide to the FDEP an annual Corrective Measures Compliance Certificate (consistent with Attachment 2) after inspection of SWMU 1 has been completed. A

summary of the analytical results from the semi-annual groundwater sampling shall accompany the Corrective Measures Compliance Certificate. Should any deficiencies be discovered during annual inspection, the Navy will provide the FDEP a written description of the deficiencies and the measures that are proposed to correct the deficiencies within 60 days of the discovery.

- e. **Five Year Reviews:** Although five-year reviews are not required under RCRA, the Navy will conduct five-year reviews of the corrective measures at SWMU 1 to ensure that the corrective measures remain protective of human health and the environment.
- f. **Notice of Planned Property Conveyances:** Although the Navy may later transfer these procedural responsibilities to another party by contract, property transfer agreement, or through other means, the Navy shall retain ultimate responsibility for Corrective Measures integrity. In the event of any conveyance of the SWMU 1 property to any other agency, person, or entity, the Navy shall provide notice to the FDEP of such intended conveyance at least 6 months prior to the conveyance. If it is not possible for the Navy to notify the FDEP at least 6 months prior to the conveyance, then the Navy will notify FDEP as soon as possible, but no later than 60 days prior to the conveyance. The notice shall describe the mechanism for maintenance of Corrective Measures and the responsible party. In the event of a property transfer, the Navy and FDEP shall have the opportunity to review the intended deed restrictions.
- g. **Changes and Termination of Corrective Measures:** The Navy shall not modify or terminate Corrective Measures, implementation actions, or modify land use without approval by the FDEP. The Navy shall seek prior FDEP concurrence before any anticipated action that may disrupt the effectiveness of the Corrective Measures or any action that may alter or negate the need for Corrective Measures. When the Navy determines, with the FDEP concurrence, that one or more of the Corrective Measures at SWMU 1 are no longer needed for protection of human health and the environment, the Navy shall complete the appropriate documentation.

5. POINTS OF CONTACT

Listed below is the point of contact information for the Navy and FDEP.

Navy

Diane Racine
Environmental Division
Public Works Office
Naval Station Mayport
Mayport, FL 32228-0067
(904) 270-6730, extension 208
Diane.Racine@navy.mil

FDEP

John Winters, PG
FDEP, Bob Martinez Building
Federal Facilities Review Section
2600 Blair Stone Road
Tallahassee, FL 32399-2400
(850) 245-8999
(850) 245-7690 (FAX)
John.Winters@dep.state.fl.us

6. REFERENCES

ABB Environmental Services, Inc., 1996. Resource Conservation and Recovery Act Facility Investigation, Group III Solid Waste Management Units, U.S. Naval Station Mayport, Florida. Prepared for the Department of the Navy, Southern Division Naval Facility Engineering Command. December.

