

LAND USE CONTROL IMPLEMENTATION PLAN

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

FACILITY: C-5 Electrical Substation
Solid Waste Management Unit No. 66
CONTAMINANTS: Volatile Organic Compounds in Groundwater
REMEDY: Long-Term Monitoring with Land Use Controls

SITE DESCRIPTION

The C-5 Electrical Substation (C-5 Substation – also referred to as “site”) is a NASA-operated electrical power substation that includes banks of transformers, associated buildings, a Florida Power and Light (FP&L) Switching Station, parking lots, and dirt roads. Inside the fenced area, which houses the transformers and power structures, the ground is covered with 0.5 to 1 ft of crushed limerock. The C-5 Substation encompasses approximately 4.5 acres of land. Since the 1960s, the C-5 Substation has been used to provide power for the Apollo and space shuttle programs. During the 1970s, drums of waste polychlorinated biphenyl (PCB) oil were stored in the southwest corner of the fenced area.

SITE LOCATION

The C-5 Substation is located on the Kennedy Space Center (KSC) immediately west of the intersection of Kennedy Parkway North (SR3) and Vehicle Assembly Building (VAB) Road. The site is bounded on the east by Kennedy Parkway North, on the north and northeast by marshland, on the west by adjacent wetlands and a surface-water impoundment, and on the south by undeveloped land. The site is located within Section 18 of Township 22S, Range 37E. The coordinates of the approximate four corners of the site are: 610382 easting; 1544710 northing (northeast), 610387 easting; 1544006 northing (southeast), 609706 easting; 1544006 northing (southwest), and 609937 easting; 1544710 northing (northwest) (Florida State Plane

Coordinate East Zone NAD1927 in feet). Figures 1 and 2 present location maps.

SITE CONTAMINATION AND REMEDY

Groundwater at the site is contaminated with volatile organic compounds (VOCs), primarily vinyl chloride and dichloroethene. The maximum concentrations and greatest lateral extent of the plume is located in the southwest corner of the site at depths of 0 to –17 ft mean sea level (MSL). A smaller plume exists on the east side of the site and extends to a depth of approximately –33 ft MSL. The remedy includes institutional controls and long-term monitoring of groundwater.

LAND USE CONTROL (LUC) OBJECTIVES

Although there are no current unacceptable risks to human health or the environment associated with the C-5 Substation, certain land use restrictions are necessary to prevent the potential for future risks. The goals of the institutional controls at the C-5 Substation are to prevent the potential exposure or consumption of groundwater that exceeds State and Federal maximum contaminant levels (MCLs) and State groundwater cleanup target levels for VOCs.

LUC(S) IMPLEMENTED TO ACHIEVE OBJECTIVE(S)

Specific Restrictions on the Use of Groundwater: Extraction of groundwater from the site for human consumption or irrigation is

prohibited by NASA. Disturbance of on-site groundwater monitoring wells is prohibited by NASA.

Establishing the Institutional Controls:
Institutional controls will be implemented in accordance with the Land Use Control Plan. Property transfer (if conducted in the future) will be conducted in accordance with Section X of the Land Use Control Plan. Notification of any major changes in land use will be conducted in accordance with Section VII of the Land Use Control Plan.

