



LAND USE CONTROL IMPLEMENTATION PLAN

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



FACILITY: MLP/VAB Area
Solid Waste Management Unit 56

CONTAMINANTS: VOCs and Ammonia in Groundwater and Benzo(a)pyrene and Polychlorinated Biphenyls in surface soil

CONTROL: Prohibit Groundwater Use and Residential Exposure to Surface Soil

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 Mobile Launch Platform Rehabilitation Sites and the Vehicle Assembly Building (MLP/VAB) Area of institutional controls that have been implemented at the site¹. Institutional land use controls (LUCs) are necessary to prohibit the use of groundwater from the site and residential exposure to surface soil northwest of the VAB. 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 that exceeded Florida Department of Environmental Protection (FDEP) and Environmental Protection Agency (EPA) cleanup target

levels were volatile organic compounds (VOCs) and ammonia in groundwater and benzo(a)pyrene and polychlorinated biphenyls (PCBs) in surface soil.

SITE DESCRIPTION

The MLP and the VAB are active NASA-operated facilities which were originally built to support Apollo/Saturn-V vehicle assembly and later modified (1976) to support Space Transportation System (STS) shuttle missions. Construction of the MLP and VAB started approximately in 1963 and was completed in 1966.

SWMU 56 includes the three MLP Rehabilitation Sites and the VAB. For remediation purposes, the VOCs and ammonia present in the groundwater at the Orbiter Processing Facilities 1 and 2 (SWMU 72), the KSC Press Site (SWMU 74), the Former Saturn V Rocket Display Area (SWMU 80), and the Orbiter Processing Facility 3 (SWMU 83) have all been incorporated into SWMU 56.

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

SITE LOCATION

The MLP/VAB Area is located within Sections 7 and 18 of Township 22 South, Range 37 East which is in the Orsino, Florida Quadrangle. The MLP/VAB Area is shown on Figure 1. The groundwater use control area covered by this LUCIP is shown on Figure 2. The soil residential exposure control area covered by this LUCIP is shown on Figure 3. Coordinates of the corners of the LUCIP are provided in Figure 2 and 3 in the State Plane Coordinate System NAD 1983 meters, Florida East.

SITE CONTAMINATION AND CONTROL

Groundwater at the site contains VOCs and ammonia above FDEP's groundwater cleanup target levels. Surface soil in the area northwest of the VAB contains benzo(a)pyrene and PCBs above FDEP's residential soil cleanup target levels. The past, current, and projected future land use of the MLP/VAB Area is industrial in nature. LUCs are therefore required to prohibit the use of groundwater and residential exposure to surface soil. 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-6663, 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)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.

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.

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 groundwater use or residential exposure to surface soil is occurring.

REPORTING

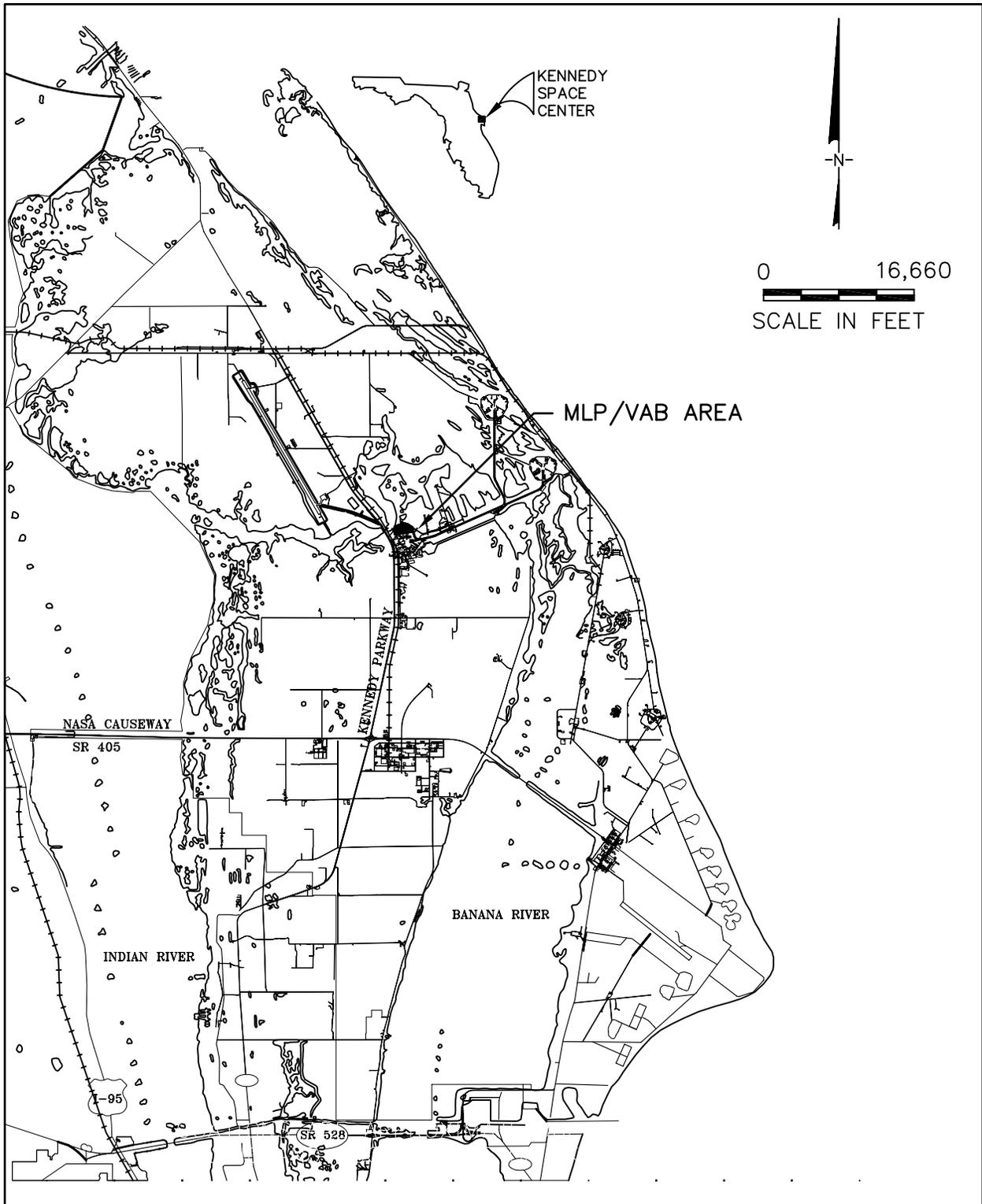
KSC's Environmental Program Office will submit annual reports to the FDEP certifying retention of the implemented LUCs.

