



## LAND USE CONTROL IMPLEMENTATION PLAN



### NATIONAL AERONAUTICS AND SPACE ADMINISTRATION KENNEDY SPACE CENTER BREVARD COUNTY, FLORIDA



**FACILITY:** Contractors Road Heavy Equipment Area  
Solid Waste Management Unit No. 55

**CONTAMINANTS:** PCBs and Metals in Soil; VOCs in Groundwater

**CONTROL:** Prohibit Residential and Groundwater Use

#### PURPOSE OF LAND USE CONTROL IMPLEMENTATION PLAN

This Land Use Control Implementation Plan (LUCIP) has been prepared to inform current and potential future users of the Contractors Road Heavy Equipment Area (CRHEA) of institutional controls that have been implemented at the site<sup>1</sup>. Although there are no current unacceptable risks to human health or the environment associated with the CRHEA, institutional land use controls (LUCs) are necessary to prohibit residential and groundwater use at the site. Controls will include periodic inspection, condition certification and agency notification.

#### WHY LAND USE CONTROLS ARE NEEDED

Human health and ecological risk assessments were completed as part of a Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI). Chemicals of concern identified for human health risk during the RFI and supplemental sampling activities that exceeded Florida

Department of Environmental Protection (FDEP) and Environmental Protection Agency (EPA) cleanup target levels were polychlorinated biphenyls (PCBs) and metals in surficial soils, and volatile organic compounds (VOCs) in groundwater.

#### SITE DESCRIPTION

The CRHEA is a NASA-operated facility that encompasses the Printed Circuit Board Shop (PCBS-SWMU No. 31) and associated Acid Dump Site (SWMU No. 15); Sewage Treatment Plant (STP) No. 15 (SWMU No. 16); a polishing pond on the eastern edge of the SWMU boundary; a fenced area at the north end of the SWMU boundary where sandblasting and painting operations took place in the past; and Heavy Equipment Area buildings and parking areas south of the PCBS (SWMU No. 55). The Heavy Equipment Area buildings and parking areas have been used for a variety of operations including heavy equipment storage and maintenance dating back to the construction of NASA's Vehicle Assembly Building (VAB), and for staging of regulated and hazardous waste. Currently, the area is used

*1. This LUCIP summarizes institutional controls regarding the NASA KSC Contractors Road Heavy Equipment Area (CRHEA). For detailed information on the site, consult the CRHEA administrative file, which is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.*

for heavy equipment storage and maintenance. Hazardous wastes are no longer stored on site.

The PCBS facility has been used for manufacturing printed circuit boards, silk screening, plating, and laminating road signs. Spent chemicals from the circuit board process were temporarily stored in an underground storage tank (UST) located immediately east of the PCBS. The UST ruptured during removal on August 7, 1990 and a subsequent report referred to the location as the Acid Dump Site. Printed circuit board rinsate water and equipment cooling water was discharged to a hole or drum in a wetland area immediately east of STP No. 15. Printed circuit board manufacturing operations have been discontinued; however, some “closed-loop” plating operations are ongoing. A hazardous waste staging area structure that currently is only used for non-regulated waste is located adjacent to the PCBS building K6-1996.

The STP No. 15 and Polishing Pond were used for treatment of domestic wastewater from the PCBS building and the office building north of the PCBS. Wastewater was reportedly discharged to STP No. 15 from November 1971 until July 1986 when domestic wastes that this unit would have treated were redirected to STP No. 4, which

serves the VAB area. From July 1986 to October 1996, STP No. 15 served as a grease treatment plant, where grease collected from grease traps was brought for biological treatment. In October 1996 STP No. 15 was abandoned.

### **SITE LOCATION**

The CRHEA is located at KSC on Contractors Road approximately one-half mile north of the intersection with Schwartz Road (Figure 1). The CRHEA SWMU area is about 600 by 1,100 feet.