DECISION DOCUMENT

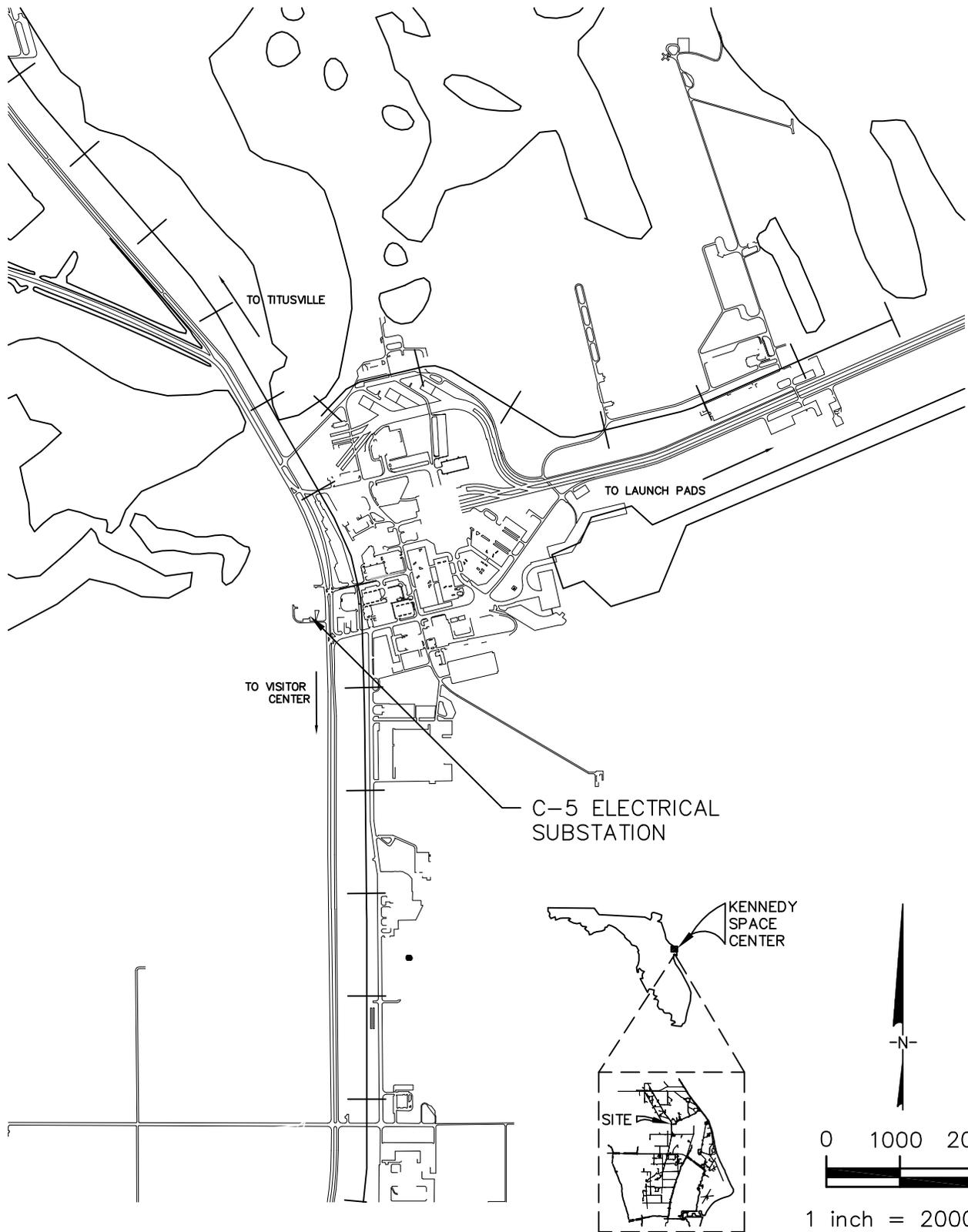
The institutional controls are also included in the Statement of Basis (SB) for the site, KSC document number KSC-TA5372.