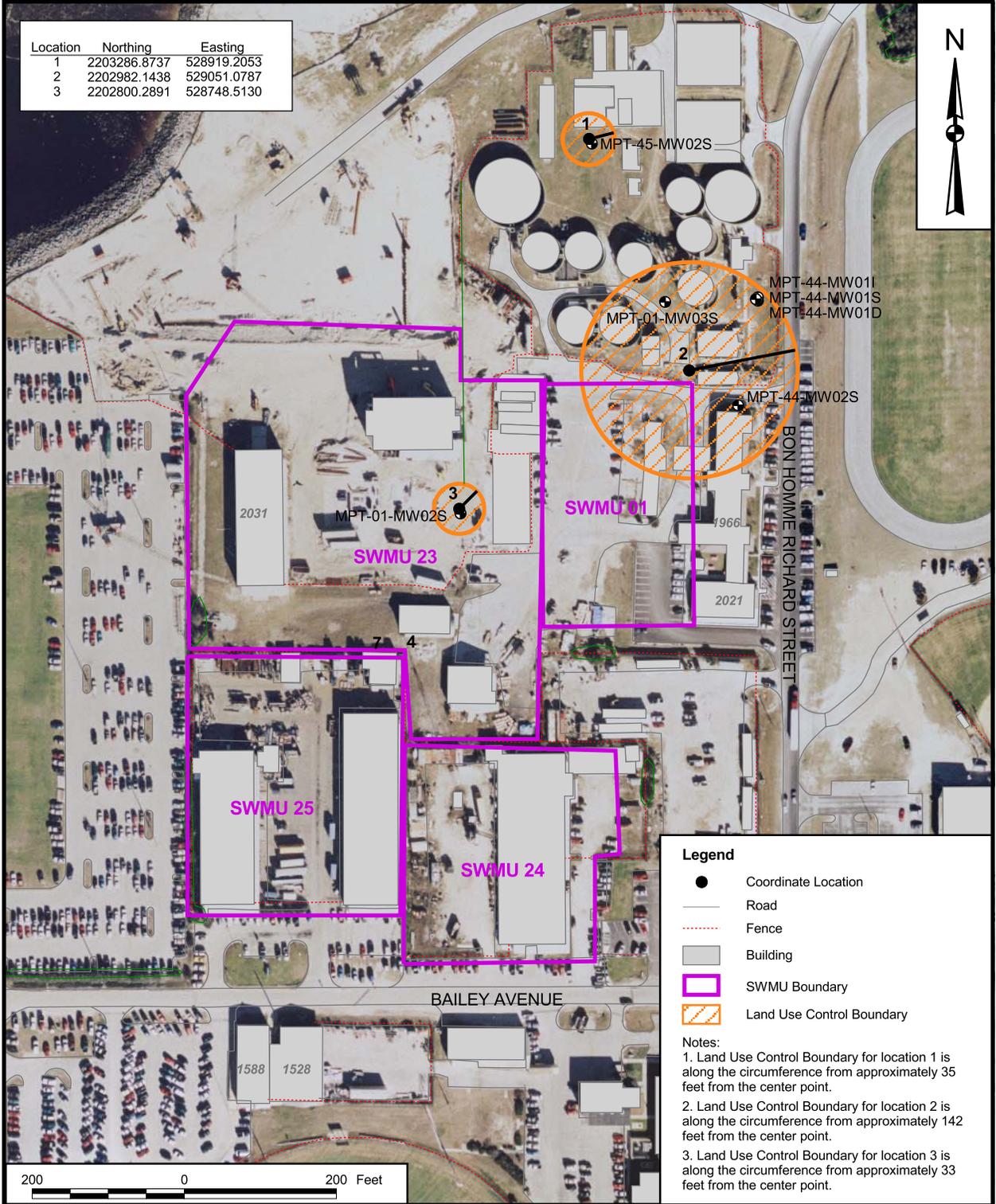
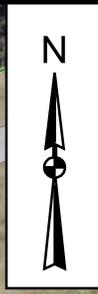
Tetra Tech NUS, Inc. (TtNUS), 2008. Statement of Basis for SWMU 1 – Landfill A, Naval Station Mayport, Jacksonville, Florida. Prepared for Naval Facilities Engineering Command, Southeast. September.

TtNUS, 2007. Corrective Measures Study Addendum for Solid Waste Management Units 1, 23, 24, and 25, Naval Station Mayport, Florida. June.

ATTACHMENT 1

FIGURES OF CORRECTIVE ACTIONS FOR SOIL AND GROUNDWATER

Location	Northing	Easting
1	2203286.8737	528919.2053
2	2202982.1438	529051.0787
3	2202800.2891	528748.5130



Legend

- Coordinate Location
- Road
- - - Fence
- Building
- SWMU Boundary
- ▨ Land Use Control Boundary

Notes:

1. Land Use Control Boundary for location 1 is along the circumference from approximately 35 feet from the center point.
2. Land Use Control Boundary for location 2 is along the circumference from approximately 142 feet from the center point.
3. Land Use Control Boundary for location 3 is along the circumference from approximately 33 feet from the center point.