The site is bounded on the north and east by woodlands, on the south by KSC’s Roads and Grounds Facility, and on the west by Contractors Road and woods. The site is located within Section 18 of Township 22 South, Range 37 East, which is in the Orsino Quadrangle. Survey coordinates in the State Plane Coordinate System NAD 1983 meters, Florida East for the corners of the site, which encompass the soil use control area, are illustrated on Figure 2. Coordinates of the groundwater use control area are shown in Figure 3.

### **SITE CONTAMINATION AND CONTROL**

Soils with PCBs and metals detected at

*2. By separate MOA effective February 23, 2001, with the EPA and FDEP, KSC, on behalf of NASA, agreed to implement Center-wide, certain periodic site inspection, condition certification and agency notification procedures designed to ensure the maintenance by Center personnel of any site-specific LUCs deemed necessary for future protection of human health and the environment. A fundamental premise underlying execution of that agreement was that through the Center’s substantial good faith compliance with the procedures called for herein, reasonable assurances would be provided to EPA and FDEP as to the permanency of those remedies which included the use of specific LUCs.*

*Although the terms and conditions of the MOA are not specifically incorporated or made enforceable herein by reference, it is understood and agreed by NASA KSC, EPA and FDEP that the contemplated permanence of the remedy reflected herein shall be dependent upon the Center’s substantial good faith compliance with the specific LUC maintenance commitments reflected herein. Should such compliance not occur or should the MOA be terminated, it is understood that the protectiveness of the remedy concurred in may be reconsidered and that additional measures may need to be taken to adequately ensure necessary future protection of human health and the environment.*

concentrations over FDEP's residential-use cleanup target levels were not removed because the past, current, and projected future land use of the CRHEA is industrial in nature, and site rehabilitation goals were established based on the risk and potential for exposure in an industrial setting. LUCs are therefore required to prohibit residential use of the site.

Groundwater contaminated with VOCs at concentrations over EPA and FDEP cleanup target levels is being monitored to assure that off site migration does not occur and contaminants are naturally attenuating. LUCs are therefore required to prohibit groundwater use at the site. Indoor air quality shall be evaluated prior to any construction within the groundwater use control area.

### **DECISION DOCUMENT**

A Statement of Basis (SB) establishes institutional controls as a component of the remedy for this site. The SB for the site, KSC document number KSC-TA-5654, is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.

### **IMPLEMENTATION**

Institutional controls will be implemented by the KSC Environmental Program Office in accordance with their RCRA permit and Land Use Control Assurance Plan included in a Memorandum of Agreement (MOA)<sup>2</sup> between NASA, FDEP, and EPA, effective February 23, 2001. Upon approval of this LUCIP, it will be incorporated into the permit by reference. Property transfer (if conducted in the future) will be conducted in accordance with Section X of the MOA.

KSC's Environmental Program Office will provide KSC's Master Planning Office with survey coordinates of the LUCs. Restrictions will specify limitations on development and reuse for the area for as long as LUCs are necessary to protect human health and the environment.

### **MONITORING**

Quarterly inspections to monitor that institutional controls specified herein are in place and operating will be conducted by KSC's Environmental Program Office. The inspection will verify that no residential or groundwater use is occurring.

### **REPORTING**

KSC's Environmental Program Office will submit annual reports to EPA and FDEP certifying retention of the implemented LUCs.

### **ENFORCEMENT**

KSC's Environmental Program Office will be responsible for stopping any activities at KSC that are not compliant with this LUCIP.

### **MAINTENANCE**

This LUCIP will remain in place until a land use change is implemented and the concerns managed by the LUCIP are mitigated; or there is a discovery, based upon analytical evidence, that scenarios managed by the LUCIP are no longer a concern. Any change in LUC management must be approved by EPA and FDEP and implemented by modification of NASA's operating permit.

