



LAND USE CONTROL IMPLEMENTATION PLAN



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



FACILITY: West Crawler Park Site
Solid Waste Management Unit No. 44

CONTAMINANTS: PCBs, PAHs, and Thallium 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 West Crawler Park Site (WCPS) of institutional controls that have been implemented at the site¹. Although there are no current unacceptable risks to human health or the environment associated with the WCPS, 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 polynuclear aromatic hydrocarbons (PAHs), polychlorinated biphenyls (PCBs), and thallium in surficial soils, and volatile organic compounds (VOCs) in groundwater.

SITE DESCRIPTION

The WCPS is one of two NASA-operated areas used for parking shuttle transport vehicles (crawlers) that transport Space Shuttles from NASA's Vehicle Assembly Building (VAB) to the launch pads. The roadway that the crawlers ride and park on is referred to as the crawlerway and is comprised of gravel to cobble-sized quartz river rock underlain by several feet of compacted limestone road-base material. Routine operation and maintenance of the crawlers takes place at the WCPS. Based on the history of operations at the WCPS, suspected sources of contamination include lubricating grease and oil, and solvents that have been used during operation and maintenance of the crawlers. Several remedial actions have been conducted to reduce future releases at the WCPS.

1. This LUCIP summarizes institutional controls regarding the NASA KSC West Crawler Park Site (WCPS). For detailed information on the site, consult the WCPS administrative file, which is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.

SITE LOCATION

The WCPS is located in the VAB area (Figure 1), north of the Thermal Protection System Facility (K6-794). The Crawler Maintenance Building (K6-743) exists between the north and south halves of the WCPS, which comprise the SWMU that is about 400 by 600 ft (5.5 acres). Hazardous waste staging buildings are located in each half, and both halves are within restricted-access fenced areas (Figure 2).

The site is located within Section 7 of Township 22 South, Range 37 East, which is in the Orsino Quadrangle. Coordinates of the soil and groundwater use control areas are provided in Figures 2 and 3, respectively in State Plane Coordinate System NAD 1983 meters, Florida East.

SITE CONTAMINATION AND CONTROL

Sediment and some soil from within the ditch on the west side of the site, which directs surface water runoff from the site, were excavated, properly disposed, and replaced with clean fill. On-site soils with contaminants detected at concentrations over FDEP's residential-use cleanup target levels were not removed because the past, current,

and projected future land use of the WCPS 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-5656, is available for review by contacting the KSC Environmental Program Office at telephone number (321) 867-8411.

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.

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)² 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.

