



## LAND USE CONTROL IMPLEMENTATION PLAN



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



FACILITY: Central Heat Plant  
Solid Waste Management Unit No. 45  
CONTAMINANTS: VOCs in Groundwater and Nickel in Swale Soils  
CONTROL: Prohibit Groundwater Consumption and Residential Use of Swale Soils

#### 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 Central Heat Plant of institutional controls that have been implemented at the site<sup>1</sup>. Although there are no unacceptable risks to human health or the environment associated with the Central Heat Plant, institutional land use controls (LUCs) are necessary to: (i) prohibit the use of groundwater from the site; and (ii) prohibit residential use of the swale soils. 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 (COC) identified for human health risk during the RFI that exceeded Florida Department of Environmental Protection (FDEP) and Environmental Protection Agency (EPA) cleanup target levels were volatile organic

compounds (VOCs) in groundwater and COC identified in the Corrective Measures Study that exceeded the residential soil cleanup target (SCTL) level was nickel in the swale soils.

#### SITE DESCRIPTION

The CHP is a NASA-operated facility that was constructed in 1964. The facility includes the heat plant building, a bulk fuel oil aboveground storage tank, a storage building, a storage shed, a cooling tower, and a support building. Past and current operations at the CHP are to heat water for the high temperature hot water distribution system serving the KSC Industrial Area. A copier contractor is currently using the support building.

#### SITE LOCATION

The Central Heat Plant is located on the northwest corner of the intersection of C avenue SE and 3<sup>rd</sup> street SE in the Industrial Area of Kennedy Space Center. (Figures 1 and 2). The site is located within Section 8 of Township 22S, Range 37E which is in the Orsino Quadrangle. The groundwater use and swale soil control area covered by the LUCIP is shown on Figure 2. Coordinates

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

of the corners of the LUC are provided in [Figure 2](#) in the State Plane Coordinate System NAD 1983 meters, Florida East.

## **SITE CONTAMINATION AND CONTROL**

Groundwater at the site contains VOCs above FDEP's groundwater cleanup target levels and swale soils contain nickel above the residential STCLs. The past, current, and projected future land use of the Central Heat Plant is industrial in nature. LUCs are therefore required to prohibit the use of groundwater at this site and residential use of swale soils. 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 the site. The SB for the site, KSC document number KSC-TA-6670, 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 a 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 the 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 groundwater use is occurring.

## **REPORTING**

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

*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 inspections, 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.*

**ENFORCEMENT**

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

**MAINTENANCE**

The LUCIP shall 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 the EPA and FDEP and implemented by modification of NASA’s operating permit.