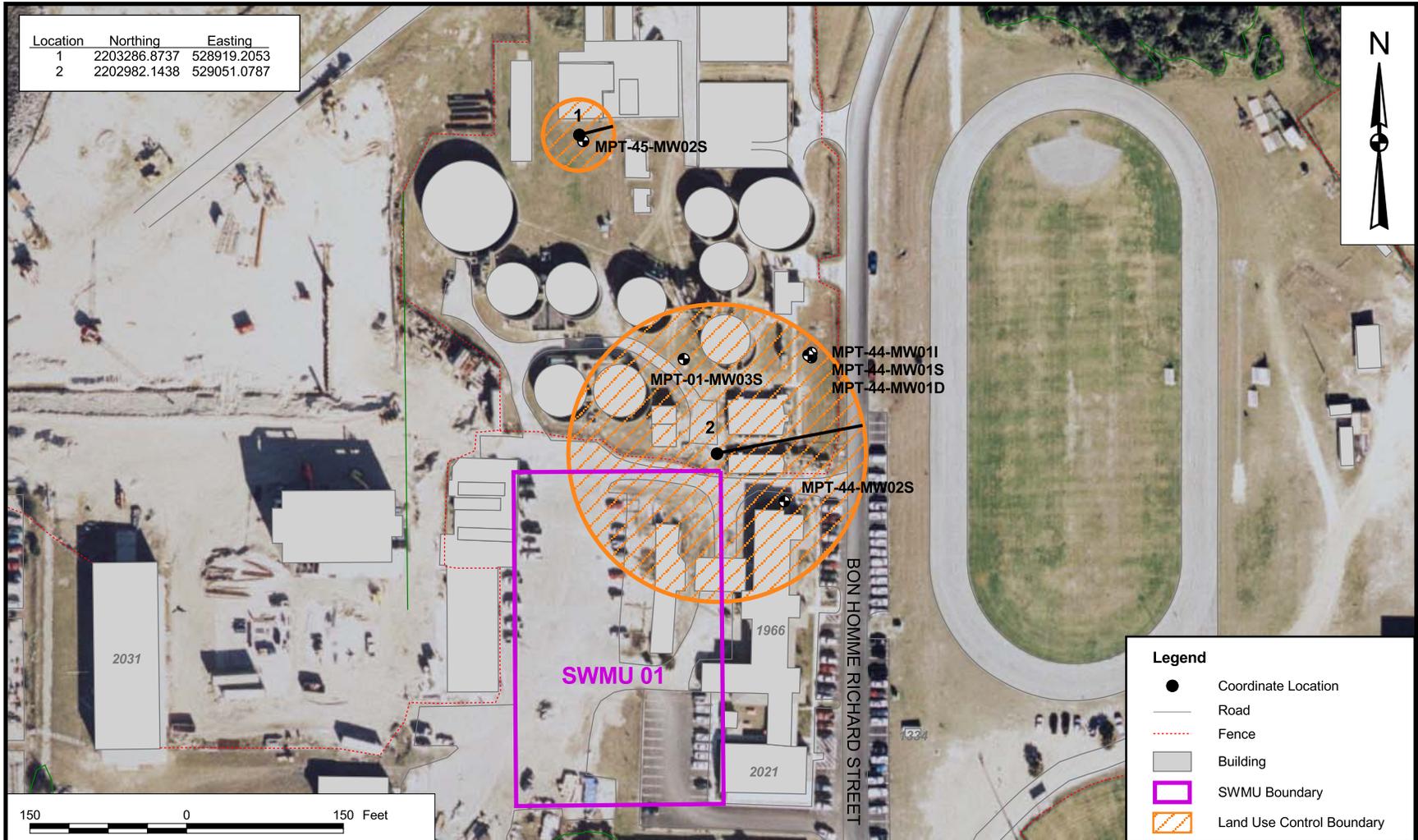


DRAWN BY S. STROZ	DATE 2/19/09
CHECKED BY J. GIBSON	DATE 2/19/09
COST/SCHEDULE-AREA	
SCALE AS NOTED	



GROUNDWATER LAND USE CONTROL MAP
SWMUs 1, 23, 24, AND 25
NAVAL STATION MAYPORT
MAYPORT, FL

CONTRACT NUMBER CTO 033	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. FIGURE 1	REV 0