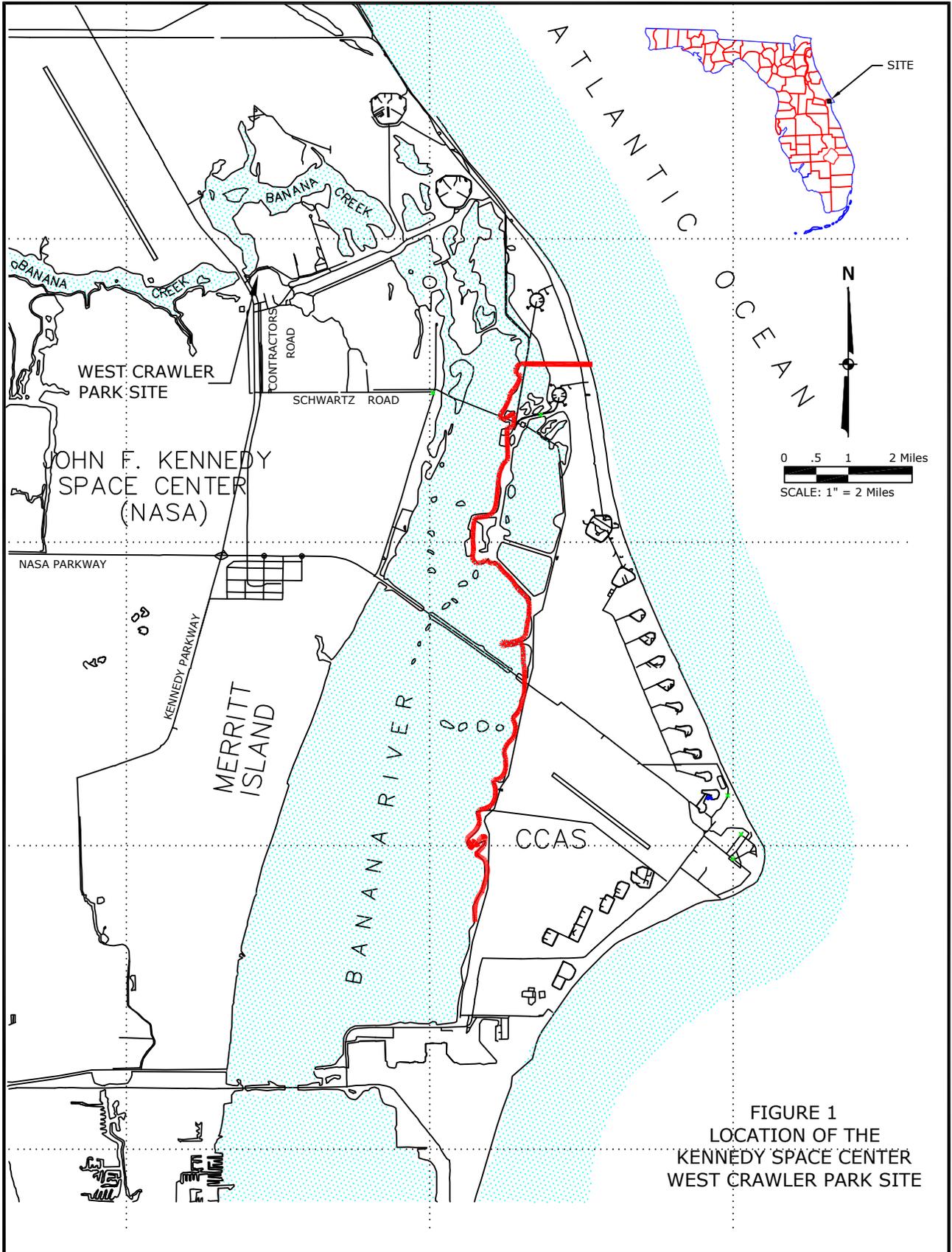
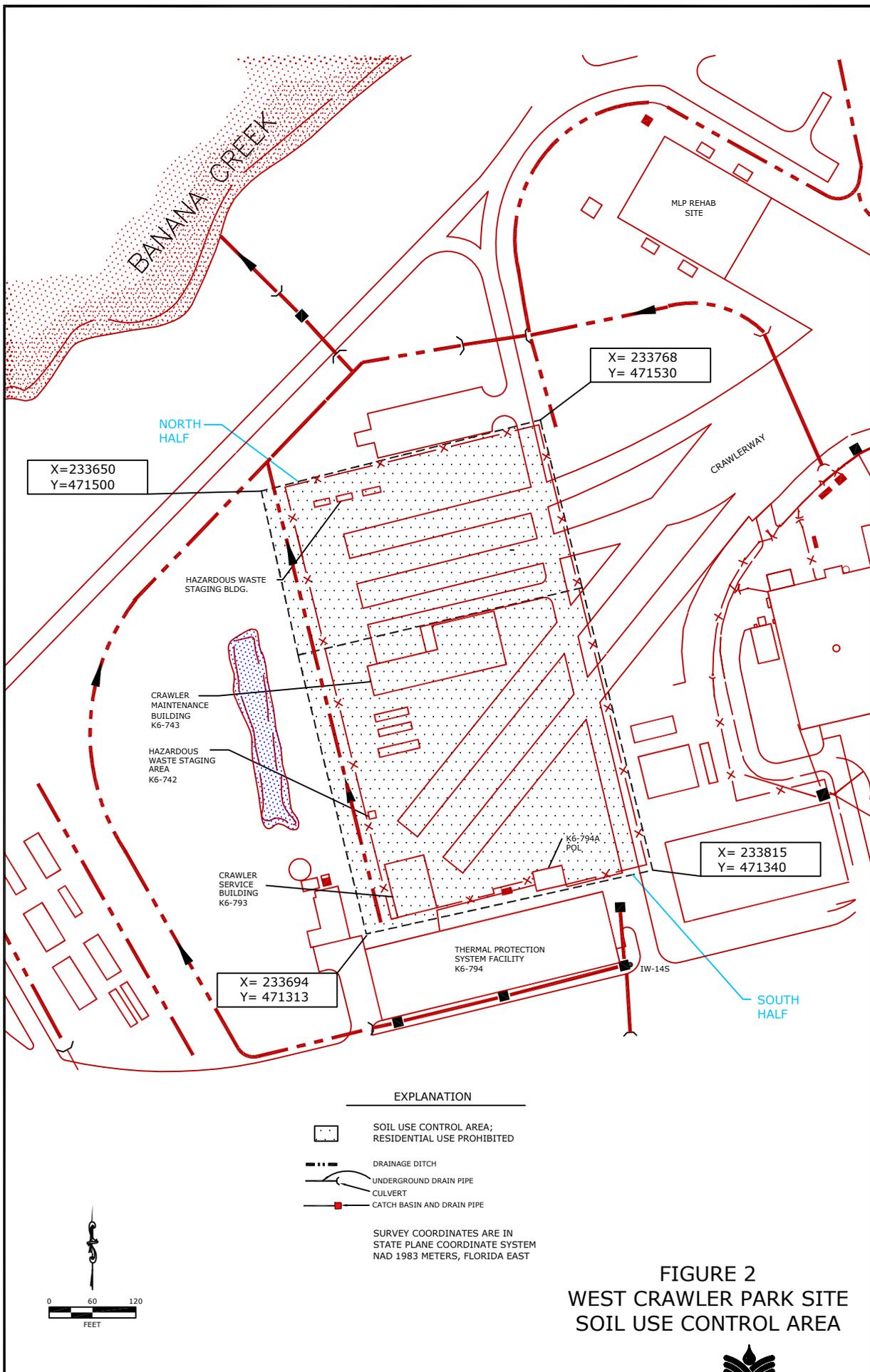
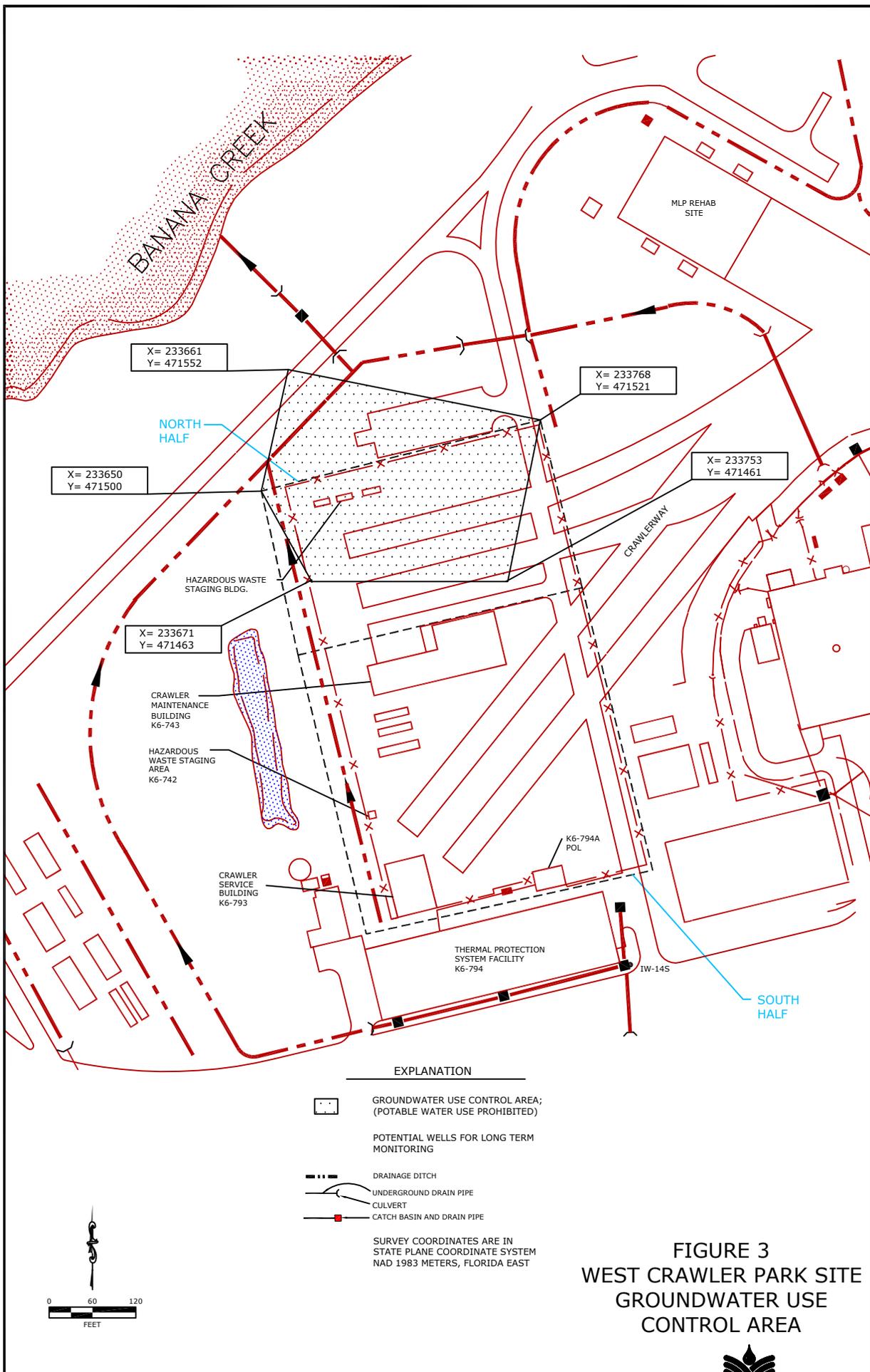


FIGURE 1
 LOCATION OF THE
 KENNEDY SPACE CENTER
 WEST CRAWLER PARK SITE





**FIGURE 3
WEST CRAWLER PARK SITE
GROUNDWATER USE
CONTROL AREA**

