

STATEMENT OF BASIS



ORSINO POWER SUBSTATION SWMU 96
NATIONAL AERONAUTICS AND SPACE ADMINISTRATION
KENNEDY SPACE CENTER
BREVARD COUNTY, FLORIDA



PURPOSE OF STATEMENT OF BASIS

This Statement of Basis (SB) has been developed to inform and give the public an opportunity to comment on a proposed remedy to address contamination at the Orsino Power Substation1. A Kennedy Space Center (KSC) Remediation Team consisting of National Aeronautics and Space Administration (NASA) and Florida Department of Environmental Protection (FDEP) has determined that the proposed remedy is cost effective and protective of human health and the environment. However, before implementing the proposed remedy, the KSC Remediation Team would like to provide the public an opportunity to comment on the proposed remedy. At any time during the public comment period, the public may comment as explained in the "How Do You Participate" section of this SB. After the end of the public comment period, the KSC Remediation Team will review all comments and issues raised in the comments and determine if there is a need to modify the proposed remedy prior to implementation.

WHY IS A REMEDY NEEDED?

The results of the Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) indicated that barium, copper, polychlorinated biphenyls (PCBs) and Total Petroleum Hydrocarbons (TPH) in soil listed in Table 1 are present in surface soil, including gravel which could potentially be harmful to human health.

The Cleanup Remedy
The proposed cleanup remedy for the Orsino Power Substation includes the following components:
• Implementation of institutional controls to prevent residential exposure to site surface soils, including gravel.

HOW DO YOU PARTICIPATE?

The KSC Remediation Team solicits public review and comment on this SB before implementing the proposed remedy. The remedy for the Orsino Power Substation will eventually be incorporated into the Hazardous and Solid Waste Amendments (HSWA) Permit for KSC.

1. In accordance with RCRA §7004(b), this Statement of Basis summarizes the proposed remedy for the NASA Orsino Power Substation. For detailed information on the site, consult the Orsino Power Substation RFI Report, which is available for review at the information repository located at the Merritt Island Public Library, 1195 N. Courtenay Pkwy, Merritt Island, FL 32953, telephone: (321) 455-1369.

The public comment period for this SB and proposed remedy will begin on the date of publication for notice of availability of the SB in major local newspapers of general circulation, and end 45 days thereafter. If requested during the comment period, the KSC Remediation Team will hold a public meeting to respond to any oral comments or questions regarding the proposed remedy. To request a hearing or provide comments, contact the following person in writing within the 45-day comment period:

Mr. John R. Armstrong, P.G.
FDEP - Bureau of Waste Cleanup
2600 Blair Stone Road, MS 4535
Tallahassee, FL 32399-2400

The HSWA Permit, SB, and associated administrative file, including the RFI Report, will be available to the public for viewing at:

NASA Document Library
Merritt Island Public Library
1195 N. Courtenay Parkway
Merritt Island, FL 32953
Telephone: (321) 455-1369

To request further information, you may contact one of the following people:

Mr. Harold Williams
Remediation Program Manager
Environmental Program Office
Mail Code: TA-C3
Kennedy Space Center, FL 32899
E-mail: harold.g.williams@nasa.gov
Telephone: (321) 867-8411

Mr. John R. Armstrong, P.G.
FDEP-Bureau of Waste Cleanup
2600 Blair Stone Road, MS 4535
Tallahassee, FL 32399-2400

E-mail: John.Armstrong@dep.state.fl.us
Telephone: (850) 245-8981

FACILITY DESCRIPTION

NASA established the KSC as the primary launch site for the space program. These operations have involved the use of toxic and hazardous materials. Under the RCRA and applicable HSWA permit (Permit No. FL6800014585) issued by the FDEP and/or EPA, KSC was required to perform an investigation to determine the nature and extent of contamination from Solid Waste Management Unit (SWMU) No. 96, the Orsino Power Substation.

SITE DESCRIPTION AND HISTORY

The Orsino Power Substation is located southeast of the intersection of Southeast 5th Street and C Avenue in the KSC Industrial Area. The Orsino Power Substation is a NASA-operated facility that has been used to provide electrical power to the KSC Industrial Area since 1964. The facility comprises an area of approximately 3.5 acres and contains transformers, circuit breakers, power structures, sheds, a control building, and a Florida Power and Light (FP&L) substation. The facility is mostly fenced and is unpaved with crushed rock covering the ground surface within the fenced area. Past and current operations at the Orsino Power Substation include equipment storage, battery storage, and electrical power distribution. The site location is shown on Figure 1.