ENFORCEMENT

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

MAINTENANCE

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 FDEP and implemented by modification of NASA's operating permit.



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FIGURE 1
KENNEDY SPACE CENTER
MLP/VAB AREA

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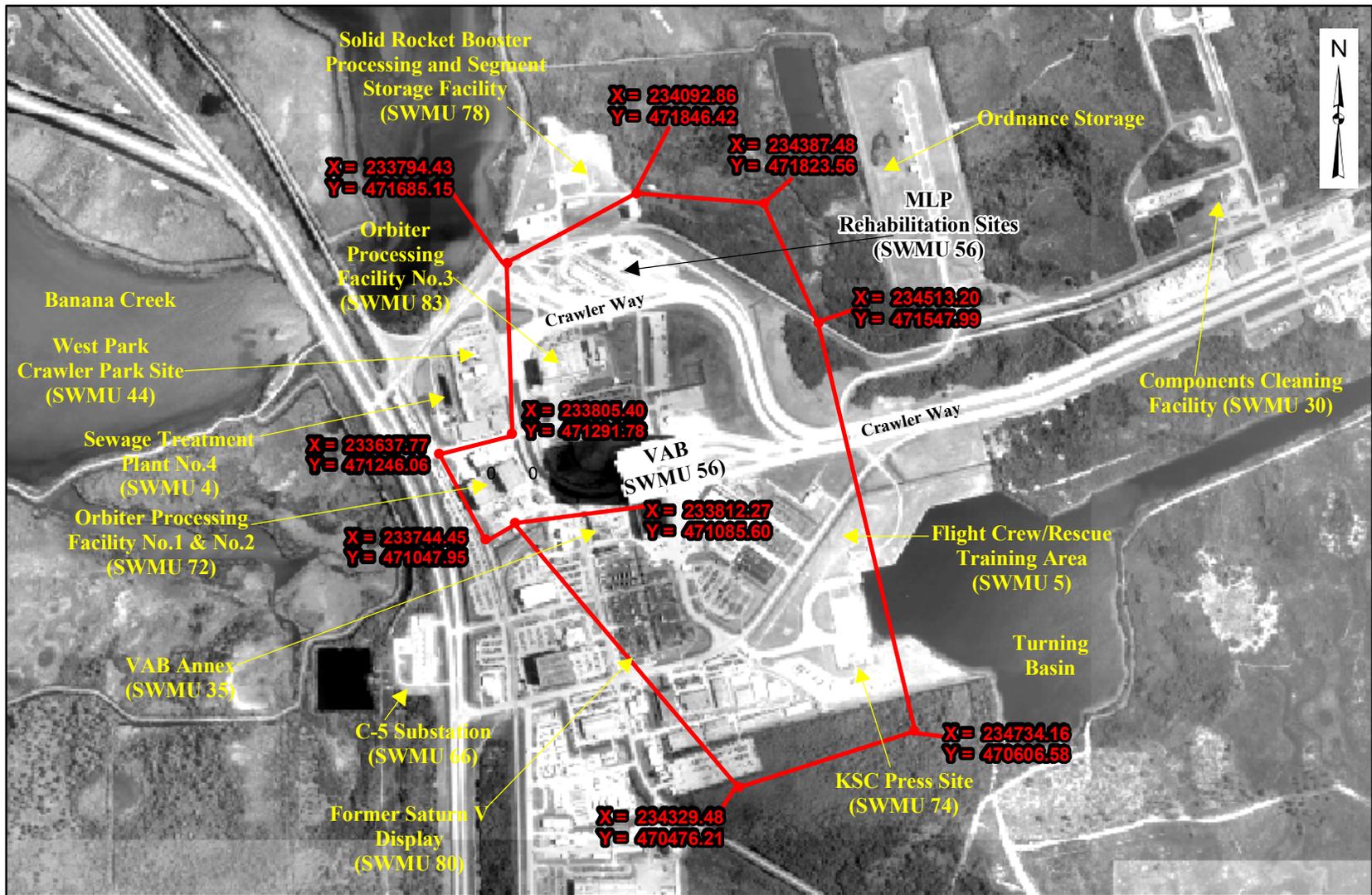
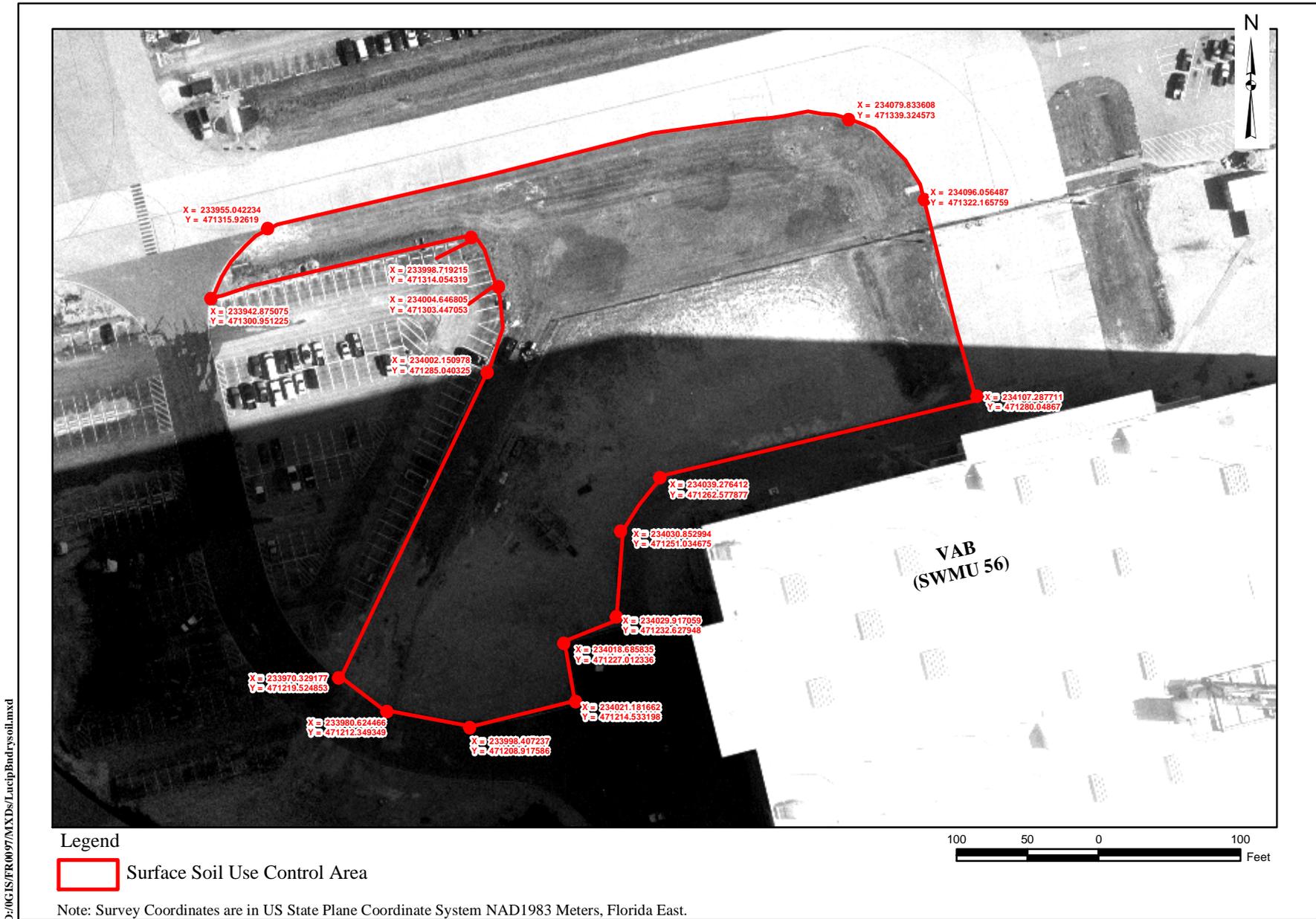


Figure 2

MLP/VAB (SWMU 56) Area Controlled Groundwater Use Zone



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