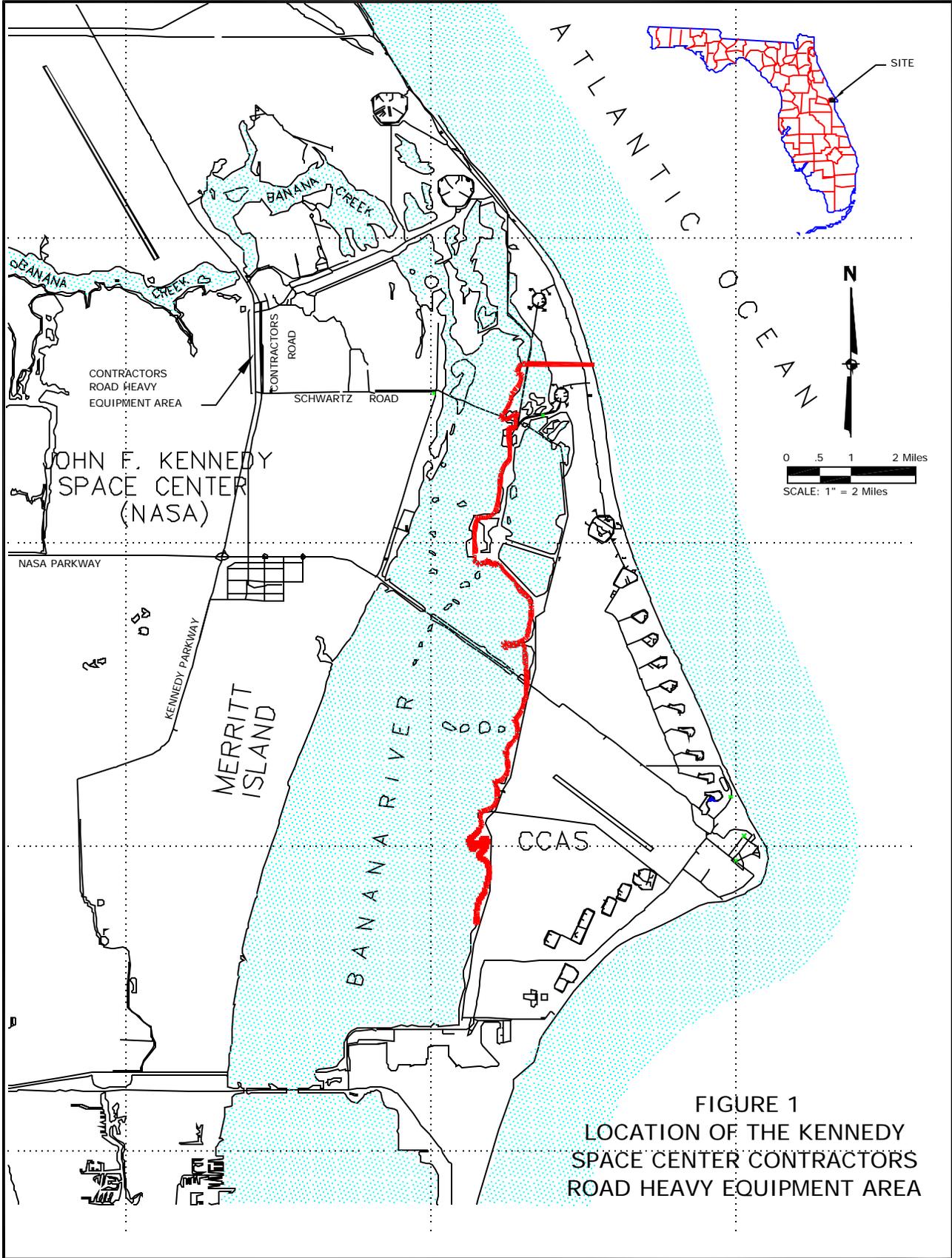
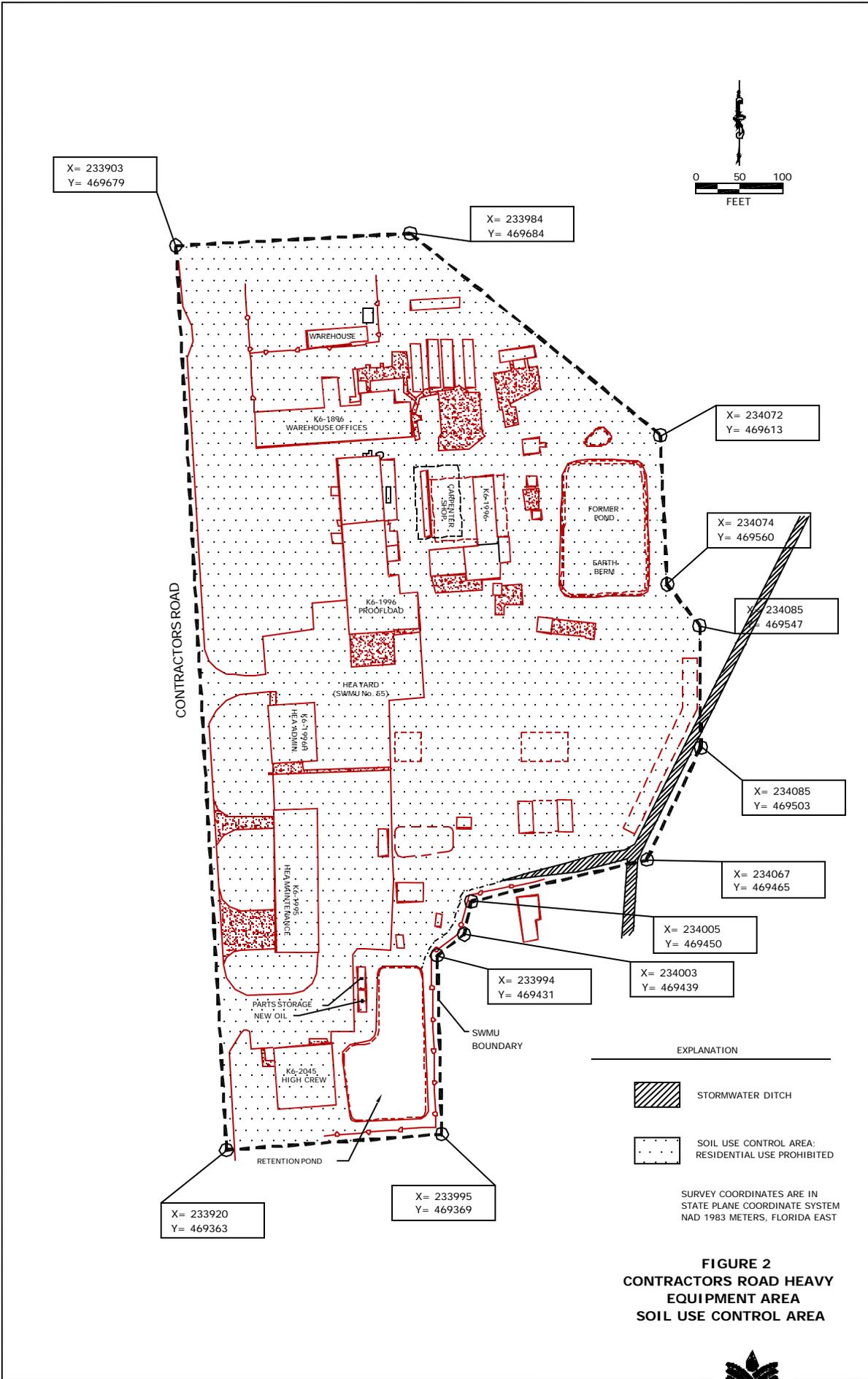
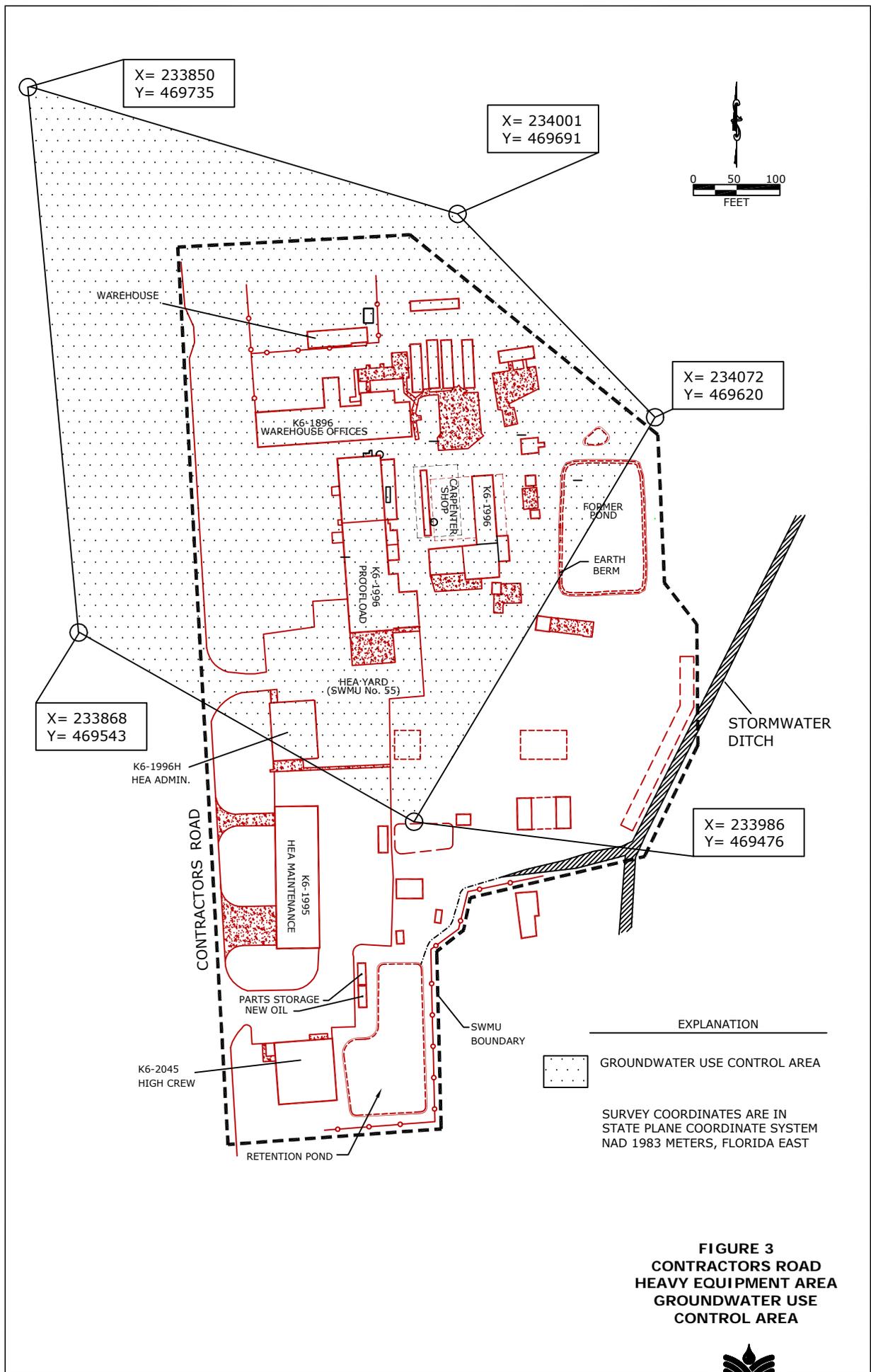


FIGURE 1  
 LOCATION OF THE KENNEDY  
 SPACE CENTER CONTRACTORS  
 ROAD HEAVY EQUIPMENT AREA





**FIGURE 3**  
**CONTRACTORS ROAD**  
**HEAVY EQUIPMENT AREA**  
**GROUNDWATER USE**  
**CONTROL AREA**