Investigations conducted at the site include:

- 2006: During the RFI, groundwater, soil, and gravel samples were collected to evaluate potential impacts. Results of these analyses were used to evaluate potential risks to human health. Barium, copper, and TPH in soils and PCBs in gravel would pose an unacceptable risk to human health receptors.

SUMMARY OF SITE RISK

As part of the RFI activities, data were compared to screening levels in accordance with KSC's Remediation Team Risk Assessment Decision Process Document (DPD).

Chemicals of Concern (COCs) identified for human health during the RFI included barium, copper, and TPH in soil and PCBs in gravel. For a complete list of COCs in soil and gravel see Table 1.

Since the concentration of COCs is less than the industrial soil cleanup target level and land use controls will be implemented, no human health risk assessment was required.

The site does not have viable ecological habitat so an Ecological Risk Assessment was not performed.

WHAT ARE THE REMEDY OBJECTIVES AND LEVELS?

The remedial action objectives (RAO) are to protect humans from exposure to soil/gravel contaminants that exceed FDEP residential use cleanup target levels by limiting site access only to industrial workers. Table 1 lists the COCs present in soil or gravel at the

Orsino Power Substation. The first column lists the chemical name, the second column lists the range of concentrations in soil or gravel detected at Orsino Power Substation during the RFI, and the last column presents the FDEP Residential and Industrial cleanup target levels to be achieved at the site.

Table 1
Chemicals of Concern in Soil

Site-Related Chemicals of Concern (COCs)	Range of Detections (mg/kg)	Site-Specific Cleanup Level ¹ (mg/kg)
Barium	0.64—341	120/130,000
Copper	0.28— 424	150/89,000
Total Petroleum Hydrocarbons (TPH)	6.9— 1,900	460/2,700
Polychlorinated Biphenyls (PCBs) ²	0.01 - 0.502	0.5/2.6

¹Cleanup levels are Residential/Industrial SCTLs from Florida Administrative Code 62-777.

²PCBs are a COC in gravel

FINAL REMEDY FOR ORSINO POWER SUBSTATION

Remedial alternatives are different combinations of plans or technologies to restrict access, and to contain or treat contamination to protect human health and the environment.

The RFI performed for the Orsino Power Substation identified direct contact as the principal exposure pathway for soil/gravel. Because of the very limited nature of the soil/gravel contamination the only alternative considered for soil at Orsino Power Substation was Land Use Controls (LUCs).

Land Use Controls: Institutional land use controls would be implemented to limit access to site soils/gravel by individuals other than industrial workers. NASA, EPA, and FDEP have entered into a Memorandum of Agreement (MOA), which outlines how institutional controls will be managed at NASA². The MOA requires periodic inspections, condition certification, and agency notification. The area of the site that will be under institutional control for soil/gravel is shown on Figure 2.

EVALUATION OF REMEDIES

The selected remedy was evaluated to determine if it will comply with EPA's four threshold criteria for corrective measures. The four threshold criteria for corrective measures are:

- overall protection of human health and the environment;
- attain media cleanup standards;
- control the sources of releases; and
- comply with standards for management of wastes.

Land Use Controls meet each of the threshold criteria and were determined by the KSC Remediation Team to be the best overall approach.

WHAT IMPACTS WOULD THE REMEDY HAVE ON THE LOCAL COMMUNITY?

There would be no impacts to the local community because administrative actions to limit access to the site are consistent with current operating procedures. The alternative selected includes administrative actions to prevent exposure to contaminants.

WHY DOES THE KSC REMEDIATION TEAM RECOMMEND THIS REMEDY?

The team recommends the proposed remedy because the remedies selected are cost effective means to prevent exposure to soil/gravel contamination. The proposed remedy meets the threshold and balancing criteria for corrective measures.

NEXT STEPS

The KSC Remediation Team will review all comments on this SB to determine if the proposed remedy needs modification prior to implementation and prior to incorporating the proposed remedy into KSC's HSWA permit. If the proposed remedy is determined to be appropriate for implementation, then a Land Use Control Implementation Plan (LUCIP) will be developed to incorporate the institutional controls at this site.