**Figure 1  
Central Heat Plant  
SWMU 45  
Location Map**

Site

Indian  
River

Mosquito Lagoon

SR 3

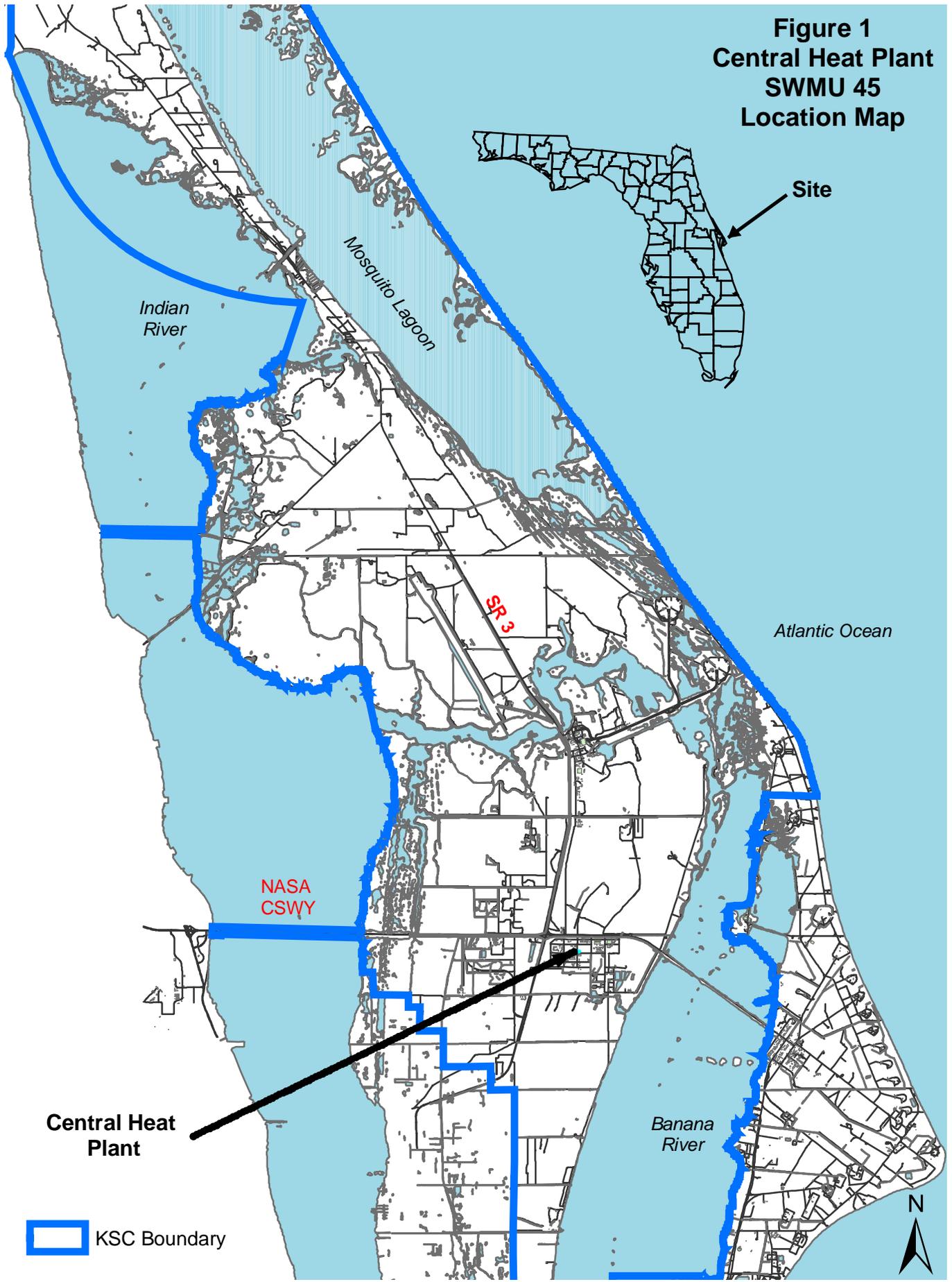
Atlantic Ocean

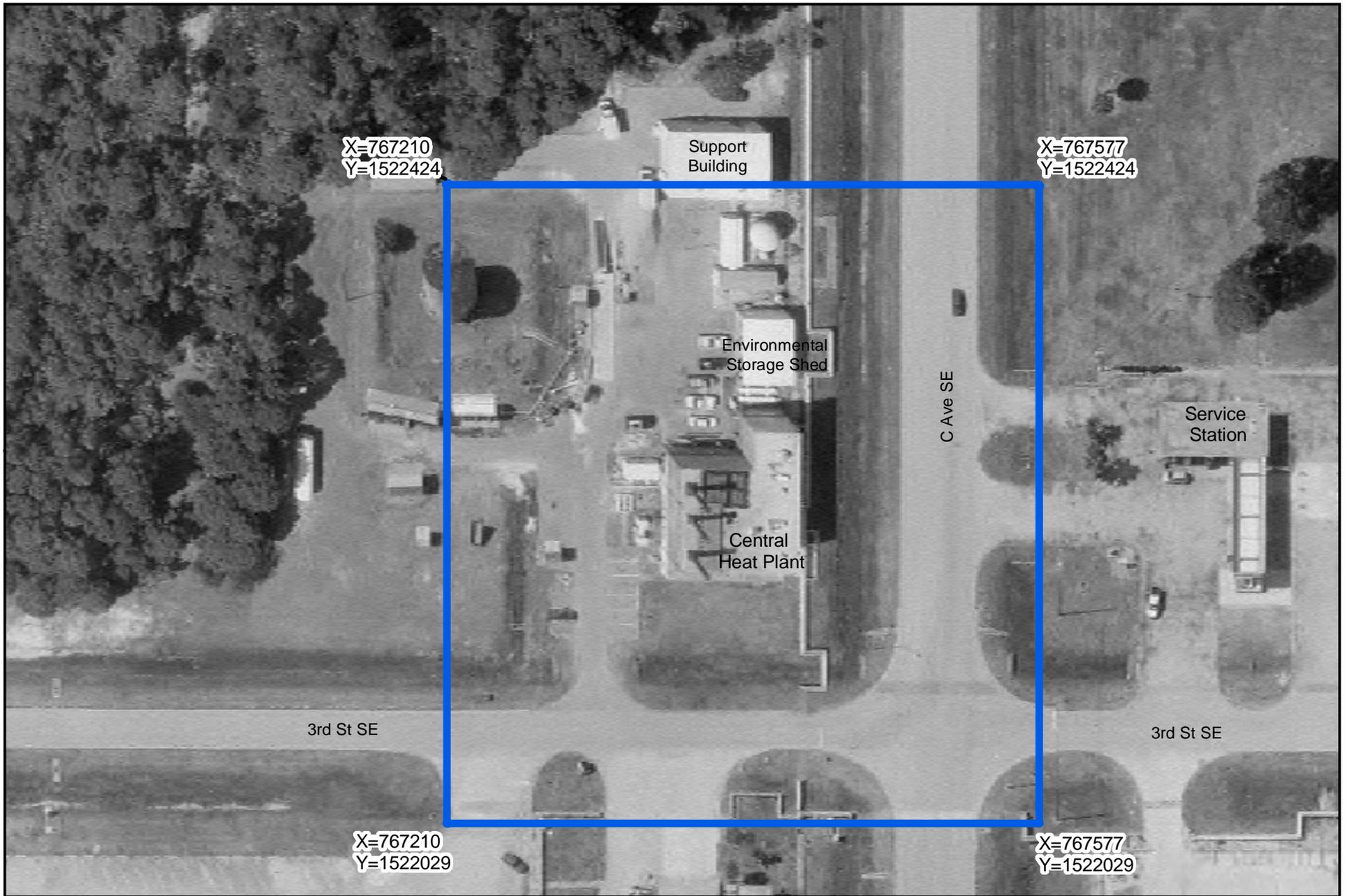
NASA  
CSWY

Central Heat  
Plant

Banana  
River

 KSC Boundary





 Area Controlled by Land Use Control Implementation Plan

**Figure 2**  
**Site Map**  
**Central Heat Plant (SWMU 45)**

Survey coordinates are in State Plane Coordinate System, NAD 1983 meters, Florida East.