OTHER PERTINENT INFORMATION

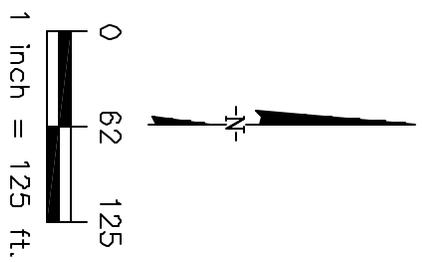
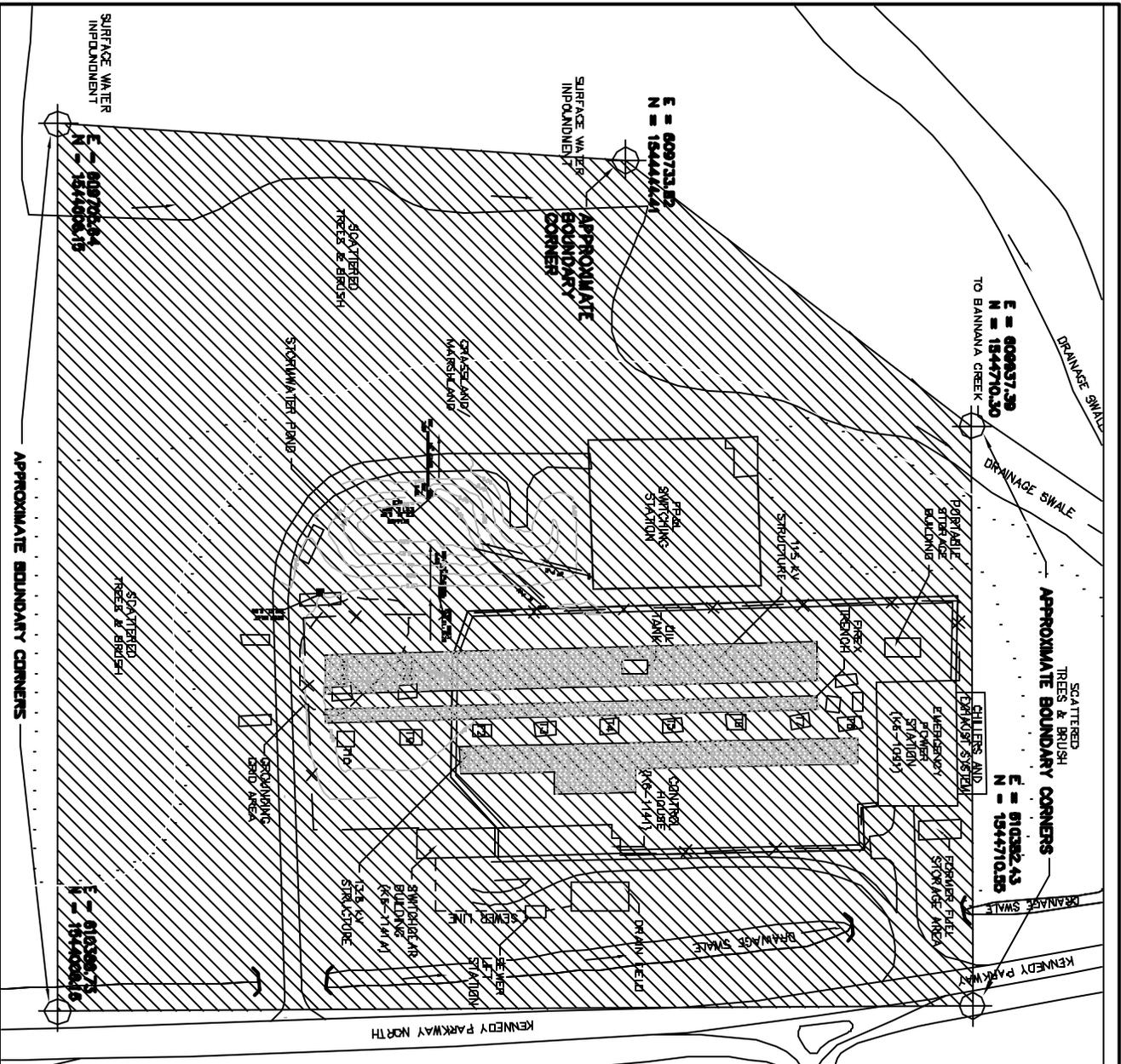
Inspections: Quarterly inspections to ensure that the institutional controls are in place and operating will be conducted since the institutional controls are part of the site remedy.

The inspection will verify that no new supply wells have been installed and existing monitoring wells are still intact. An annual report will be submitted to EPA and FDEP certifying continued retention of the implemented LUCs.

Modifying and Terminating Institutional Controls: The LUCIP shall remain in place until a land use change is implemented and the concerns managed by the LUCIP are mitigated in lieu of the change, or there is a discovery, based upon analytical evidence, that scenarios managed by the LUCIP are no longer a concern. For as long as land use restrictions are necessary to protect human health and the environment, deed restrictions will restrict the type of development and reuse for the area upon deed transfer of the site. Any change in regard to LUCIP management must be approved by the USEPA and FDEP.



C-5 ELECTRICAL SUBSTATION SITE LOCATION MAP



- LEGEND**
- T7 TRANSFORMER
 - TOPOGRAPHIC ELEVATION (FT ABOVE SEA LEVEL)
 - PROPERTY FENCE
 - SEWER LINE
 - SURFACE WATER DRAINAGE
 - SHADED AREA CONTROLLED BY LAND USE CONTROL IMPLEMENTATION PLAN

C-5 ELECTRICAL SUBSTATION SITE MAP

PROJECT NO. FR0076

FIGURE NO. 2