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.

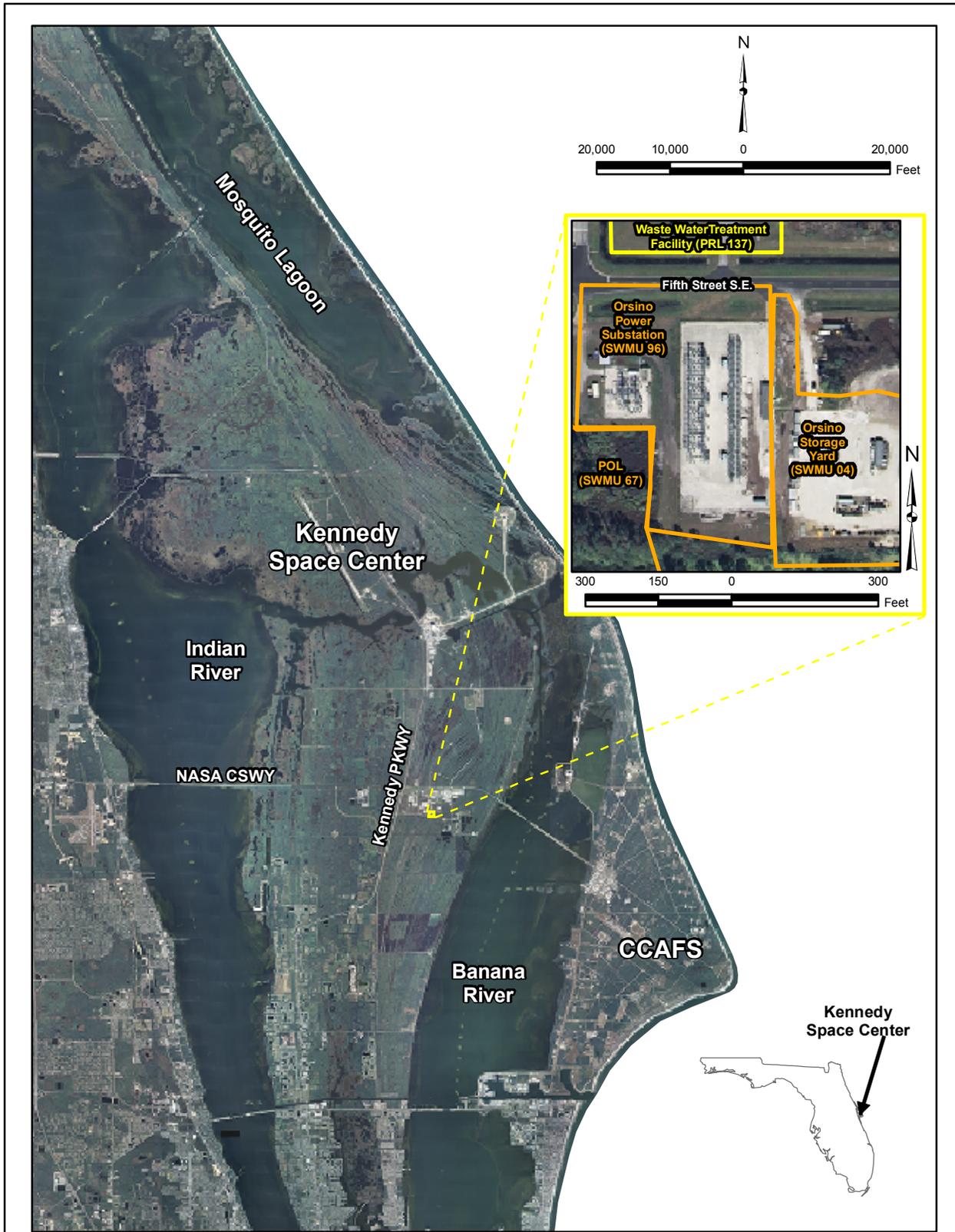
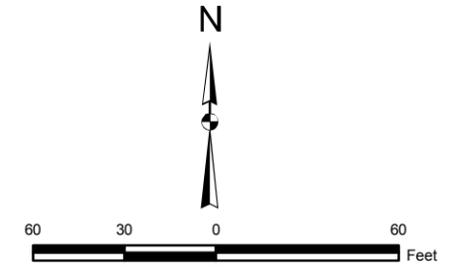
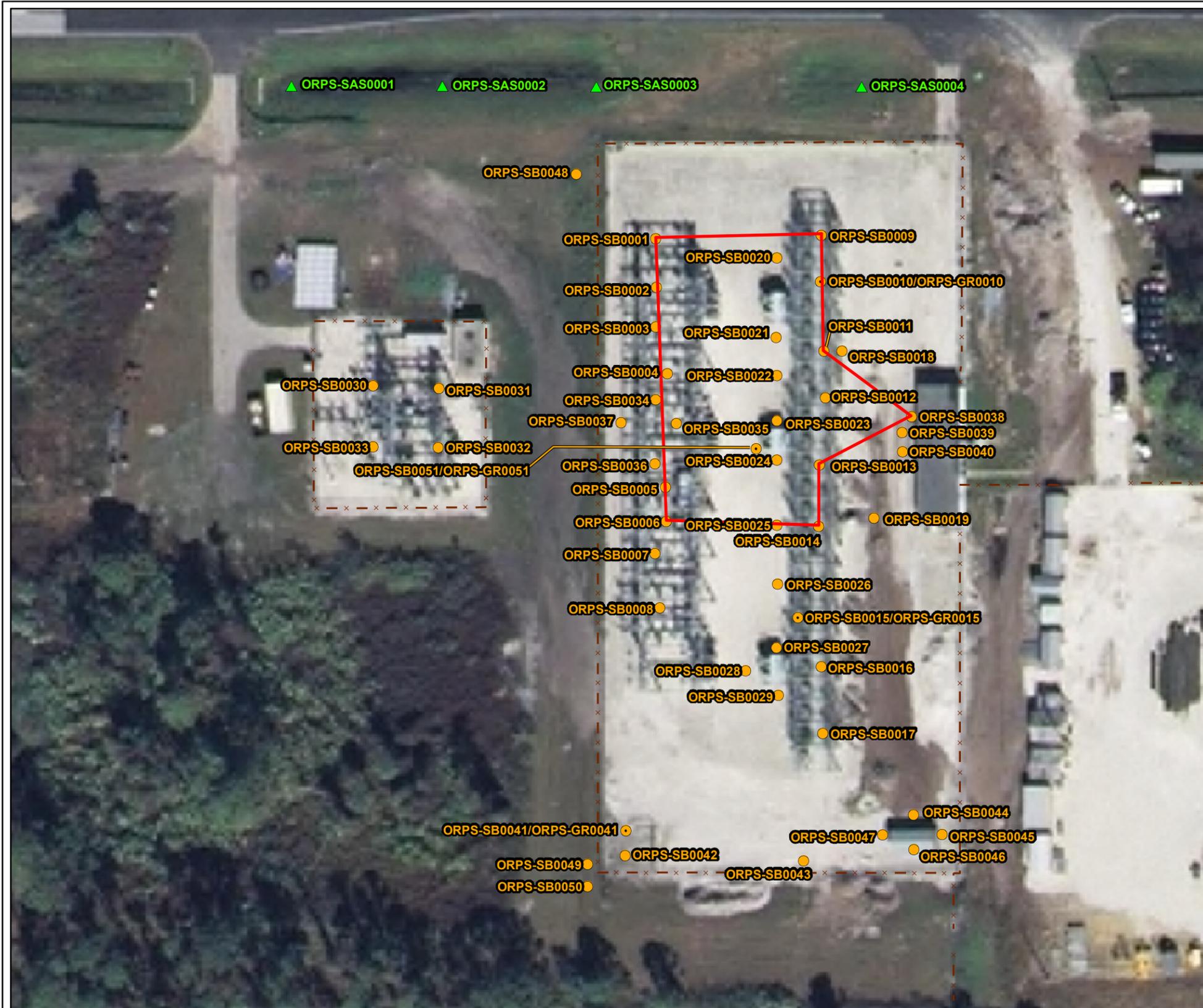


Figure 1
Orsino Power Substation Location Map



Legend

- Soil Sampling Location
- Soil and Gravel Sampling Location
- ▲ Swale Soil Sampling Location
- ▭ Area Covered by Statement of Basis and Soil Use Control
- × - × - Fence Line

Figure 2
 Site Map of Orsino Power Substation (SWMU 96) Area