Location	Northing	Easting
1	2203286.8737	528919.2053
2	2202982.1438	529051.0787

Legend	
●	Coordinate Location
—	Road
⋯	Fence
■	Building
□	SWMU Boundary
▨	Land Use Control Boundary



DRAWN BY	DATE
S. STROZ	02/17/09
CHECKED BY	DATE
J. GIBSON	02/17/09
COST/SCHEDULE-AREA	
SCALE AS NOTED	



GROUNDWATER LAND USE CONTROL MAP
 SWMU 01
 NAVAL STATION MAYPORT
 MAYPORT, FL

CONTRACT NUMBER CTO 033	
APPROVED BY	DATE
APPROVED BY	DATE
DRAWING NO. Figure	REV 0

Location	Northing	Easting
1	2202966.1246	529055.1070
2	2202647.5520	529057.3096
3	2202645.6577	528859.5199
4	2202964.4853	528856.7103



Legend	
●	Coordinate Location
—	Road
- - -	Fence
■	Building
□	SWMU Boundary
▨	Land Use Control Boundary

DRAWN BY	DATE
S. STROZ	01/22/09
CHECKED BY	DATE
K. WIMBLE	01/26/09
COST/SCHEDULE-AREA	
SCALE	
AS NOTED	



LAND USE CONTROL MAP
SWMU 01
NAVAL STATION MAYPORT
MAYPORT, FL

CONTRACT NUMBER	
CTO 033	
APPROVED BY	DATE
—	—
APPROVED BY	DATE
—	—
DRAWING NO.	REV
Figure 2	0

ATTACHMENT 2

ANNUAL CORRECTIVE MEASURES COMPLIANCE CERTIFICATE

ANNUAL CORRECTIVE MEASURES COMPLIANCE CERTIFICATE

SWMU 1 – LANDFILL A

Naval Station Mayport

Facility I.D. No.: FL9 170 024 260

SWMU and LUC boundaries are shown in Attachment 1 of the SWMU 1 CMIP.

This evaluation covers the period from **1 January** _____ **through 31 December** _____. This form shall be submitted by **1 March** of the year following the reporting period.

CERTIFICATION CHECKLIST

	IN COMPLIANCE	NON- COMPLIANCE	SEE COMMENT	NOT APPLICABLE
1) No residential development or use on parcel including but not limited to, any form of housing, child-care facilities, pre-schools, elementary schools, secondary schools, playgrounds, or full-time adult convalescent or nursing care facilities. <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
2) No excavation or uncontrolled removal/disturbance of soil with concentration of COCs exceeding FDEP Direct Residential Exposure SCTLs (unless previously approved by the Navy). <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
4) No human consumption of groundwater. <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
3) No groundwater use at the site. <u>Comments:</u>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>

I, the undersigned, hereby certify that I am an authorized representative of the above named property owner and that the above described remedies and controls have been complied with for the period noted. Alternately, any known deficiency(ies) and the owner's completed or planned actions to address such deficiency(ies) are described in the attached page explaining the deficiency(ies).

Signature

Date

Mail completed form(s) to:

Chief, RCRA Programs Branch
U.S. Environmental Protection
Agency Region IV
Sam Nunn Atlanta Federal Center
61 Forsyth Street
Atlanta, GA 30303-3104

Florida Dept of Environmental Protection
Bob Martinez Building
Federal Facilities Review Section
2600 Blair Stone Road
Tallahassee, FL 32399-2400

Commander
NAVFAC SE
Attn: Director, Environmental
Services Business Line
Naval Air Station Jacksonville
Box 30
Jacksonville, FL 32212-0030